

DPU

Dr. D. Y. Patil Vidyapeeth, Pune

(Deemed to be University)

(Re-accredited by NAAC with a CGPA of 3.62 on a four point scale at 'A' Grade)
20th rank in Medical Category and 46th rank in University Category in India (NIRF-2019)
(Declared as Category - I University by UGC Under Graded Autonomy Regulations, 2018)
(An ISO 9001: 2015 Certified University)



**Dr. D. Y. Patil Medical College, Hospital & Research Centre,
Pimpri, Pune – 411018**

**SECOND YEAR MBBS
STUDENT'S HANDBOOK**

Academic Year 2019-20

DPU

Dr. D. Y. Patil Vidyapeeth,
Pune
(Deemed to be University)

Dr. D. Y. Patil Medical
College, Hospital & Research
Centre, Pimpri, Pune - 411018



Ganesh Puja 2019

INDEX

Sr. No	Detail	Page No.
1	Chancellor's Message	4
2	Vice Chairperson's Message	5
3	Vice Chancellor's Message	6
4	Principal Director & CEO's Message	7
5	Director Academics Message	8
6	Dean's Message	9
7	Dr. D. Y. Patil Vidyapeeth, Pune, Vision, Vision -2025, Graduate Attributes, MBBS Programme Outcomes ,Goal and Objectives	10 - 15
8	Information about College, Hospital & Hostel	16
9	Campus : Facilities, Museums, Hi-Tech Hospital, Infrastructure	17 - 24
10	Discipline & Conduct of the Student	25 - 28
11	Higher Educational Institutions Regulations of ragging , Anti-Ragging Committee, Anti Ragging Squad, Hostel Committee, Hostel Authorities	29 – 44
12	Activities of Student's Council	45
13	ERP and Biometric System for Students Attendance	46
14	Proposed Academic Calendar (2019-20)	47
15	Block Training Programme (2019-20)	48 - 49
16	Syllabus: Pathology, Pharmacology, Microbiology, FMT, PSM, Ophthalmology, Medicine, Surgery, OBGY, Orthopedics & Dermatology	51 – 161
17	Mentorship Programme (2019-20)	162
18	Administrative and Academic Heads	163
19	Undertaking for Observing Code of Conduct	164

Chancellor's Message



Medical education is not a bed of roses. It involves a high level of commitment and regular and sustained work. I, therefore, exhort you to be committed towards this end right from today and remain so throughout your studies.

You are among the few fortunate students who have gained admission to such a prestigious College and you are integral part of our Institution. I wish that you make full use of this opportunity to blossom into one of the best doctors from this College.

I am confident that efforts to excel in the field of higher education and the inculcation of moral values will continue in future too with a great zeal.

Please make use of the excellent infrastructure and highly qualified and committed faculty who spare no effort in classroom teaching as well as practical and clinical teaching.

Wish you best of luck.

Dr. P. D Patil
Chancellor
Dr. D. Y. Patil Vidyapeeth, Pune



Vice Chairperson's Message



It is my privilege to share my views through this handbook, the best media to connect the young minds of the Nation. As aptly said by Robert Maynard Hutchins, “The objective of education is to prepare the young to educate themselves throughout their lives”.

It gives me immense pleasure to pen a few lines of greetings and good wishes for the ‘Hand Book’ being published by the College.

In keeping with its mission of academic excellence, Dr. D. Y. Patil Medical College, Hospital & Research Centre, Pune is always continuing its developmental activities, in all fronts, in a bid to create world class Medical College. This is reflected by the consistent expansion of infrastructure, faculty, research contributions and national and international linkages and collaborative initiatives, signaling out globally that College is focused in its activities with its thrust being on developmental activities.

I hope this handbook will cover all aspects which would help students to nourish their knowledge.

I extend my good wishes for the continued growth and good luck in your future endeavour!

Dr. Bhagyashree P. Patil
Vice Chairperson,
Dr. D. Y. Patil Vidyapeeth, Pune



Vice Chancellor's Message



Dear Students,

Since its inception in 2000, DPU has carved a niche amongst the education fraternity in general and health science education in particular in Maharashtra and across India! Built on a sprawling campus spread over 50 acres, DPU has excellent and state-of-the-art infrastructure facilities conducive to higher and professional teaching-learning environment, research and outreach programs.

The main aim of DPU is to impart quality with a vision of quest for excellence, which is at par with international standards. To make it possible the curriculum is designed with hi - professional adroitness fulfilling specific goals of health sector. Moreover, teams of dedicated and experienced faculty are constantly engaged in the augmentation of student-centric learning environment through innovative pedagogy. They impart knowledge to the students that has been ingrained in the foundation of ethical and moral values and at the same time assist in boosting their leadership qualities, research culture and innovative skills.

Dr. D Y Patil Vidyapeeth has been re-accredited by National Assessment and Accreditation Council (NAAC), Bangalore with a CGPA of 3.62 on a four point scale at 'A' Grade. The Vidyapeeth has also achieved a higher position in the Institutional Ranking Framework (NIRF), conducted by Ministry of Human Resource Development (MHRD), New Delhi. It has achieved 20th rank in Medical Category, 46th rank in University Category and 70th rank in Overall Catogory in India in NIRF 2019.

I welcome you all to this Institution of learning. At DPU, you will write your own story, and in the process, you will help write the next chapter of DPU's story as well. Best of luck!

Dr. N. J. Pawar

Vice Chancellor

Dr. D.Y.Patil Vidyapeeth, Pimpri, Pune



Principal Director & CEO's Message



Dear Students,

Dr. D Y Patil Medical College, Hospital & Research Centre, Pimpri, Pune has been at the forefront of providing professional medical education in the country. Known for providing quality education, the institution has been consistently ranked among the top medical institutions in the country.

Our endeavour has always been to provide the best to the students and to prepare them to take up the challenges of tomorrow so that when they come out of the institution they are competent to handle the responsibilities of the medical profession. The institution has been attracting numerous students from India and abroad. The dedicated and skilled faculty, excellent infrastructure, library facilities, museums, laboratories and skill labs, provide hands-on experience to the students. Moreover, the campus provides excellent opportunities for the student community to interact with students of other professional disciplines and gain knowledge about different cultures, facilitating their overall development. The Hospital has excellent patient care facilities and provides the students with good opportunities to learn bedside manners and clinical skills.

Students who have graduated from this institution have been successfully practicing medicine in various states of the country and across the world.

True to our mission, we are dedicated to training competent, compassionate and caring physicians through excellence in teaching, patient care and medical research.

Dr. Amarjit Singh
Principal Director & CEO



Director Academics' Message



The student handbook is intended to provide a brief, concise and understandable overview of some of the most important opportunities and expectations that anchor on progress.

I extend a very warm welcome to you all! I am glad that you have taken the right decision of joining Dr.D.Y.Patil Medical College, Hospital and Research Centre, Pune for your further studies. I am sure that it will prove to be an intense, challenging and rewarding learning experience for your professional and personal growth.

During your journey of becoming a doctor it is not only gaining knowledge, skill and abilities but also learning what it means to be a professional. You need to combine knowledge with clinical judgement to become a caring and competent physician. We are here to support and encourage you.

I wish you good luck and success in your Career.

Dr. P. Vatsalaswamy
Director Academics



Dean's Message



It gives me immense pleasure to pen a few lines of greetings and good wishes for the 'Hand Book' being published by the College. I hope this publication will cover all aspects which would help students to nourish their knowledge. Yes, I firmly believe "Knowledge is Power".

You will be proud to know that this institution has made legendary strides since its inception in 1996. It has achieved phenomenal success in a very short time.

Academic excellence and professionalism displayed by the Graduates and Postgraduates from this College have won them accolades globally. The College strives hard to help you to achieve your goal of becoming dedicated and compassionate Doctor.

I wish you very happy times at this great temple of learning.

Dr. J. S. Bhawalkar

Dean



OUR VISION

- Single window delivery of health care services
- Total quality management in service & education Unique work culture in alleviating human sufferings
- To train general, specialized, allied & supportive professionals
- To meet regional & national health care needs Work relentlessly to contribute to global health care, knowledge & skills
- Be efficient, effective, community acceptable, and excel in service, education & research
- To impart knowledge & interact with organizations Of similar interest
- To induce paradigm shift in Community attitude that many human diseases are Preventable, curable & affordable
- Foster global competencies, inculcating value System among learners
- Promote technology of relevance
- Reach the unreachable with awareness, education & service
- Serve the underserved
- Excellent health care education & service systems For community development

VISION-2025

"To develop knowledge center
this will be recognized for its
academic pursuit not only in
India but also globally”

OUR MISSION

- Learner centered health care education
- Community oriented research
- Patient centered service
- Strong community relationship
- Community oriented extension services
- Referral service center
- Serve the underserved
- Professionalism in education, service and
- Management to meet regional and national needs
- Strategic future oriented planning
- Inter organizational linkage
- Unique organizational culture
- Excellent health care education & service systems for
community development



Dr. D. Y. Patil Vidyapeeth, Pune
(Deemed to be University)

GRADUATE ATTRIBUTES

- Communication skills
- Enthusiasm for research
- Problem solving skills
- Critical thinking
- Exemplary leadership
- ICT awareness
- Social commitment
- Respect for cultural differences
- Global competencies



Dr. D. Y. Patil Vidyapeeth, Pune
(Deemed to be University)

MBBS PROGRAMME OUTCOMES

No.	By the end of the programme , the MBBS Graduate will have/be :
PO 1	Knowledge and Skills
PO 2	Planning and problem solving abilities
PO 3	Communication
PO 4	Research Aptitude
PO 5	Professionalism and Ethics
PO 6	Leadership
PO 7	Social Responsibilities
PO 8	Environment and Sustainability
PO 9	Lifelong Learner

Dr. D.Y. Patil Vidyapeeth, Pune

Goals and Objectives

- To create institutions for higher education at undergraduate, postgraduate and research degree levels as per the need of the society, in the areas of health, engineering and technology; arts; fine-, performing- and applied arts, science, commerce, education, architecture, pharmacy, management, hotel management and catering technology, travel and tourism, finance, law, agriculture, co-operation, rural development, and such other branches or specializations of learning, as may be considered appropriate from time to time, fully confirming to the concept of the University, namely, University Education Report (1948) and the Report of the Committee on Renovation and Rejuvenation of Higher Education in India (2009) and the Report of the Review Committee for Deemed to be Universities (2009).
- To carry out instruction and training, distinguishable from programmes of ordinary nature, for making distinctive contributions in the areas of specializations as may be determined from time to time.
- To create or establish institutions for high quality teaching and research; for advancement of knowledge and its dissemination through various research programmes undertaken in-house by substantial number of full time faculty / research scholars in diverse disciplines.
- To conduct all the activities, programmes, courses of studies, research, development, examinations, evaluations and those related to smooth functioning of the Institute
- To create, conduct and carry out instructions and training in any of the above-mentioned areas, as may be determined from time to time by formal, non-formal, distance, correspondence, open and / or any other mode of learning or instruction.
- To provide for field research, extension programmes and extra-curricular and / or extra-mural studies that contributes to the development of society.
- To establish and conduct the colleges and institutions of higher education and of specialized studies, in India or abroad, independently or in collaboration with other organization or organizations.
- To promote curricular, co-curricular activities, sports activities, etc. for the overall personality development of the students.
- To extend the benefit of knowledge and skills for the development of individuals and society by associating itself with local and regional problems and development.
- To establish and conduct centres of social changes and extension, provide for health care, promote awareness about personal, community and social health, hygiene and well-being particularly amongst villagers and industrial workers.
- To make special efforts to promote national integration and preserve cultural heritage, in general, and of India in particular.
- To generate, promote and preserve a sense of self-respect and dignity among citizens in general, and among weaker sections of society and women in particular.
- To promote freedom, equality, social justice and secularism as advocated and enshrined in the Constitution of India, and to promote the spirit of intellectual inquiry, pursuit of sustained excellence, tolerance and mutual understanding.
- To be a catalytic agent in socio-economic transformation by promoting basic attitudes and values of essence for national development.
- To provide for administrative and financial support, infrastructure and other services for effective and efficient management of the activities of the educational institutions.
- To modify, amend, amplify, extend, expand or abridge, delete any of these provisions in order to improve, encompass any of the aims and objects in order to serve the Nation and the society better.
- To undertake such other actions and do such other things as may be necessary or desirable for the furtherance of the aims and objectives enumerated in these at present or as may be expedient in future.

Membership – National and International bodies

- Association of Indian Universities (AIU), New Delhi
- Association of Commonwealth University (ACU), UK
- International Association of University Presidents (IAUP), US

Recognitions

- Re-Accredited by National Assessment and Accreditation Council (NAAC) with a CGPA of 3.62 on a four point scale at “A” Grade.
- ISO 9001:2015 certified
- NIRF - 20th All India Rank 2019

International Research Collaborations:

- International assignments for Teaching, Research & Consultancy and for exploring possible exchanges are a regular feature at DPU. In order to expand students’ horizons and generate job opportunities, DPU has collaborated with many reputed institutions worldwide. The International linkages of DPU have helped it in drawing upon the wisdom built up at the partner institutions of repute.
- The Department of Global Health Education, John’s Hopkins University has sent their students in batches to the Medical and Nursing institutes of DPU to provide global health training to their students at DPU by fostering a collaborative learning environment under their Global Health leadership programme. Last year a group of engineering and medical students from John’s Hopkins University were with us to discuss the development of innovative and low cost patented medical devices for developing countries.
- DPU is starting an inter-disciplinary collaborative research project with John’s Hopkins University on “Bacterial and antimicrobial resistance pattern in Pune, India in febrile illness” which will involve the Departments of Microbiology along with the Department of Medicine & Department of Paediatrics of our Medical College.
- Harvard Medical School Centre for Global Health Diversity Dubai “Assesing Pathways to care among tuberculosis (TB) and drug-resistant tuberculosis (DR-TB) patients in Pune City, India; a Biosocial inquiry and TB”

- DM international collaboration.
- Survindra Rajabhat University Thailand has been assigned for Research and collaboration with DPU
- Four students from Biotechnology Institute of DPU had gone to University of Skovde for the autumn/spring Semester in 2017-18 to perform research project under the bilateral agreement signed between DPU and University of Skovde Sweden.
- Linnaeus – Palme teachers exchange program between DPU and University of Skovde, has been granted by the Swedish Council of Higher Educations, under which two faculty members from DPU had gone to university of Skovde, for teaching for a period of one month and similarly two faculty members from University of Skovde, Sweden were involved for teaching in DPU in the autumn semester in August 2016.
- The Department of Physiology in collaboration with Diabetes & Islet Biology Group of University of Sydney, Australia is performing collaborative research under nutrition & Pancreatic regeneration.
- The Dental College of DPU has initiated number of an inter-disciplinary collaborative research projects with Biohorizon, USA on use of Bioactive Glass & Freeze Dried Bone Allograft in different periodontal pathologies and surgeries.
- The Dental College of DPU under a MoU with University of Hong Kong, Faculty of Dentistry, is pursuing a joint collaborative research project on “Microbial & Host Derived biomarkers in Peri Implant mucositis in relation to periodontal status.”

Highlights of the University

- Highly qualified, experienced and competent senior faculty as per regulations of the statutory bodies over and above the prescribed strength to lead the departments and institutions.
- Regular up-gradation of Curriculum.
- Encouragement for research activities with emphasis on development of a scientific temper among undergraduates as well.

- Well-stocked Central Learning Resource Centre with latest reference Books & Journals both in print and electronic form.
- State-of-the-art infrastructure.
- Continuing Education Programmes.
- Latest teaching-learning facilities including Tele-conferencing facility and other modes of e-learning.
- Alumni Association.
- All-round professional development.
- Extra-Curricular activities.
- Transportation facility.

Information about the College and Hospital

Dr. D. Y. Patil Medical College, Hospital and Research Centre Pimpri, Pune - 18 established in 1996, received recognition of the Medical Council of India (MCI) for the award of MBBS degree from its very first batch. Dr. D.Y. Patil Vidyapeeth, Pune has been accorded the status of University under section 3 of the UGC Act, 1956, vide notification No. F.9-39/2001-U.3 dated 11th Jan. 2003 of the Government of India. This College is the first in the state of Maharashtra to have 250 seats for the MBBS Course.

Dr. D. Y. Patil Vidyapeeth Pune is ranked among top 10 Medical Universities in the Country: survey conducted by: India Today (July 11, 2016) & Top 2nd Private University & again in top 5 medical Universities in 2017.

DPU, Pune is Re-Accredited by NAAC in 2015 in 'A' Grade: with CGPA of 3.62 on a four point scale.

ISO 9001:2015 Certified Vidyapeeth in 2015.

National Institutional Ranking Framework

(NIRF) 2019, Conducted by MHRD

- 70th in Overall Category in India
- 46th University in the Country
- Dr. D. Y. Patil Medical College, Hospital & Research Centre, Pimpri, Pune is 20th in Medical Category in India

In 2003, the college was permitted to teach post-graduate courses in a couple of subjects. In June 2005, the college was sanctioned an intake of 81 students in post graduate degree and diploma courses and presently there are

457 Postgraduate and 27 Superspeciality Students in the following 25 subjects: General Surgery, Obstetrics & Gynecology, Orthopedics, Ophthalmology, E.N.T. (Oto Rhino Laryngology) General Medicine, Pediatrics, Anesthesiology, Psychiatry, Radio-diagnosis, Respiratory Medicine, Dermatology, Venereology and leprosy, Pathology, Community Medicine, Pharmacology, Microbiology, Anatomy, Physiology, Biochemistry and Emergency Medicine, Neurosurgery, Urology and Nephrology, Cardiology and Neurology, Plastic Re-constructive Surgery. Cardio vascular and thoracic surgery & Intervention radiology.

All the courses conducted at this College have been recognized by Medical Council of India.

The recognitions and expansions granted by the MCI, UGC, MHRD and by the Ministry of Health & Family Welfare, Government of India are the result of visionary guidance and whole hearted support of our Chancellor the efforts put in by the faculty and the excellent facilities like spacious buildings, measuring 4,50,000 sq.ft. fully air conditioned lecture halls with modern amenities, well-equipped laboratories, well-stocked library, a hospital with super-specialty facilities such as Dialysis, MRI, whole body CT Scan, DSA, Color Doppler, ICUs and equipment required for Neurosurgery, Cath Lab, Cardiothoracic surgery etc.

Besides regular lectures and practical, the college gives due importance to research. Several research proposals of post-graduate students and of the faculty members are approved and funded by National funding agencies, such as Indian Council of Medical Research (ICMR), DST as well as Dr D.Y. Patil Vidyapeeth, Pune. The involvement of the undergraduate in research activities is noteworthy. The college boasts of a significant number of ICMR short term student projects every year. In fact, more than 100 projects have been completed in last 5 years by our undergraduates.

The Campus

Lecture Halls – Empowering with knowledge

The college has eight well laid-out air conditioned lecture halls; five with seating capacity of 300 each. The desks are well spaced out and halls are air conditioned, well-lit and have fine acoustics. Each hall has the latest audio-visual teaching aids, including e-learning facilities.

College Campus - Learning with Spirit

Dr. D. Y. Patil Vidyapeeth and Dr. D. Y. Patil Medical College, Hospital and Research Centre are located in the same sprawling campus at Pimpri, Pune. The college building is a masterpiece of architecture and has state-of-the-art facilities that are in tune with the best in the world. The college building basks in fine aesthetics and is impressive. It has a mural of Lord Dhantari on its façade and the magnificent fiber glass dome that can be seen from miles around.

The Facilities

Auditorium – Inculcating Versatility (In medical college building)

The Auditorium is centrally air-conditioned and is fully equipped with audio-visual facilities. It has a seating capacity of 250 and is being extensively used for seminars, symposia, guest lectures, etc.

DPU New Auditorium

A centrally air-conditioned and fully equipped with audio-visual facilities and seating capacity of 920 auditorium has been build, which is now being extensively used for hosting numerous event including annual day award functions seminars, symposia, guest lectures, etc.

Learning –Resource Centre

The college has an excellent world class central library facility. It has a total floor area of 5000 sq.m with a provision for a separate reading room for the teaching staff and spacious reading halls to accommodate over 750 students. The total collection of the library is more than 27872 books. The Library subscribes to most of the National and International Journals required for the undergraduate and post-graduate students and faculty apart from 2047 online journals. Library is equipped with 52 computer terminals with IT facilities, so that students can access more than 2047 online journals. 218 physical hard copies of 106 national and 112 international journals are available. 14 magazines and 1244 digitized collections are also available in Central library. In addition to the central library facility, each department has its own departmental library. The reading Room of the central library is kept open round-the-clock. The central library has been provided with Wi-Fi internet facility and students and the faculty have open access to this facility. As the College and Hostels are 'Wi-Fi' enabled, the students can access information from any point anywhere.

Hostels - Home away from Home

The College has well-furnished boys and girls hostels in the campus. The hostel rooms are well furnished. Round the clock security is provided. There is a cafeteria attached to each hostel. The hostels have mess facility, reading rooms, recreational areas with T. V. and indoor game facilities like those of carom, table tennis, etc. These hostels are managed by wardens and rectors. The hostels have a well- equipped gym under the supervision of a physical trainer.

The International student experience

Ever since its inception, International students have been a part of Dr D.Y. Patil Vidyapeeth, Pune drawn from countries all over the globe. Students have found the University a home away from home. Separate comfortable housing is available for International students. Broadband connectivity ensures that the students are in touch with only a click. An International student counselor provides individualized attention to the need of international students.

Student Counselling –Parental Care

Students admitted to the first year MBBS are from 10+2 stream and there is a structural difference between the school and college education. Therefore, for smooth integration, students are allotted to a faculty member in small groups who acts as their Mentor during the course. Regular counselling sessions are arranged for the fresh students. Senior members of the faculty look after this activity. Every attempt is made to ensure that students feel confident and fully secure and the changeover is smooth.

Student Personality Development

Along with the academics, the students' also participate in Social events, Annual Cultural, Literary, Art events and Sports. Research activities, Conferences, Personality Development sessions etc.

Parent Teacher Organization- Teaming Up

Parent Teacher Organization is a unique feature of our College. Parents and teachers interact with each other regularly to ensure the well being of their wards. College maintains regular communication with parents informing about the progress of their wards. This is another step towards helping the student adjust to a new environment. Parents, being one of the important stakeholders provide us with valuable inputs from time to time.

Departments of the Medical College

The College has a comprehensive set of departments made for complete learning.

The departments have:

1. Highly qualified and experienced staff as per the norms laid down by the Medical Council of India (MCI).
2. Museums with multitude of specimens for student study and reference.
3. Well-stocked departmental libraries with latest reference books and journals.
4. OHP, LCD projectors, 35mm Slide projector, Computers and CD-ROMs.
5. Well planned laboratories with all modern equipments.
6. Skills Lab.
7. Research Laboratories.

Institute Journal

Institute is publishing peer reviewed journal namely Medical Journal of Dr. D.Y. Patil University [MJDRDYPU] with print ISSN: 0975-2870; E-ISSN 2278-7118 which is indexed with or included in DOAJ, Index Copernicus, Indian Science Abstracts.

The Faculty

The college has a team of dedicated and highly qualified faculty in all specialties with vast teaching experience both at undergraduate and post graduate levels. The faculty is involved in continuous, relevant and innovative research programmes. Innovative teaching learning modules are introduced to enhance performance of the student. They are also invited as guest speakers at many well known institutions in the country. Senior members of the teaching staff are invited as paper setters, examiners and moderators by various universities all over India. The college deputed its faculty to attend workshops, seminars, conferences, symposia, CME etc., frequently. The quality of teaching is evident from the excellent results of the college.

Feedback DPU

DPU has fine tuned its 360° feedback mechanism on curriculum aspects that involves students, peers and alumni. Such feedback from stakeholders and its analysis, both manual and online has given tremendous impact on the revision of curriculum design. The corrective measures and appropriate actions have been taken to upgrade the curriculum and reconstructing of syllabi, resulting in expected learning outcome.

The Hospital

A good hospital gives any medical College a fine learning reputation. The hospital provides ample and varied clinical material to the students,

enabling them to be conversant with multitudes of ailments, infirmities and diseases and treatment thereon.

Dr. D. Y. Patil Medical College, Hospital and Research Centre, Pimpri, Pune caters to clinical services through ambulatory, indoor and outreach components.

The Hospital runs ambulatory services through OPDs dedicated to 21 branches, of which 5 are Medicine & allied, 5 are Surgery & allied and 11 are Super specialty subjects including Anesthesiology, Radiology & Emergency Medicine.

All OPDs are spacious with examination rooms and equipped with relevant diagnostic equipments of latest and global standards, upgraded from time to time.

The indoor facility of hospital has 61 Modern General Wards with special services and Unique designs and décor in strict adherence to MCI specification. A special toilet for physically disabled patients in every ward as per Supreme Court of India directives and 1510 beds dedicated to different specialities in proportion to the number of under graduation, post- graduation and super speciality students studying for MBBS, MD, MS, M.Ch. and DM. The number of students is 250 admissions per year for MBBS, 171 for Post-graduation and 18 for Super specialization. There are facilities for PhD in all subjects.

For critical care services, we have Intensive Care Units (ICUs) equipped with monitors, ventilators and the modern medical equipment as the services demand.

The Medical ICU with 15 beds capacity (10 ICU and 5 ICCU), Surgical (10 ICU) with (5 Neurosurgery and 5 OBGY), 35 beds capacity for Pediatrics (15 PICU & 20 NICU), 7[RICU] with all sophisticated and modern facilities are available under the charge of highly qualified and experienced Doctors. Apart from it, 66 ICU beds for various specialties are available. Hospital has 18 Modular operation theaters including MAQUET and DRAGGER operation theatre systems. The latest addition is DAVINCI 4th generation Robot for Robotic Surgery.

The modular operation theatre system is supported by state of art CSSD besides 7 operation

theatres and one in Emergency Medicine department in the old building with CSSD. More than 20 ICU beds are ready to care for the increasing demand of sophisticated ICU facilities for coronary interventions and 8 for recovery of cardio vascular Surgery and Thoracic Surgery patients. Two Cardiac Cath labs are there for Cardiac intervention with state of art infrastructure.

The ultramodern ventilators and multi parametric monitors with central monitoring system are available. Highly trained and experienced staff and nurses are available.

The Department of Radio-diagnosis and Imaging is very well equipped and is one of the best Centers in Pune. In a bid to provide better health care facilities to the patients and society, the hospital has Siemens Avanto 1.5 Tesla Magnetic Resonance Imaging (MRI) machine with matrix and has state-of-the-art latest model of Siemens 3 Tesla Veda MRI that has been installed recently.

The Department of Radio-diagnosis, incorporating the newer ideas and most up-to-date features, has facilities like DSA and two CT Scanners. A digital Mammography unit helps in early diagnosis and management of breast disease. The Department also has High Resolution Colour Doppler and Ultrasonography units with all the latest probes. Digital Radiography, Conventional X-ray units and image intensifier provide the ultra modern radiography set up.

For emergency care, the Department of Emergency Medicine is highly equipped with 30 beds running 24x7 manned by specialists, assisted by 10 doctors and support staff.

There is a haemodialysis unit with 20 dialysis machines running round the clock.

Latest Addition – 3 Tesla Veda MRI Scanner,

Other Facilities

- i) Radio Diagnostics
- ii) Highlyequipped CCL Lab
- iii) Blood Bank
- iv) Human Milk Bank
- v) Well Stocked Pharmacy
- vi) Ambulance Services
- Modern and supportive diagnostic services
- Two CSSD's
- Emergency and trauma care.
- Geriatric Centre
- Endoscopy procedures like gastroscopy, colonoscopy, cystoscopy, bronchoscopy, thoracoscopy, etc. are performed regularly for persuasion of research & patient treatment.
- Organ Transplant Programme
- MIS

- Laundry , Food & Beverages Services

Expansion projects in progress

- Developing super specialty medical services in 6 disciplines every year to achieve a target of 50 such services in 10 years, kidney transplants and liver transplant.
- Expansion of haemodialysis services with 25 machines with an objective to serve 100 dialysis per day.
- IVF centre
- Day care surgery services
- Bone marrow transplantation services
- Epilepsy surgery centre
- Multi-disciplinary tumor clinic with special attention to breast disease
- Simulator / skill laboratory

Museums



FMT Museum



Pathology Museum



Community Medicine Museum

HI-Tech Hospital

OPD, MRI, Operation Theatres



O.P.D.



ICU's



MRI



Operation Theatres

Infrastructure



Central Research Lab



Auditorium



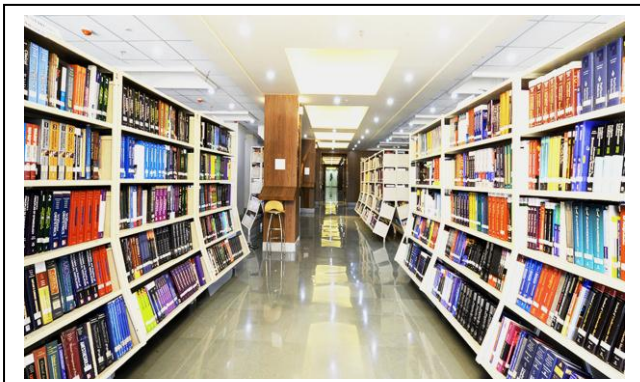
Lecture Hall



College Canteen



College Canteen



Learning Resource Centre or Central Library



Discipline and Conduct of the Student

1.1 Obligations of the Student

- 1.1.1 Conduct himself/herself properly
- 1.1.2 Maintain proper behavior.
- 1.1.3 Observe strict discipline both within the campus & outside of the Institution, and also in Hostel.
- 1.1.4 Ensure that no act of his/her consciously or unconsciously brings the Institution or any establishment or authority connected with it into disrespect.

1.2 Any act/s of the student which is contrary to the clause (1.1), shall constitute misconduct and/or indiscipline, which include any one or more of the acts jointly or severally, mentioned hereinafter;

- 1.2.1 Any act of the student which directly or indirectly causes or attempts to cause disturbance in the lawful functioning of the Institution.
- 1.2.2 The student who is repeatedly absent from the class, lectures, tutorials, practicals and other teaching activity.
- 1.2.3 The student not abiding by the instructions of the Faculty members and not interacting with them with due respect.
- 1.2.4 Any student found misbehaving in the campus/class or behaving arrogantly, violently towards the faculty, staff or fellow student.
- 1.2.5 The Student who is not present for the class tests, midterm exams, terminal and preliminary examinations.
- 1.2.6 Permitting or conniving with any person/parent/guardian, which is not authorized to occupy hostel room, residential quarter, or any other accommodation or any part thereof of the Institution.
- 1.2.7 Obstruction to any student or group of students in any legitimate activities, in classrooms/laboratories/field or places of social and cultural activities within the campus of the Institute.
- 1.2.8 Possessing or using any weapon, firearms, explosives, of

dangerous substances in the premises of the Institution.

- 1.2.9 Indulging in any act which would cause embarrassment or annoyance to any student/authority/staff or any member of the staff.
- 1.2.10 Stealing or damaging any farm produce or any property belonging to the Institution, staff member or student.
- 1.2.11 Securing admission in the Institution, to any undergraduate or postgraduate programme or any other course by fabrication or suppression of facts or information.
- 1.2.12 If the student fails to complete the assignments regularly and has poor academic performance as assessed by the regular class teachers and internal assessment, he/ she will not be allowed to appear for the Vidyapeeth examination.
- 1.2.13 If a student remains absent for lectures, practical or class test and exam intons without prior permission of the Principal or the head of the departments, she/he will not be compensated for extra class.
- 1.2.14 Students should read the notices regularly on notice boards in the academic complex, library and the department notice boards.
- 1.2.15 Damage of property of the college and its sister institutes like tampering with fixtures, fittings, equipments, instruments, furniture, books, periodicals, walls, windows panels, vehicles etc., will be viewed very seriously.
- 1.2.16 Recording of any electronic images in the form of photographs, audio or video recording of any person without the person's knowledge; when such recording is likely to cause injury, distress, or damage the reputation of such person; is prohibited in any part of the College and hostel premises. The storing, sharing or distributing of such unauthorized records by any means is also prohibited.
- 1.2.17 Use of mobile phones and head phones during college hours is prohibited.
- 1.2.18 As per the rules and regulations of the Dr. D. Y. Patil Vidyapeeth, Pimpri, Pune, 75% attendance in a subject for appearing in the examination is

compulsory inclusive of attendance in non-lecture teaching i.e. seminars, group discussion, tutorials, demonstrations, practical's, hospital (tertiary, secondary, primary) posting and bedside clinics etc.

- 1.2.19 The Students must be present in proper dress code with apron/ lab coat, name badge and identity card on all week days /working days and during clinical duties.
- 1.2.20 Admission of the student will be cancelled at any point of time in case of;
 - 1.2.20.1 Not submitting the required documents in time.
 - 1.2.20.2 Failing to fulfill required eligibility criteria of the programme.
 - 1.2.20.3 Submission of fake or incorrect documents.
 - 1.2.20.4 Admission gained by resorting to fraudulent means, illegal gratification or any unfair practice detected at any stage during the entire programme.
 - 1.2.20.5 Not paying the stipulated fees on time.

1.3 Prohibition of Ragging:

- 1.3.1 Ragging in any form is strictly prohibited in the campus and outside. The UGC Regulations on “Curbing the Menace of Ragging in Higher Educational Institutions, 2009” (as amended) and the MCI (Prevention and Prohibiting Ragging in Medical Colleges/ Institutions) Regulations 2009, and DCI Regulations on Curbing the Menace of Ragging in Dental Colleges, 2009 shall be applicable to all students of the Vidyapeeth.
- 1.3.2 It is mandatory to fill the online Anti Ragging undertaking, by every student at the time of the admission and on commencement of every academic year.
- 1.3.3 Smoking or consumption of alcoholic beverages, chewing tobacco in any form or use of banned materials inside the College, Hostel and Campus is strictly prohibited. Any violation on the part of the students will be viewed very seriously and they will be suspended from the college immediately pending enquiry and in the case of hostellers, they will be

expelled from the hostels immediately. Such students will not be permitted to attend classes/sit for examinations and enter the campus without the written permission of the competent Authority.

1.4 Attendance & Progress:

Each student shall always maintain decency, decorum and good conduct, besides keeping steady progress and required attendance. The conduct/ academic performance/ attendance of each student shall be reviewed periodically and appropriate action, including detaining from appearing for the Vidyapeeth Exam/ expelling from the Hostel or College, as the case may be, will be taken against the erring student. The students shall abide by such decision of the authorities of the Institution/ Vidyapeeth.

1.5 Payment of Tuition and Other Fees

- 1.5.1 On admission of candidates to the first year of the course of study, all the fees mentioned in the letter of admission, viz., annual tuition fee, registration and eligibility fee, health insurance, caution deposit, hostel and mess fee, etc., as applicable, should be paid on or before the prescribed date without fail. Any delay will attract payment of penalty as specified. If any candidate fails to remit tuition fee and other fees within the last date as notified, he/she will forfeit his/her admission to the course concerned.
- 1.5.2 In respect of subsequent year(s) of study, tuition fee and other specified fees shall be paid on or before the date as notified to the parents/students and on the Notice Board of the Institution /College concerned. Late payment, if any, will attract penalty as specified.
- 1.5.3 Similarly, examination fee, as prescribed and notified from time to time, shall be paid on or before the due date. If there is any delay, it will attract penalty as specified. If any student fails to remit the examination fee even after lapse of the period specified for payment with penalty, such student will not be issued Hall Ticket for the Vidyapeeth examination(s)/ debarred from appearing for the Vidyapeeth examination(s).
- 1.5.4 All fees, once paid to the Vidyapeeth account, will not be refunded or adjusted

for any other purpose under any circumstance.

1.6 Rules relating to Vidyapeeth Examinations

- 1.6.1 The candidates appearing for the Vidyapeeth theory examinations shall be under the direct disciplinary control of the Centre Incharge. Possession of cell phone or any electronic device or incriminatory materials by a candidate or found copying from any device/material in the examination hall, is strictly prohibited.
- 1.6.2 Disciplinary action will be initiated if any candidate indulges in any malpractice (unfair means) as enumerated in the Vidyapeeth Examination Manual.

1.7 Rules for Hostel Students

All inmates of the Hostel shall observe the following rules for the smooth and efficient running of the hostel and for their comfortable stay:-

- 1.7.1 Only bonafide students of Vidyapeeth are eligible for admission to the hostels.
- 1.7.2 Students, who fail to remit the Hostel fee when they fall due, even after a reminder in writing, shall vacate the hostel room allotted to them, forthwith.
- 1.7.3 No posters or pictures should be stuck inside and outside the room or anywhere around the premises of the hostel or College. Hostlers should avoid sticking bills and posters on the windows, doors and walls (except name strips on the room door). In case the room is found not in order, fine will be levied on the erring student.
- 1.7.4 Inmates should switch off fans and lights and all electronic items before leaving their rooms.
- 1.7.5 The inmates are advised to close the taps after use in order to avoid wastage of water.
- 1.7.6 Dining services will be provided only in the mess and there will be no room service.
- 1.7.7 Whenever any hosteller falls sick the same should be reported by him/her to the warden who will provide all necessary assistance to get appropriate treatment or medicines.

1.7.8 While going out of hostel the students should enter their name in the register & sign the same by mentioning proper reason.

1.7.9 To leave the hostel premises, permission of the Chief Warden is absolutely necessary. Students who want to stay overnight to visit their parents or guardians should approach the Chief Warden for permission. Permission will be granted only after obtaining written request from the parent/guardian duly signed by them, which will be duly entered in a register maintained in each block by the Warden.

1.7.10 All rooms, corridors, toilets etc. must be kept clean and any student who violates the rule shall be expelled from the hostel.

1.7.11 Hostel facility is provided with a view to help the student to pursue his/her studies in good environment and to facilitate/promote his/her academic progress. A student who fails to keep up the congenial atmosphere and environment in the Hostel or to perform well and maintain academic progress shall not be allowed to use the hostel facility and shall vacate his/her room immediately on intimation from the Chief Warden/Dean/Principal/Director of Faculties.

All students will be governed by the rules stated above and by those that will be framed from time to time during the academic year.

Failure on the part of the students to abide by the disciplinary rules will result in such punishment including expulsion from the College/Hostel as may be imposed by the Institution/ Vidyapeeth/ Head of the Institution.

The decision of the Institution/ Vidyapeeth / Head of the Institution with regard to disciplinary cases shall be final and all the students shall abide by such decisions.

1.8 Powers of Competent Authority (Dean / Principal / Director / Registrar at the Institute level)

The Competent authority may impose any one or more of the following punishment/s on the student found guilty of misconduct, indiscipline, in proportion thereof:

- 1.8.1 Warning/reprimand
- 1.8.2 Fine
- 1.8.3 Cancellation/withheld scholarship/award/prize/medal.
- 1.8.4 Expulsion from the Hostel.
- 1.8.5 Expulsion from the institution
- 1.8.6 Cancellation of the result of the student concerned in the examination of the Institution.
- 1.8.7 Temporary annulment from the Hostel/ Institution.
- 1.8.8 Rustication from the Institution.

1.9 Procedure for Inquiry

If the competent authority is satisfied that there is a prima facie case inflicting penalties, mentioned in clause No. 8, the authority shall make inquiry, in following manner:

- 1.9.1 Due notice in writing shall be given to the student concerned about his alleged act of misconduct/indiscipline.
- 1.9.2 Student charged shall be required within 15 days of the notice to submit his/her written representation about such charge/s.
- 1.9.3 If the student fails to submit written representation within specified time limit, the inquiry may be held ex parte.
- 1.9.4 If the student charged desired to see the relevant documents which are being taken into consideration for the purpose of proving the charge/s, may at the discretion of the inquiry authority, be shown to the student.
- 1.9.5 The student charged shall be required to produce documents, if any in support of his defense. The inquiry authority may admit relevant evidence/documents.
- 1.9.6 Inquiry Authority shall record findings on each implication of misconduct or indiscipline, and the reason for such finding and submit the report along with proceedings to the competent Authority
- 1.9.7 The competent Authority on the basis of findings, shall pass such orders as it deems fit.

Provided: Procedure prescribed above need not be followed, when the student charged admits the charges in writing.

(specimen copy enclosed.)

1.10 Appeal : If the punishment / fine / rustication is imposed on a student by Dean / Principal/ Director, such student shall be entitled to prefer an appeal before the Vice-Chancellor within thirty (30) days of the receipt of the order.

Special Instructions Regarding Ragging

The students of the University are hereby informed that “Ragging” in the any form is strictly prohibited. The University strictly enforces anti-ragging measures. It is needless to explain about the harassment, humiliation and sufferings to which the new entrants would be subjected to in the name of “Ragging” which is inhuman and intolerable. The Management will enforce strict discipline among the students of the University and ensure that the University is a model institution free from ragging. The students are therefore strictly warned to refrain from involving in any ragging activities. Those who indulge in ragging in any form shall be expelled immediately from the College and Hostel and are liable for punishment under the Medical Council of India/ University Grant Commission / Maharashtra State prohibition of ragging act and as per directives of the Supreme Court of India issued from time to time.

The “UGC Regulations on curbing the menace of ragging in higher education institutions, 2009 & The Medical Council of India (Prevention and prohibition of ragging in Medical Colleges /Institutions) regulations 2009” have been adopted by the University and are applicable to the students of the University. The full text of the regulations is reproduced below for information and strict adherence by the students.

Important Note

Every student who joins a course of study and who is already undergoing a course of study should submit the following declaration (and any other declaration as may be prescribed from time to time, in accordance with the above rules) duly signed at the time of admission and also as and when required during the course of his/her study in the University.

Each student and parent/guardian is required to submit an affidavit on paper separately in the form prescribed in Annexure I and Annexure II regarding curbing the menace of ragging.



D.Y. Patil Vidyapeeth
Deemed to be University
Pimpri, Pune – 411 018

**Curbing the Menace of Ragging in
Higher Educational Institutions Regulations 2009.**
(Under Section 26 (1) (g) of the University Grants Commission Act, 1956)
(To be published in the gazette of India part III, Section- 4)

F.1-16/ 2007 (CPP-II)

Dated 17th June, 2009.

Preamble

In view of the direction of the Hon'ble Supreme Court in the matter of “University of Kerala v/s. Council, Principals, Colleges and others” in SLP no. 24295 of 2006 dated 16.05.2007 and the dated 08.05.2009 in Civil Appeal number 887 of 2009, and in consideration of the determination of the Central Government and the University Grants Commission to prohibit, prevent and eliminate the scourge of ragging including any conduct by any student or student whether by words spoken or written or by an act which has the effect of teasing, treating or handling with rudeness a fresher or any other student, or including in rowdy or in-disciplined activities by any student or students which causes or is likely to cause annoyance, hardship or psychological harm or to raise fear or apprehension thereof in any fresher or any other student or asking any student to do any act which such student will not in the ordinary course do and which has the effect of causing or generating a sense of shame, or torment or embarrassment so as to adversely affect the physique or psyche of such fresher or any other student, with or without an intent to derive a sadistic pleasure or showing off power, authority or superiority by a student over any fresher or any student, in all higher education institutions in the country, and thereby, to provide for the healthy development, physically and psychologically, of all students, the University Grant Commission, in consultation with the Councils, brings forth this Regulation.

In exercise of the powers conferred by Clause (g) of sub-section (1) of Section 26 of the University Grants Commission Act, 1956, the University Grant Commission hereby makes the following Regulations, namely;

**** As amended vide Notification dated 08.10.2012 published in the Gazette of India dated 10.11.2012**

1. Title, commencement and applicability:

- 1.1 These regulations shall be called the “UGC Regulations on Curbing the Menace of Ragging in Higher Educational Institutions, 2009”.
- 1.2 They shall come into force from the date of their publication in the Official Gazette.
- 1.3 They shall apply to all the institution coming within the definition of an University under sub-section (f) of section (2) of the University Grants Commission Act, 1956, to all other higher educational institutions, or elements of such universities or institutions, including its department, constituent units and all the premises, whether being academic, residential, playgrounds, canteen, or other such premises of such universities, deemed university and higher educational institutions, whether located within the campus or outside, and to all means of transportations of students, whether public or private, accessed by students for the pursuit of studies in such universities, deemed university and higher educational institutions.

2. Objective:

To prohibit any conduct by any student or students whether by words spoken or written or by an act which has the effect of teasing, treating or handling with rudeness a fresher or any other students, or indulging in rowdy or in-disciplined activities by any student or students which causes or is likely to cause annoyance, hardship or psychological harm or to raise fear or apprehension thereof in any fresher or any other student or asking any student to do any act which such student will not in the ordinary course do and which has the effect of causing or generating a sense of shame, or torment or embarrassment so as to adversely affect the physique or psyche of such fresher or any other student, with or without an intent to derive a sadistic pleasure or showing off power, authority or superiority by a student over any fresher or any student; and thereby, to eliminate ragging in all its forms from universities, deemed universities and other higher educational institutions in the country by prohibiting it under these Regulations, preventing its occurrence and punishing those who indulge in ragging as provided for in these Regulations and the appropriate law in force.

3. What constitutes Ragging: Ragging constitutes one or more of any the following acts:

- a) Any conduct by any student or students whether by words spoken or written or by an act which has the effect of treating or handling with rudeness a fresher or any other student;
- b) Including in rowdy or in-disciplined activities by any student or students which causes or is likely to cause annoyance, hardship or psychological harm or to raise fear or apprehension thereof in any fresher or any other student;
- c) Asking any student to do any act which such student will not in the ordinary course do and which has the effect of causing or generating a sense of shame, or torment or embarrassment so as to adversely affect the physique or psyche of such fresher or any other student;
- d) Any act by the senior student that prevent, disrupts or disturbs the regular academic activity of any other student or a fresher;
- e) Exploiting the service of a fresher or any other student for completing the academic tasks assigned to an individual or a group of students;

- f) Any act of financial extortion or forceful expenditure burden put on a fresher or any other student by students;
- g) Any act of physical abuse including all variants of it: sexual abuse, homosexual assaults, stripping, forcing obscene and lewd acts, gestures, causing bodily harm or any other danger to health person.
- h) Any act or abuse by spoken words, e-mails, post, public insults which would also include deriving perverted pleasure, vicarious or sadistic thrill from actively or passively participating in the discomfiture to fresher or any other students;
- i) Any act that affects the mental health and self-confidence of a fresher or any other student with or without an intent to derive a sadistic pleasure or showing off power, authority or superiority by a student over any fresher or any other students.

4. Definitions:

1. In these regulations unless the context otherwise requires,-

- (a) "Act" means, the university Grant Commission Act, 1956 (3 of 1956);
- (b) "Academic year" means the period from commencement of admission of students in any course of study in the institution up to the completion of academic requirements for that particular year;
- (c) "Anti-Ragging Helpline" means the Helpline established under clause (a) of Regulation 8.1 of these Regulation.
- (d) "Commission" means the University Grant Commission;
- (e) "Council" means a body so constituted by an Act of Parliament or an Act of any State Legislature for setting, or co-ordinating or maintaining standards in the relevant areas of higher education, such as the All India Council for Technical Education (AICTE), the Bar Council of India (BCI), the Dental Council of India (DCI), the Distance Education Council (DEC), the Indian Council of Agricultural Research (ICAR), the Indian Nursing Council (INC), the Medical Council of India (MCI), the National Council for Teacher Education (NCTE), the Pharmacy Council of India (PCI), etc. and the state Higher Education Councils.

- (f) “District Level Anti-Ragging Committee” means the Committee, headed by the district Magistrate, constituted by the State Government, for the control and elimination of ragging in institutions with the jurisdiction of the district.
- (g) “Head of the institution” means the Vice-Chancellor in case of university or a deemed to be university, the Principal or the Director or such other designation as the executive head of the institution or the college is referred.
- (h) “Fresher” means a student who has been admitted to an institution and who is undergoing his/her first year of study in such institution.
- (i) “Institution” means a higher educational institution including, but not limited to an university, a deemed to be university, a college, an institute, an institution of national importance set up by an Act of Parliament or a constitute unit of such institution, imparting higher education beyond 12 years of schooling leading to, but not necessarily culminating in, a degree (graduate, postgraduate and/or higher level) and/or to a university diploma.
- (j) “NAAC” means the National Academic and Accreditation Council established by Commission under section 12(ccc) of the Act;
- (k) “State Level Monitoring Cell” means the body constituted by the State Government for the control and elimination of ragging in institution within the jurisdiction of the State, established under a State Law or on the advice of the Central Government, as the case may be.

2. Words and expression used and not defined herein but defined in the Act or in the General Clauses Act, 1897, shall have the meanings respectively assigned to them in the Act in the General Clauses Act, 1897, as the case may be.

5. Measures for prohibition of ragging at the institution level:

- (a) No institution or any part of it thereof, including its elements, including, but not limited to, the departments, constituent units, colleges, centers of studies and all its premises, whether academic, residential, playgrounds, or canteen, whether located within the campus or outside, and all means of transportation of students, whether public or private, accessed by students for the pursuit of studies in such institution, shall permit or condone any reported incident of ragging in any form; and all institution shall take all necessary and required measures, including but not limited to the provision of these Regulation, to achieve the objective of eliminating ragging, with the institution or outside;
- (b) All institutions shall take action in according with these Regulations against those found guilty of ragging and/or abetting ragging, actively or passively, or being part of a conspiracy to promote ragging.

6. Measures for prevention of ragging at the institution level:-

6.1 An institution shall take the following steps in regards to admission or registration of students; namely;

- (a) Every public declaration of intent by any institution, in any electronic, audio-visual or print or any media, for admission of students to any course of study shall expressly provide that ragging is totally prohibited in the institution, and anyone found guilty of ragging and/or abetting ragging, whether actively or passively, or being a part of a conspiracy to promote ragging, is liable to be punished in accordance with these Regulations as well as under the provision of any penal law for the time being in force.
- (b) The brochure of admission/instruction booklet or the prospectus, whether in print or electronic format, shall prominently print these Regulations in full.

Provided that the institution shall also draw attention to any law concerning ragging and its consequences, as may be applicable to the institution publishing such brochure of admission/instruction booklet or the prospectus.

Provided further that the telephone numbers of the Anti-Ragging Helpline and all the important functionaries in the institution, including but not limited to the Head of the institution, faculty members, members of the Anti-Ragging Committees and Anti-Ragging Squads, District and Sub-Divisional authorities, Warden of hostels, and other functionaries or authorities where relevant, shall be published in brochure of admission / instruction booklet or the prospectus.

- (c) Where an institution is affiliated to a University and publishes brochure of admission/instruction booklet or a prospectus, the affiliating university shall ensure that the affiliated institution shall comply with the provisions of clause (a) and clause (b) of Regulation 6.1 of these Regulations.
- (d) The application form for admission, enrolment or registration shall contain an affidavit, mandatorily in English and Hindi and/or one of the regional languages known to the applicant, as provided in the English language in Annexure I to these Regulation, to be filled up and signed by the applicant to the effect that he/she has read and understood the provision of these Regulations as well as the provisions of any other law for the time being in force, and is aware of the prohibition of ragging and the punishment prescribed, both under penal laws as well as under these Regulation and also affirm to the further aver that he/she would not indulge, actively or passively, in the act or abet the act of ragging and if found guilty of ragging and/or abetting ragging, is liable to be proceeded against under these Regulations or under any penal law or any other law for the time being in force and such action would include but is not limited to debarment or expulsion of such student.
- (e) The application form for admission, enrolment or registration shall contain an affidavit, mandatorily known to the parents/guardians of the applicant, as provided in the English language in Annexure I to these Regulations, to be filled up and signed by the parents/guardians of these applicant to the effect that he/she has read and understood the provision of these Regulation as well as the provisions of any other law for the time being in force, and is aware of the prohibition of ragging and the punishment prescribed, both under penal laws as well as under these Regulations and also affirm to the effect that his/her ward has not been expelled and/or debarred by any institution and further aver that his/her ward would not indulge, actively or passively, in the act or abet the act or ragging and if found guilty of ragging and/or abetting ragging, his/her ward is liable to be proceeded against under these Regulation or under any penal law or any other law for the time being in force and such action would include but is not limited to debarment or expulsion of his/her ward.
- (f) The application for admission shall be accompanied by a document in the form of, or annexed to, the School Leaving Certificate/Transfer Certificate/ Migration Certificate/ Character Certificate reporting on the inter-personal/ social behavioral pattern of the applicant, to be issued by the school or institution last attended by the applicant, so that the institution can thereafter keep watch on the applicant, if admitted, whose behavior has been commented in such document.
- (g) A student seeking admission to a hostel forming part of the institution, or seeking to reside in any temporary premises not forming part of the institution, including a private commercially managed lodge or hostel, shall have to submit additional affidavits countersigned by his/her parents/guardians in the form prescribed in Annexure I and Annexure II to these Regulation respectively along with his/her application.
- (h) Before the commencement of the academic session in any institution, the Head of the institution shall convene and address a meeting of various functionaries/agencies, such as Hostel Wardens, representatives of students, parents/guardians, faculty, district administration including the police, to discuss the measures to be taken prevent ragging in the institution and steps to be taken to identify those indulging in or abetting ragging and punish them.
- (i) The institution shall, to make the community at large and the students in particular aware of the dehumanizing effect of ragging, and the approach of the institution towards those indulging in ragging, prominently display posters

depicting the provisions of penal law applicable to incidents of ragging and the provisions of these Regulations and also any other law for the time being in force, and the punishment thereof, shall be prominently displayed on Notice Boards of all departments, hostel and other buildings as well as at places, where students normally gather and at places, known to be vulnerable to occurrences of ragging incidents.

- (j) The institution shall request the media to give adequate publicity to the law prohibiting ragging and the negative aspects of ragging and the institution's resolve to ban ragging and punish those found guilty without fear or favour.
- (K) The institution shall identify, properly illuminate and keep a close watch on all locations known to be vulnerable to occurrences of ragging incidents.
- (l) The institution shall tighten security in its premises, especially at vulnerable places and intense policing by Anti-Ragging Squad, referred to in these Regulations and volunteers, if any, shall be resorted to at such points at odd hours during the first few months of the academic session.
- (m) The institution shall utilize the vacation period before the start of the new academic year to launch a publicity campaign against ragging through posters, leaflets and such other means, as may be desirable or required, to promote the objectives of these Regulations.
- (n) The faculties / departments / units of the institution shall have induction arrangements, including those which anticipate, identify and plan to meet any special needs of any specific section of students, in place well in advance of the beginning of the academic year with an aim to promote objectives of this Regulation.
- (o) Every institution shall engage or seek the assistance of professional counselor before the commencement of the academic session, to be available when required by the institution for the purpose of offering counseling to fresher and to other students

after the commencement of the academic year.

- (p) The head of the institution shall provide information to the local police and local authorities, the details of every privately commercially managed hostels or lodges used for residential purposes by students enrolled in the institution and the head of the institution shall also ensure that the Anti-Ragging Squad shall ensure vigil in such locations to prevent the occurrence of ragging therein.

6.2 An institution shall, on admission or enrolment or registration of students, take the following steps, namely;

- (a) Every fresh students admitted to the institution shall be given a printed leaflet detailing to whom he/she has to turn to for help and guidance for various purpose including address and telephone numbers, so as to enable the student to contact the concerned person at any time, if and when required, of the Anti-Ragging Helpline referred to in these Regulations, Wardens, Head of the institution, all members of the anti-ragging squads and committees, relevant district and police authorities.
- (b) The institution, through the leaflet specified in clause (a) of Regulation 6.2 of these Regulations shall explain to the fresher, the arrangements made for their induction and orientation which promote efficient and effective means of integrating them fully as students with those already admitted to the institution in earlier years.
- (c) The leaflet specified in clause (a) of Regulation 6.2 of these regulations shall inform the fresher about their rights as bona fide students of the institution and clearly instructing them that they should desist from doing anything, with or against their will, even if ordered to by the seniors students, and that any attempt of ragging shall be promptly reported to the Anti-Ragging Squad or to the Warden or to the Head of the institution, as the case may be.
- (d) The leaflet specified in clause (a) of Regulation 6.2 of these Regulations shall contain a calendar of events and activities laid down by the institution to facilitate and complement familiarization of fresher with the academic environment of the institution.

- (e) The institution shall, on the arrival of senior students after the first week or after the second week, as the case may be, schedule orientation programmes as follows, namely; (i) joint sensitization programme and counseling of both fresher and senior students by a professional counselor, referred to in clause (o) of Regulations 6.1 of these Regulations; (ii) joint orientation programme of fresher and senior to be addressed by the Head of the institution and the anti-ragging committee; (iii) organization on a large scale of cultural, sports and other activities to provide a platform for the fresher and senior to interact in the presence of faculty members; (iv) in the hostel, the warden should address all students; and may request two junior colleagues from the college faculty to assist the warden by becoming resident tutors for a temporary duration. (v) as far as possible faculty members should dine with the hostel residents in their respective hostels to instill a feeling confidence among the freshers.
- (f) The institution shall set up appropriate committees, including the course-in-charge, student advisor, Wardens and some senior students as its members, to actively monitor, promote and regulate healthy interaction between the freshers, junior students and senior students.
- (g) Freshers or any other student(s), whether being victims, or witnesses, in any incident of ragging, shall be encouraged to report such occurrence, and the identity of such informants shall be protected and shall not be subject to any adverse consequence only for the reason for having reported such incidents.
- (h) Each batch of freshers, on arrival at the institution, shall be divided into small groups and each groups shall be assigned to a member of the faculty, who shall interact individually with each member of the group every day for ascertaining the problems or difficulties, if any, faced by the fresher in the institution and shall extend necessary help to the fresher on overcoming the same.
- (i) It shall be the responsibility to the member of the faculty assigned to the group of fresher, to coordinate with the wardens of the hostels and to make surprise visit to the room in such hostel, where a member or members of the group are lodged; and such member of faculty shall maintain a diary of his/her interaction with the freshers under his/her charge.
- (j) Freshers shall be lodged, as far as may be, in a separate hostel block, and where such facilities are not available, the institution shall ensure that access of seniors to accommodation allotted to freshers is strictly monitored by wardens, security guards and other staff of the institution.
- (k) A round the clock vigil against in the hostel premises, in order to prevent ragging in the hostel after the classes are over, shall be ensured by the institution.
- (l) It shall be the responsibility of the parents/guardians of freshers to promptly bring any instance of ragging to the notice of the head of the Institution.
- (m) Every student studying in the institution and his/her parents/guardians shall provide the specific affidavits required under clauses (d), (e) and (g) of Regulation 6.1 of these Regulation, as the case may be, during each academic year.
- (n) Every institution shall obtain the affidavit form every student as referred to above in clause (m) of Regulation 6.2 and maintain a proper record of the same and to ensure its safe upkeep thereof, including maintaining the copies of the affidavit in an electronic form, to be accessed easily when required either by the Commission or any of the Councils or by the affiliating University or by any other person or organization authorized to do so.
- (o) Every student at the time of his/her registration shall inform the institution about his/her place of residence while pursuing the course of study, and In case the student has not decided his/her place of residence or intends to change the same, the details of his place of residence shall be provided immediately on deciding the same; and specifically in regard to a private commercially managed lodge or hostel where he/she has taken up residence.
- (p) The Head of institution shall, on the basis of the information provided by the student under clause (o) of Regulation 6.2, apportion sectors to be assigned to members of the faculty, so that such members of faculty can maintain vigil and

report any incident of ragging outside the campus or en route while commuting to the institution using any means of transportation of students, whether public or private.

- (q) The Head of the institution shall, at the end of each academic year, send a letter to the parents/guardians of the students who are completing their first year in the institution, informing them about these Regulations and any law for the time being in force prohibiting ragging and the punishment thereof as well as punishment prescribed under the penal law, and appealing to them to impress upon their wards to desist from indulging in ragging on their return to the institution at the beginning of the academic session next.

6.3 Every institution shall constitute the following bodies; namely,

- (a) Every institution shall constitute a Committee to be known as the Anti-Ragging Committee to be nominated and headed by the Head of the institution, and consisting of representatives of civil and police administration, local media, Non Government Organization involved in youth activities, representatives of faculty members, representatives of parents, representatives of students belonging to the freshers' category as well as senior students, non-teaching staff; and shall have a diverse mix of membership in terms of level as well as gender.
- (b) It shall be the duty of the Anti-Ragging Committee to ensure compliance with the provision of these Regulations as well as the provision of any law for the time being in force concerning ragging; and also to monitor and oversee the performance of the Anti-Ragging Squad in prevention of ragging in the institution.
- (c) Every institution shall also constitute a smaller body to be known as the Anti-Ragging Squad to be nominated by the Head of the Institution with such representation as may be considered necessary for maintaining vigil, oversight and patrolling function and shall remain mobile, alert and active at all times.

Provided that the Anti-Ragging Squad shall have representation of various members of the campus community and shall have no outside representation.

- (d) It shall be the duty of the Anti-Ragging Squad to be called upon to make surprise raids on hostels, and other places vulnerable to incidents of, and having the potential of, ragging and shall be empowered to inspect such places.
- (e) It shall also be the duty of Anti-Ragging Squad to conduct an on-the-spot enquiry into any incidents of ragging referred to it by the Head of the institution or any member of the faculty or any member of the staff or any student or any parent or guardian or any employee of a service provider or by any other person, as the case may be; and the enquiry report along with recommendations shall be submitted to the Anti-Ragging Committee for action under clause (a) of Regulation 9.1.

Provided that the Anti-Ragging Squad shall conduct such enquiry observing a fair transparent procedure and the principles of natural justice and after giving adequate opportunity to the student or students accused of ragging and other witnesses to place before it the facts, documents and views concerning the incident of ragging, and considering such other relevant information as may be required.

- (f) Every institution shall, at the end of each academic year, in order to promote the objectives of these Regulations, constitute a Mentoring Cell consisting of students volunteering to be Mentor for freshers, in the succeeding academic year; and there shall be as many levels or tiers of Mentors as the number of batches in the institution, at the rate of one Mentor of six freshers and one Mentor of a higher level for six Mentors of the lower level.
- (g) Every institution shall, constitute a body to be known as Monitoring Cell on Ragging, which shall coordinating with the affiliated colleges and institution under the domain of the University to achieve the objectives of these Regulations; and the Monitoring Cell shall call for reports from the Head of institution in regard to the activities of the Anti-Ragging Committees, Anti-Ragging Squads, and the Mentoring Cells at the institution, and it shall also keep itself abreast of the decisions of the District

level Anti-Ragging Committee headed by the District Magistrate.

- (h) The Monitoring Cell shall also review the efforts made by institution to publicize anti-ragging measures, soliciting of affidavits from parents/guardians and from students, each academic year, to abstain from ragging activities or willingness to be penalized for violations; and shall function as the prime mover for initiating action on the part of the appropriate authorities of the university for amending the Statutes or Ordinances or By-laws to facilitate the implementation of anti-ragging measures at the level of the institution.

6.4 Every institution shall take the following other measures, namely,

- (a) Each hostel or a place where groups of students reside, forming part of the institution, shall have a full-time Warden, to be appointed by the institution as per the eligibility criteria laid down for the post reflecting both the command and control aspects of maintaining discipline and preventing incidents of ragging within the hostel, as well as the softer skills of counseling and communicating with the youth outside the class-room situation; and who shall reside within the hostel, or at the very least, in the close vicinity thereof.
- (b) The Warden shall be accessible at all hours and be available on telephone and other modes of communication, and for the purpose the Warden shall be provided with a mobile phone by the institution, the number of which shall be publicized among all students residing in the hostel.
- (c) The institution shall review and suitably enhance the powers of Wardens; and the security personnel posted in hostels shall be under the direct control of the Warden and their performance shall be assessed by them.
- (d) The professional counselor referred to under clause (o) of Regulation 6.1 of these Regulation shall, at the time of admission, counsel freshers and/or any other students(s) desiring counseling, in order to prepare them for the life ahead, particularly in regard to the life in hostels and to extent possible, also involve parents and teachers in the counseling sessions.
- (e) The institution shall undertake measures for extensive publicity against ragging by means of audio-visual aids, counseling

sessions, workshop, painting and design competitions among students and such other measures, as it may deem fit.

- (f) In order to enable a student or any person to communicate with the Anti-Ragging Helpline, every institution shall permit unrestricted access to mobile phones and public phones in hostels and campuses, other than in class-rooms, seminar halls, library, and in such other places that the institution may deem it necessary to restrict the use of phones.
- (g) The faculty of the institution and its non-teaching staff, which includes but is not limited to the administrative staff, contract employees, security guards and employees of service providers providing services within the institution, shall be sensitized towards the ills of ragging, its prevention and the consequences thereof.
- (h) The institution shall obtain an undertaking from every employee of the institution including all teaching and non-teaching members of staff, contract labour employed in the premises either for running canteen or as watch and ward staff or for cleaning or maintenance of the buildings/lawns and employees of service provider providing services within the institution, that he/she would report promptly any case of ragging which comes to his/her notice.
- (i) The institution shall make a provision in the service rules of its employees for issuing certificates of appreciation to such members of the staff who report incidents of ragging, which will form part of their service record.
- (j) The institution shall make give necessary instruction to the employees of the canteen and messing, whether that the institution or that of a service provider providing this service, or their employers, as the case may be, to keep a strict vigil in the area of their work and to report the incidents of ragging to the Head of the institution or members of the Anti-Ragging Squad or members of the Anti-Ragging Committee or the Wardens, as may be required.

- (k) All University awarding a degree in education at any level, shall be required to ensure that institution imparting instruction in such courses or conducting training programme for teachers include inputs relating to anti-ragging and the appreciation of the relevant human rights, as well as inputs on topic regarding sensitization against corporal punishment and checking of bullying amongst student, so that every teacher is equipped to handle at least the rudiments of the counseling approach.
- (l) Discreet random survey shall be conducted amongst the freshers every fortnight during the first three months of the academic year to verify and cross-check whether the institution is indeed free of ragging or not and for the purpose the institution may design its own methodology of conducting such surveys.
- (m) The institution shall cause to have an entry, apart from those relating to general conduct and behavior, made in the Migration/Transfer Certificate issued to the student while leaving institution, as to whether the student has been punished for committing or abetting an act of ragging, as also whether the student has displayed persistent violent or aggressive behavior or any inclination to harm others, during his course of study in the institution.
- (n) Notwithstanding anything contained in these Regulations with regard to obligations and responsibilities pertaining to the authorities or members of bodies prescribed above, it shall be the general collective responsibility of all levels and sections of authorities or functionaries including members of the faculty and employees of the institution, whether regular or temporary, and employees of service providers providing service within the institution, to prevent or to act promptly against the occurrence of ragging or any incident of ragging which comes to their notice.
- (o) The Heads of institution affiliated to a University or a constituent of the University, as the case may be, shall, during the first three months of an academic year, submit a weekly report on the status of compliance with Anti-Ragging measures under these

Regulations, and a monthly report on such status thereafter, to the Vice-Chancellor of the University to which the institution is affiliated to or recognized by.

- (p) The vice Chancellor of each University shall submit fortnight reports of the University, including those of the Monitoring Cell on Ragging in case of an affiliating university, to the State Level Monitoring Cell.

7. Action to be taken by the Head of the institution:

On receipt of the recommendation of the Anti-Ragging Squad or on receipt of any information Concerning any reported incident of ragging, the Head of institution shall immediately determine if a case under the penal law is made out and if so, either on his own or through a member of the Anti-Ragging Committee authorized by him in this behalf, proceed to file a First Information Report (FIR), within twenty four hours of receipt of such information or recommendation, with the police and local authorities, under the appropriate penal provisions relating to one or more of the following, namely;

- i. Abetment to ragging,
- ii. Criminal conspiracy to rag,
- iii. Unlawful assembly and rioting while ragging,
- iv. Public nuisance created during ragging,
- v. Violation of decency and morals through ragging,
- vi. Injury to body, causing hurt or grievous hurt,
- vii. Wrongful restraint,
- viii. Wrongful confinement,
- ix. Use of criminal force,
- x. Assault as well as sexual offence or unnatural offences,
- xi. Extortion,
- xii. Criminal trespass,
- xiii. Offences against property,
- xiv. Criminal intimidation,
- xv. Attempts to commit any or all of the above mentioned offences against the victim(s),
- xvi. Threat to commit any or all of the above mentioned offences against the victim(s),
- xvii. Physical or psychological humiliation,
- xviii. All other offences following from the definition of "Ragging".

Provided that the Head of the institution shall forthwith report the occurrence of the incident of ragging to the District Level

Anti-Ragging Committee and the Nodal officer of the affiliating University, if the institution is an affiliated institution.

Provided that the Head of the institution shall also continue with its own enquiry initiated under clause 9 of these Regulation and other measure without waiting for action on the part of the police/local authorities and such remedial action shall be initiated and completed immediately and in no case later than a period of seven days of the reported occurrence of the incident ragging.

8. Duties and Responsibility of the Commission and the Councils:

8.1 The Commission shall, with regard to providing facilitating communicating of information regarding incidents of ragging in any institution, take the following steps, namely;

- (a) The Commission shall establish, fund and operate, a toll-free Anti-Ragging Helpline, operational round the clock, which could be accessed by students in distress owing to ragging related incidents.
- (b) Any distress message received at the Anti- Ragging Helpline shall be simultaneously relayed to the Head of the Institution, the Warden of the Hostels, the Nodal Officer of the affiliating University, if the incident reported has taken place in an institution affiliated to a University, the concerned District authorities and if so required, the District Magistrate, and the Superintendent of Police, and shall also be web enabled so as to be in the public domain simultaneously for the media and citizens to access it.
- (c) The Head of the institution shall be obliged to act immediately in response to the information received from the Anti-Ragging Helpline as at sub-clause (b) of this clause.
- (d) The telephone numbers of the Anti- Ragging Helpline and all the important functionaries in every institution Heads of institution, faculty members, members of the Anti-Ragging committees and anti- ragging squads, district and sub-divisional authorities and state authorities where relevant, shall be widely disseminated for access or to seek help in emergencies.
- (e) The Commission shall maintain an appropriate data base to be created out of

affidavits, affirmed by each student and his/her parents/guardians and stored electronically by the institution, either on its or through an agency to be designated by it; and such database shall also function as a record of ragging complaints received, and the status of the action taken thereon.

- (f) The Commission shall make available the database to a non-governmental agency to be nominated by the University Grants Commission, to build confidence in the public and also to provide information of non compliance with these Regulations to the Councils and to such bodies as may be authorized by the Commission or by the University Grants Commission.

8.2 The Commission shall take the following regulatory steps, namely;

- (a) The Commission shall make it mandatory for the institution to incorporate in their prospectus, the directions of the Central Government or the State Level Monitoring Committee with regard to prohibition and consequences of ragging, and that non-compliance with these Regulations and directions so provided, shall be considered as lowering of academic standards by the institution, therefore making considered it liable for appropriate action.
- (b) The Commission shall verify that the institution strictly comply with the requirement of getting the affidavits from the students and their parents/guardians as envisaged under these Regulations.
- (c) The Commission shall include a specific condition in the Utilization Certificate, in respect of any financial assistance or grants-in-aid to any institution under any of the general or special schemes of the Commission, that the institution has complied with the anti-ragging measures.
- (d) Any incident of ragging in an institution shall adversely affect its accreditation, ranking or grading by NAAC or by any other authorized accreditation agencies while assessing the institution for accreditation, ranking or grading purpose.
- (e) The Commission may accord priority in financial grants-in-aid to those institutions, otherwise eligible to receive grants under section 12B of the Act, which report a blemish-less record in terms of there being no reported incident of ragging.

(f) The Commission shall constitute an Inter-Council Committee, consisting of representatives of the various Council, the Non-Governmental agency responsible for monitoring the database maintained by the Commission under clause (f) of Regulation 801 and such other bodies in higher education, to coordinate and monitor the anti-ragging measures in institutions across the country and to make recommendations from time to time; and shall meet at least once in six months each year.

(g) The Commission shall institute an Anti-Ragging Cell within the Commission as an institution Mechanism to provide secretarial support for collection of information and monitoring, and to coordinate with the State Level Monitoring Cell and University levels Committees for effective implementation of anti-ragging measures, and the Cell shall also coordinate with the Non-Governmental agency responsible for monitoring the database maintained by the Commission appointed under clause (g) of Regulation 8.1.

9. Administrative action in the event of ragging:

9.1 The institution shall punish a student found guilty of ragging after following the procedure and in the manner prescribed herein under:

(a) The Anti-Ragging Committee of the institution shall take an appropriate decision, in regard to punishment or otherwise, depending on the facts if each incidents of ragging and nature and gravity of the incident of ragging established in the recommendations of the Anti-Ragging Squad.

(b) The Anti-Ragging Committee may, depending on the nature and gravity of the guilt established by the Anti-Ragging Squad, award, to those found guilty, one or more of the following punishments, namely.

- i. Suspension from attending classes and academic privileges.
- ii. Withholding/ withdrawing scholarship/ fellowship and other benefits.
- iii. Debarring from appearing in any test/ examination or other evaluation process.
- iv. Withholding results.

v. Debarring from representing the institution in any regional, national or international meet, tournament, youth festival, etc.

vi. Suspension/ expulsion from the hostel.

vii. Cancellation of admission.

viii. Rustication from the institution and consequent debarring from admission to any other institution for a specified period.

ix. Expulsion from the institution and consequent debarring from admission to ant other institution for a specified period.

Provided that where the persons committing or abetting the act of ragging are not indentified, the institution shall resort to collective punishment.

(c) An appeal against the order of punishment by Anti-Ragging Committee shall lie,

i. In case of an order of an institution, affiliated to or constituent part, of a University, to the Vice-Chancellor of the University.

ii. In case of an order of a University, to its Chancellor.

iii. In case of an institution of national importance created by an Act of Parliament, to the Chairman or Chancellor of the institution, as the case may be.

9.2 Where an institution, being constituent of, affiliated to or reorganization by a University, fails to comply with any of the provisions of these Regulations or fails to curb ragging, effectively, such University may take any one or more of the following actions, namely;

i. Withdrawal of affiliation/recognition or other privileges conferred.

ii. Prohibiting such institution from presenting ant student or students then undergoing any programme of study therein for the award of any degree/ diploma of the university.

a. Provided that where an institution is prohibited from presenting its student(s), the

b. Commission shall make suitable arrangements for the others students so as to ensure that such students are able to pursue their academic studies.

iii. Withholding grants allocated to it by the university, if any

- iv. Withholding any grants channelized through the university to the institution.
- v. Any other appropriate penalty with the powers of the university.

9.3 Where in the opinion of the appointing authority, a lapse is attributable to any member of the faculty staff of the institution, in the matter of reporting or taking prompt action to prevent an incident of ragging or who display an apathetic or insensitive attitude towards complaints of ragging, or who fail to take timely steps, whether required under these Regulation or otherwise, to prevent an incident or incident of ragging, then such authority shall initiate departmental disciplinary action, in accordance with the prescribed procedure of the institution, against such member of the faculty or staff.

Provided that where such lapse is attributable to the Head of the institution, the authority designated to appoint such Head shall take such departmental disciplinary action; and such action shall be without prejudice to any action that may be taken under the penal laws for abetment of ragging for failure to take timely steps in the prevention of ragging or punishing any student found guilty of ragging.

9.4 The Commission shall, in respect of any institution that fails to take adequate steps to prevent ragging or fails to act in accordance with these Regulation or fails to punish perpetrator or incidents of ragging suitably, take one or more of the following measures, namely;

- i. Withdrawal of declaration of fitness to receive grants under section 12B of the Act.
- ii. Withholding any grant allocated.
- iii. Declaring the institution ineligible for consideration for any assistance under any of the general or special assistance programmes of the Commission.
- iv. Informing the general public, including potential candidates for admission, through a notice displayed prominently in the newspaper or other suitable media and posted on the website of the Commission, declaring that the institution does not possess the minimum academic standards.
- v. Taking such other action within its power as it may deem fit and impose such other penalties as may be provided in the Act for such duration of time as the institution complies with the provision of these Regulations.

Provided that the action taken under this clause by the Commission against any institution shall be shared with all Councils.

ANNEXURE I
Affidavit by the Student

1. I _____(Full name of student with admission/registration/enrolment number)s/o/d/oMr./Mrs./Ms. _____, having been admitted to Dr D. Y. Patil Medical College Hospital and Research Centre, Pimpri, Pune have received a copy of the UGC Regulations on Curbing the Menace of Ragging in Higher Educational Institutions, 2009, (hereinafter called the “Regulations”) carefully read and fully understood the provisions contained in the said Regulations.
2. I have, in particular, perused clause 3 of the Regulations and am aware as to what constitutes ragging.
3. I have also, in particular, perused clause 7 and clause 9.1 of the Regulations and am fully aware of the penal and administrative action that is liable to be taken against me in case I am found guilty of or abetting ragging, actively or passively, or being part of a conspiracy to promote ragging.
4. I hereby solemnly aver and undertake that
 - a) I will not indulge in any behaviour or act that may be constituted as ragging under clause 3 of the Regulations.
 - b) I will not participate in or abet or propagate through any act of commission or omission that may be constituted as ragging under clause of the Regulations.
5. I hereby affirm that, if found guilty of ragging, I am liable for punishment according to clause 9.1 of the Regulations, without prejudice to any other criminal action that may be taken against me under any penal law or any law for the time being in force.
6. I hereby declare that I have not been expelled or debarred from admission in any institution in the country on account of being found guilty of, abetting or being part of a conspiracy to promote, ragging; and further affirm that, in case the declaration is

Found to be untrue, I am aware that my admission is liable to be cancelled.

Declared this _____ day of _____ month of _____ year.

Signature of deponent

Name:

Verification

Verified that the contents of this affidavit are true to the best of my knowledge and no Part of the affidavit is false and nothing has been concealed or misstated therein.

Verified at _____ (place) on this the _____ (day) of _____ (month) _____ (year).

Signature of Student

ANNEXURE II
Affidavit by Parent / Guardian

1. I, Mr./Mrs./Ms. _____ (full name of parent/guardian) father/mother/guardian of _____ (full name of student with admission/registration/enrolment number) , having been admitted to Dr D. Y. Patil Medical College Hospital and Research Centre, Pimpri, Pune, have received a copy of the UGC Regulations on Curbing the Menace of Ragging in Higher Educational Institutions, 2009,(hereinafter called the “Regulations”), carefully read and fully understood the provisions contained in the said Regulations.
2. I have, in particular, perused clause 3 of the Regulations and am aware as to what constitutes ragging.
3. I have also, in particular, perused clause 7 and clause 9.1 of the Regulations and am fully aware of the penal and administrative action that is liable to be taken against my ward in case he/she is found guilty of or abetting ragging, actively or passively, or being part of a conspiracy to promote ragging.
4. I hereby solemnly aver and undertake that
 - a) My ward will not indulge in any behavior or act that may be constituted as ragging under clause 3 of the Regulations.
 - b) My ward will not participate in or abet or propagate through any act of commission or omission that may be constituted as ragging under clause 3 of the Regulations.
5. I hereby affirm that, if found guilty of ragging, my ward is liable for punishment according to clause 9.1 of the Regulations, without prejudice to any other criminal action that may be taken against my ward under any penal law or any law for the time being in force.
6. I hereby declare that my ward has not been expelled or debarred from admission in any institution in the country on account of being found guilty of, abetting or being part of a conspiracy to promote, ragging; and further affirm that, in case the declaration is found to be untrue, the admission of my ward is liable to be cancelled.

Declared this _____ day of _____ month of _____ year.

Signature of Parent/Guardian

Name:

Address:

Telephone/ Mobile No.:

Verification

Verified that the contents of this affidavit are true to the best of my knowledge and no Part of the affidavit is false and nothing has been concealed or misstated therein.

Verified at _____(place) on this the _____(day) of _____ (month) _____ (year)

Signature of Parent/Guardian

Ragging: Ragging in any form is a punishable offence in accordance with the “UGC REGULATION ON CURBING THE MENACE OF RAGGING IN HIGHER EDUCATIONAL INSTITUTIONS 2009 and committing this act of indiscipline shall result in – PUNISHMENT UNDER THE PROVISION OF ANY PENAL LAW FOR THE TIME BEING IN FORCE.

Anti-Ragging Committee (2019-2020)

Sr No	Member	Name	Post	Phone No	Email ID
1	To be nominated and headed by the Head of the Institution	Dr. J. S. Bhawalkar	Dean and Chairman	9766545431	dean.medical@dpu.edu.in
2	Consisting of representatives	Mr. Vivek Muglikar	Senior P.L., P.S (Pimpri)	9823029739	vkinkoll91@gmail.com
	a. Police Administration	Mr. Rangnath Bapu Unde	P.L., P.S. (Crime) Pimpri	9923353452	rangnathunde67@gmail.com
	b. Civil Administration	Mr. Shivajirao Kamble	Ex M.P.	9422647579	svkamble9999@gmail.com
	c. Representative of Local Media	Mr. Mayur Kemse	Manager, Distributor, Lokmat Pimpri, Pune	9850304097	mayurkemse2010@gmail.com
3	Representatives of Non Government Organization involved in youth activities	Adv. Dr. Ruby Pritpal Chhatwal	Social activist	9422526508	rpchhatwal@gmail.com ppchhatwal@gmail.com
4	Zonal Officer 'C' Zone office P.C.M.C. Municipal Corporation Bhosari Pune	Shri. Anna Bodade	Zonal Officer	9922501942	a.bodade@pcmcindia.gov.in pro@pcmcindia.gov.in
5	Representatives of Faculty Members	Dr. P. Vatsalawamy	Director Academics	9850116519	puranamv@gmail.com
		Dr. H. G. Deshpande	Chief Warden Hostels	9422033660	drhemantdeshpande@gmail.com
		Dr. Atul Desale	Warden Boys' Hostels	8888309351	dr.a.v.desale@gmail.com
		Dr.(Col) Suri Tripta	Wardem Girls' Hostels	7249683872	triptaasuri@gmail.com
		Dr. Vaishali Dhat	Warden Girls' Hostels	9922737501	vaishdhat@yahoo.com
		Dr. A. B. Sapate	Member secretary	9225632392	fntabsapate@gmail.com
6	Representatives of Parents UG Students	Mr. Sambhaji D. Pote	Parent of UG student	9922693131	truptipote1410@gmail.com
		Mr. Vilasrao Patil	Parent of UG student	9923159995	prashantbajiraopatil@gmail.com
7	Representatives of students belonging to freshers category	Mr. Dhruv Qureshi	1st yr 19-20 UG student	9518363473	dhruv.qureshi@gmail.com
		Mr. Ellora Pandey	1st yr 19-20 UG student	9696579930	ellorapandey10@gmail.com
		Mr. Harsh Tyagi	UG student	9561886528	harshityagi10@gmail.com
		Ms.Srishti Mohapatra	UG student	9922960064	shrishti191@gmail.com
8	Representatives of Senior Students (Post Graduate)	Dr. Nimish Narkar	PG Student	9767870637	dr.nimishnarkar@gmail.com
		Dr. Revati Kothari	PG Student	9158143884	dineshkothari@gmail.com
9	Representatives of non-teaching staff and shall have a diverse mix of membership in terms of levels as well as gender	Mr. Uday Shende	Registrar	9833326464	registrar.medical@dpu.edu.in
		Mrs. Shilpa Arunkumar B.	Manager HR & Admin	9096301326	drwarareshilpa@gmail.com
		Mrs. S. A. Palekar	Incharge Student section	9657966228	ugsection.medical@dpu.edu.in
		Mr. Swapnil Sonje	Hostel Co-ordinator	9226539196	swapnil.sonje@dpu.edu.in
		Mrs. Deshpande	Hostel Co-ordinator	8530208875	drhemantdeshpande@gmail.com
		Mrs. Vijaya Darekar	Girls' Hos. Rector	9860961671	darekarvijay@gmail.com
		Mr. N.P. Choudhari	Boys' Hos. Rector	9960463974	namdeochoudhari951@gmail.com

Anti-Ragging Squad

Sr. No.	Name	Designation	Phone No.	Email ID
1	Dr. A.B. Sapate (Professor, Forensic Medicine)	Officer Incharge	9225632392	fmtabsapate@gmail.com
2	Dr. Umesh More (Professor, Biochemistry)	Member	9422314399	umesh_aditya@yahoo.co.in
3	Dr. Vaishali V. Dhat (Professor, Biochemistry)	Member	9922737501	vaishdhat@yahoo.com
4	Dr. Prashant Khuje (Professor, Physiology)	Member	8390360859	drtdkhuje@ymail.com
5	Mr.N.P.Choudhari (Boys' Hostel)	Member	9960463974 020-27805162	namdeochoudhari951@gmail.com
6	Mrs.Vijaya Darekar (Girls' Hostel)	Member	9860961671 020-27805646	darekarvijay@gmail.com

Hostel Committee

Sr. No.	Representative of Faculty Member		Phone No	Email Id
1	Dr H.G. Deshpande	Warden Boys Hostel	9422033660	drhemantdeshpande@gmail.com
2	Dr. Atul Desale	Warden Boys' Hostels	8888309351	dr.a.v.desale@gmail.com
3	Dr. Vaishali V. Dhat	Warden Girls' Hostels	9922737501	vaishdhat@yahoo.com
4	Mrs Vijaya Darekar	Girls Hostel Rector	9860961671	darekarvijay@gmail.com
5	Mr N. P. Choudhari	Boys Hostel Rector	9960463974	namdeochoudhari951@gmail.com

Hostel Authorities

Name	Designation	Mobile No
Dr H.G. Deshpande	Chief Warden	9422033660
Dr. (Col) Suri Tripta	Warden Girls' Hostels	7249683872
Dr. Atul Desale	Warden Boys' Hostel	8888309351
Dr. Pradeep Shetty	Warden Boys' Hostel	9422340343
Dr. Vaishali Dhat	Warden Girls' Hostels	9922737501
Dr. Sumit Khupse	Assistant Warden (Male)	9130338154
Dr. Rajashri Kharat	Assistant Warden (Female)	9420497513

Vigilance Team (Boys Hostel)

- Dr Umesh More (Biochemistry Deptt.) - 9422314399
- Dr Shailesh Meshram (Pulmonary Medicine) - 9823096022
- Dr Prashant Khuje (Physiology Deptt.) - 8390360859

Vigilance Team (Girls Hostel)

- Dr Mrs Diggikar (Medicine Deptt.) - 9420169778
- Dr Mrs Vaishali V. Dhat (Biochemistry Deptt.) - 9922737501
- Dr Mrs Shilaja Mane (Pediatrics Deptt.) - 9822595553
- Dr Geetanjali Unawane (Radiology Deptt.) - 9422607183

Activities of the Students Council

The College has vibrant Student Council which comprises of General Secretary, Vice Secretary, Sectional Secretaries and Class Representatives

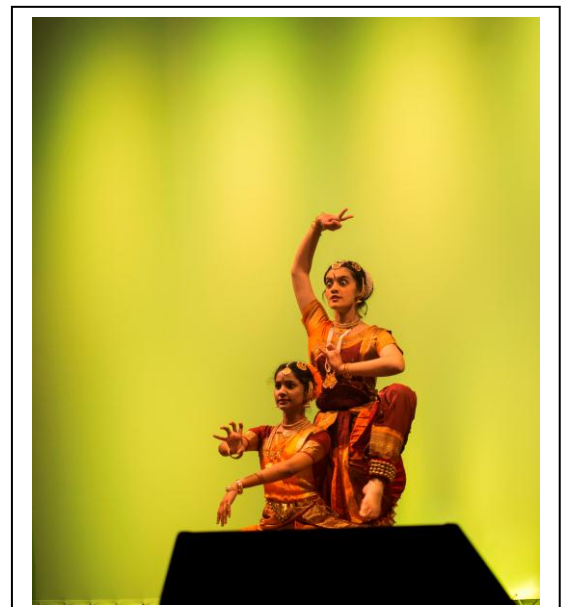
1. The College Annual Social Function - SYNAPSE is organized in the month of February
2. Various competitions for display of talent in the field of Music, Drama, Debates, Sports, Dance and Arts are organized. Students also participate in various intercollegiate events.
3. The Inter collegiate cultural festival of the University - DPU NITE is organized in the month of February every year. This event fosters a sense of camaraderie amongst students of all the constituent colleges of the University.



Prize Distribution



Prize Distribution



Dance Event



Group Dance Event

ERP and Biometric System for students

Dr. D. Y. Patil Vidyapeeth and Dr. D.Y. Patil Medical College, Pune feel proud to announce that ERP and Biometric System are implemented. Details are as under:-

ERP System:

Login for following facilities:

- 1) View your time-table online
- 2) Check out attendance
- 3) Read notes uploaded by faculty
- 4) View the notices and circulars
- 5) Check out the allotted mentor
- 6) View your Academic calendar
- 7) Check your Internal Assessment Evaluation pattern
- 8) Submit online application regarding bonafide and other certificates
- 9) Browse the libraries of all Institutes under Dr.D.Y.Patil Vidyapeeth
- 10) Students can give online feedback

Biometric System

1. Student's attendance is taken by Biometric System during the Lectures / Practicals / Dissections and tutorial.
2. The student section will daily send the absent report of student through SMS at parent/guardians registered mobile number in college office at the time of admission (SMS No.BZ- DPUMED)
3. Classroom attendance will not be considered if the student is late in class or misbehaves

Dr. D. Y. Patil Vidyapeeth
Dr. D. Y. Patil Medical College, Hospital & Research Centre
Pimpri, Pune – 411018
Proposed Academic Calendar for II Year MBBS 2019-20

Semester	Starting Date	Working Days	Sundays	Festivals
3rd Semester	05/08/2019	August = 21	3	3
		September = 22	5	3
Diwali Vacation for students 28.10.2019 to 02.11.2019 = 6 days		October = 23	4	4
1st Mid Term Examination		November = 25	4	1
1 st Term End Examination	02.12.2019 to 23.12.2019	December = 25	5	1
	Total	116 days	21 days	12 days

4th Semester	01/01/2020	January = 26	4	1
		February = 23	4	2
		March = 24	5	2
2 nd Mid Term Examination		April = 24	4	2
		May = 24	5	2
2 nd Term End Examination	01.06.2020 to 22.06.2020	June = 25	4	1
	Total	146 days	26 days	10 days

5th Semester shall begin on 1st July 2020				

Block Training Programme for II Year MBBS 2019-20

3rd Semester start from 05/08/2019

DAY	09AM - 12NOON	12NOON - 01PM	01PM - 02PM	02PM - 03PM	03PM - 04PM	04PM - 05PM
MONDAY	HOSPITAL POSTING	FMT	RECESS	PATHOLOGY	COMMUNITY MEDICINE Practical Batch A	
					PHARMACOLOGY Practical Batch B	
					PATHOLOGY Practical Batch C	
					MICROBIOLOGY Practical Batch D	
TUESDAY		PHARMACOLOGY		FMT	COMMUNITY MEDICINE Practical Batch B	
					PHARMACOLOGY Practical Batch C	
					PATHOLOGY Practical Batch D	
					MICROBIOLOGY Practical Batch A	
WEDNESDAY		COMMUNITY MEDICINE		MICROBIOLOGY	COMMUNITY MEDICINE Practical Batch C	
					PHARMACOLOGY Practical Batch D	
					PATHOLOGY Practical Batch A	
					MICROBIOLOGY Practical Batch B	
THURSDAY	PATHOLOGY	PHARMACOLOGY	COMMUNITY MEDICINE Practical Batch D			
			PHARMACOLOGY Practical Batch A			
			PATHOLOGY Practical Batch B			
			MICROBIOLOGY Practical Batch C			
FRIDAY	MICROBIOLOGY	COMMUNITY MEDICINE	PATHOLOGY	PATHOLOGY		
SATURDAY	MICROBIOLOGY	FMT	PHARMACOLOGY	PHARMACOLOGY		

Venue: Lect. Hall No. 1 (12.00 noon to 05.00 pm)

Block Training Programme for II Year MBBS 2019-20

4th Semester start from 01/01/2020

DAY	9 AM - 12NOON	12NOON - 1PM	1PM - 2PM	2PM - 3PM	3PM - 4PM	4PM - 5PM
MONDAY	HOSPITAL POSTING	MICROBIOLOGY	RECESS	FMT	Community Medicine Practical Batch = A	
					Pharmacology Practical Batch= B	
					Pathology Practical Batch= C	
					Microbiology Practical Batch= D	
TUESDAY		PHARMACOLOGY		FMT	Community Medicine Practical Batch = B	
					Pharmacology Practical Batch= C	
					Pathology Practical Batch= D	
	Microbiology Practical Batch= A					
WEDNESDAY	COMMUNITY MEDICINE	MICROBIOLOGY	Community Medicine Practical Batch = C			
			Pharmacology Practical Batch= D			
			Pathology Practical Batch= B			
			Microbiology Practical Batch= C			
THURSDAY	PATHOLOGY	PHARMACOLOGY	Community Medicine Practical Batch = D			
			Pharmacology Practical Batch= A			
			Pathology Practical Batch= B			
			Microbiology Practical Batch= C			
FRIDAY	COMMUNITY MEDICINE	PHARMACOLOGY	PATHOLOGY	MICROBIOLOGY		
SATURDAY	FMT	PATHOLOGY	COMMUNITY MEDICINE	COMMUNITY MEDICINE		

CURRICULUM FOR PATHOLOGY

1. GOAL

Enable the medical graduate to acquire adequate knowledge and skill to understand and interpret varied clinical and morphological alterations in disease and make optimum use of these in diagnosis, management and prevention of disease processes.

2. LEARNING OBJECTIVES

2.1 KNOWLEDGE

At the end of the course the student should be able to

- 2.1.1 Understand, interpret and correlate the general mechanisms, effects and sequelae of injurious influences on cell and tissues
- 2.1.2 Comprehend and correlate morphological and functional effects in various organs and systems due to genetic, environmental, immunological, infectious and neoplastic influences.
- 2.1.3 Grasp the essential aspects of pathogenesis and pathology of common diseases and neoplasia relevant to specific agents, systems and organs with their clinical and diagnostic implications.
- 2.1.4 Acquire basic and essential knowledge of genesis and characteristics of important hematological disorders, essentials of transfusion medicine and clinical pathology.

2.2 SKILLS

At the end of the course candidate should be capable of

- 2.2.1 Chose relevant and essential lab investigations in common and specific clinical conditions in a rational and systematic manner, interpret the results, correlate them with the clinical features and arrive at a reasonable diagnosis.
- 2.2.2 Should be capable of giving clear instructions to the patient, collect the correct and adequate sample/specimen with required knowledge of the specific requirements of the laboratory including principles of important laboratory investigations.
- 2.2.3 Perform essential haematological and clinicopathological investigations pertinent to the symptoms and clinical features of the patient.
- 2.2.4 Recognize and interpret important gross and microscopic alterations of tissues and organs in common diseases.

2.3 INTEGRATION

At the end of the course of one and a half years, the candidate should be able to integrate the his knowledge and skill in important clinical conditions and utilize it efficiently in arriving at diagnosis for optimum management and preventive measures.

3 LEARNING SCHEDULE

3.1 Semesters (Terms) 3,4 and 5	
3.2 Minimum working days -	315
3.3 Distribution of working hours	
3.3.1 Lectures and seminars -	104 Hrs
3.3.2 Tutorials, group discussions -	50 Hrs
3.3.4 Practicals and demonstrations -	100 Hrs
3.3.5 Revisions, evaluation -	<u>46 Hrs</u>
3.3.6 Total	300 Hrs

4 SYLLABUS

4.1 Distribution of teaching hours Lectures / Seminars (1hr) Tutorials (2hrs) Practical (2hrs)

4.1.1 General Pathology	34	04	13
4.1.2 Hematology	18	07	10
4.1.3 Systemic Pathology	46	09	11
4.1.4 Clinical Pathology	04	03	04
4.1.5 Autopsy	02	02	02

4.2 COURSE CONTENTS

The broad area of study shall be

- 4.2.1 General Pathology including general neoplasia
- 4.2.2 Systemic Pathology including specific neoplasia
- 4.2.3 Hematology including essential of transfusion medicine.
- 4.2.4 Clinical Pathology

4.3 LECTURE AND SEMINAR TOPICS (Desirable to know x)

4.3.1 CELL INJURY

- (1) Introduction to Pathology
 - History -Evolution of pathology, important definitions, common
 - Etiological factors causing disease with examples
- (2) General response to injury at cellular level including role of free radicals.
- (3) Reversible cell injury – intracellular accumulations – hydropic and fatty change -

- (4) Reversible cell injury - Pigment and other substances - II
- (5) Irreversible injury - Types of necrosis , gangrene and pathological calcification .
- (6) Apoptosis – Mechanisms and its relevance in disease and neoplasia
- (7) Amyloidosis – Pathogenesis and diagnosis .

4.3.2 INFLAMMATION AND REPAIR

- (1) Acute inflammation – Definition, vascular and cellular response.
- (2) Acute inflammation – Chemical mediators – their role
- (3) Acute inflammation – Chemical mediators - control mechanisms .
- (4) Chronic and granulomatous inflammation
- (5) Repair and regeneration – Wound healing and factors influencing .
- (6) Repair in specialised tissues , bone muscle, nerve, parenchymal organs

4.3.3 IMMUNOPATHOLOGY

- (1) Immunity – General and cells involved in immune mechanisms .
- (2) Hypersensitivity – Mechanism and types .
- (3) Autoimmune diseases – Pathogenesis and Mechanisms.
- (4) Autoimmune disorders – SLE , Rheumatoid arthritis .
- (5) Mechanism and effects of transplant rejection and graft versus host reaction .

4.3.4 INFECTIOUS DISEASES

- (1) Mycobacterial diseases – tuberculosis .
- (2) Mycobacterial diseases – Leprosy .
- (3) Bacterial infections – Typhoid , Dysentery , syphilis
- (4) Viral – AIDS , Transmission pathogenesis , pathology and diagnosis.
- (5) Fungal infections ; Superficial and deep – Pathology .
- (6) Parasitic diseases

4.3.5 CIRCULATORY DISTURBANCES

- (1) Oedema – Pathogenesis and Pathology in important organs .
- (2) Hyperemia – Chronic Venous Congestion – Lung , Liver ,Spleen .
- (3) Thrombosis – Mechanisms and Morphology .
- (4) Embolism and infarction .
- (5) Hypertension – Pathogenesis and its effects on various systems and organs .
- (6) Haemorrhage and shock .

4.3.6 GROWTH DISTURBANCES AND GENERAL NEOPLASIA

- (1) Alterations and adaptations in cells and tissues due to environmental influences – Definitions and illustrative examples .
- (2) Neoplasia – Definitions and characters of benign and malignant neoplasms , metastasis .
- (3) Neoplasia – Nomenclature , grading , staging , predispositions .
- (4) Carcinogenesis – Chemical carcinogens , radiation , microbial agents .
- (5) Molecular basis of cancer . , x
- (6) Tumor and host interactions – Effect of tumor on host , Paraneoplastic Syndromes , Tumor immunity
- (7).Laboratory diagnosis of cancer , Cytology , biopsy , tumor markers .

4.3.7 MISCELLANEOUS DISORDERS

- (1) Important genetic disorders with examples
- (2) Protein Energy malnutrition and obesity .
- (3) Vitamin deficiency disorders , x
- (4) Effects of radiation . x

4.3.8 HAEMATOLOGY AND TRANSFUSION MEDICINE

- (1) Anemias – Etiological classification . Normal parameters and morphological classification .
- (2) Nutritional anemias – Iron deficiency , vitamin B₁₂ and folic acid .
- (3) Haemolytic anemias – Classification and investigations .
- (4) Hereditary haemolytic anemias – Thalassemia , Sickle cell anemia , Hereditary spherocytosis and G6PD deficiency .
- (5) Immunohaemolytic anemias and acquired haemolytic anemias .
- (6) Haemorrhagic disorders – Platelet , vascular disorders
- (7) Haemorrhagic disorders – Coagulation disorders .
- (8) Investigation in haemorrhagic disorders .
- (9) Leucocytosis , leucopenia , leukaemoid reactions .
- (10) Classification and criteria for diagnosis of acute leukaemias .
- (11) Chronic leukaemias .
- (12) Myelodysplastic syndrome
- (13) Myeloproliferative disorders
- (14) Plasma cell dyscrasias and dysproteinemias .
- (15) Blood transfusion – Important blood groups , antigen and antibodies . Grouping and cross matching .
- (16) Blood collection , storage , blood components
- (17) Transfusion reactions and their investigations

4.3.9 CARDIOVASCULAR SYSTEM

- (1) Rheumatic Heart Disease – Pathogenesis, pathology, sequelae
- (2) Infective endocarditis Pathogenesis, pathology, effects

- (3) Atherosclerosis – Etiological factors, morphology and complications *
- (4) Ischaemic Heart Disease - Effects of coronary artery disease
- (5) Congenital heart diseases, aneurysms , x
- (6) Pericarditis, cardiomyopathy x
- (7) Other diseases of blood vessels - Vasculitis, tumours x

4.3.10 RESPIRATORY TRACT

- (1) Inflammation of bronchi – Bronchitis, asthma, bronchiectasis
- (2) Pneumonia – Lobar, bronchopneumonia and interstitial
- (3) Lung abscess, empyema, emphysema
- (4) Nasopharyngeal and laryngeal tumours
- (5) Tumours of the Lung – Important benign and malignant tumours, Morphology and behaviour
- (6) Occupational Lung Disease – Anthracosis, silicosis, asbestosis, effects , x
- (7) Atelectasis and hyaline membrane disease

x

4.3.11 GASTROINTESTINAL TRACT

- (1) Lesions of oral cavity and salivary glands
- (2) Gastritis and peptic ulcer – Pathogenesis and sequelae
- (3) Tumours of upper GIT – Oesophagus and stomach
- (4) Tumours of intestines – Polypi, benign and malignant tumours
- (5) Idiopathic inflammatory bowel disease
- (6) Pancreatitis, tumours of the pancreas x

x

4.3.12 HEPATOBILIARY SYSTEM

- (1) Pathogenesis and pathology of acute and chronic hepatitis
- (2) Alcoholic liver disease Pathology and complications
- (3) Cirrhosis of liver – Classification and morphology
- (4) Tumours of liver and gall bladder x

4.3.13 KIDNEY AND URINARY TRACT

- (1) Etiopathogenesis, pathology and effects of nephritic syndrome
- (2) Etiopathogenesis, pathology and effects of nephrotic syndrome
- (3) Acute renal failure – clinicopathological correlations
- (4) End stage renal disease and chronic renal failure – sequelae *
- (5) Important tumours of the kidneys and urinary tract , x
- (6) Nephrolithiasis and obstructive uropathy x

4.3.14 LYMPHORETICULAR SYSTEM

- (1) Benign lesions, granulomas of lymph nodes ; Spleen in important diseases
- (2) Hodgkin's Lymphoma and general features of lymphoma
- (3) Non Hodgkin's Lymphoma x

4.3.15 REPRODUCTIVE SYSTEM

- (1) Carcinoma cervix, tumours of the uterine corpus
- (2) Trophoblastic diseases – Hydatidiform mole, choriocarcinoma x
- (3) Tumours of the ovary
- (4) Tumours of the testis
- (5) Hyperplasia and carcinoma of prostate and penis x
- (6) Benign lesions of the breast
- (7) Malignant tumours of the breast

4.3.16 BONE AND SOFT TISSUE

- (1) Osteomyelitis and metabolic diseases of the bone
- (2) Tumours of the bone – Osteosarcoma, giant cell tumour, Ewing's sarcoma, Chondrosarcoma
- (3) Arthritis – Rheumatoid arthritis and others
- (4) Tumours and tumour like lesions of soft tissue – fibrous tissue Fibrohistiocytic x
- (5) Tumours and tumour like lesions of soft tissue – Adipose tissue, muscle, peripheral nerves x

4.3.17 ENDOCRINE ORGANS

- (1) Diabetes Mellitus, pathogenesis, pathology, complications *
- (2) Benign thyroid swellings
- (3) Tumours of the thyroid
- (4) Adrenal hyperplasia, atrophy, tumours x

4.3.18 CENTRAL NERVOUS SYSTEM

- (1) Inflammatory disorders of meninges and brain
- (2) CNS tumours – Glioma, meningioma, metastatic tumours x

4.3.19 SKIN

- (1) Tumours – Squamous cell carcinoma, basal cell carcinoma , nevi and melanoma

4.3.20 CLINICAL PATHOLOGY

- (1) Differential diagnosis of jaundice, investigations and interpretation
- (2) Investigations in renal disease with special emphasis on urine Examination
- (3) Investigation in Diabetes Mellitus

- (4) Examination of body fluids – CSF, Exudate, Transudate, Semen

4.3.21 AUTOPSY

- (1) Importance, indication and procedures for medical autopsies x

4.3.22 Bioethics related topics

Sr. No	Theory Topic	Department	Didactic Lecture	Small group teaching	Semester
1	Autonomy & individual responsibility	Pathology	1 hour	2½ hours. (debates, seminars, home assignments & group discussions)	3 rd Semester
2	Respect of the individual and dignity	Pathology	1 hour	2½ hours (-//-)	3 rd Semester
3	Ethics in Stem cell and genetic research	Pathology	1 hour	2½ hours (-//-)	4 th Semester
4	Equality, Justice and equity	Pathology	1 hour	2½ hours (-//-)	4 th Semester

The theory lectures by the Department of Pathology are of 4 hours duration and for other training activity the time duration is 10 hours. The assignments during working hours may be conducted in parallel during, tutorials, revision classes

5 TOPICS FOR TUTORIALS, GROUP DISCUSSIONS, DEMONSTRATIONS

- 1. Cell injury
- 2. Inflammation
- 3. Circulatory disturbances
- 4. Tuberculosis
- 5. Neoplasia
- 6. Collection of blood and other specimens, anticoagulants, smears , needles
- 7. Anaemia, hemoglobin and hematological parameters
- 8. Peripheral blood smear examination
- 9. Leucocyte disorders
- 10. Haemorrhagic disorders
- 11. Urine examination
- 12. Clinical charts – Interpretation and differential diagnosis
- 13. Cardiovascular system I
- 14. Cardiovascular system II
- 15. Respiratory system
- 16. Genito Urinary system
- 17. Liver and Spleen
- 18. Diseases of Lymph nodes
- 19. Tumours and tumour like lesions of bone
- 20. Tumours and tumour like lesions of soft tissues

- 21. Lesions of the breast
- 22. Diabetes Mellitus
- 23. Haematology transparencies
- 24. Systemic and general pathology transparencies
- 25. Discussion of museum specimens 1
- 26. Discussion of museum specimens 2
- 27. Discussion of typical clinical pathology and hematology charts
- 28. Orientation to theory examination
- 29. Orientation to practical examination

6. TOPICS FOR INTEGRATED TEACHING, SEMINARS, SYMPOSIA

- 1. Rheumatic heart disease
- 2. Hypertension
- 3. Diabetes Mellitus
- 4. Nephritic and Nephrotic syndrome
- 5. Acute and chronic renal failure
- 6. Jaundice
- 7. Malaria
- 8. Ischaemic Heart Disease
- 9. Salivary gland lesions

Integrated teaching topics in II MBBS

S.NO	BROAD TOPIC	DEPARTMENT	LECTURE TOPICS	DURATION
1	Pyelonephritis	Pathology Microbiology Medicine Pharmacology	Pathology of Pyelonephritis Bacteriology of Pyelonephritis Clinical features Treatment	1 Hour 1 Hour 1 Hour 1 Hour
2	Pneumonia	Microbiology Pathology Medicine Pharmacology Community Medicine F.M.T	Lab diagnosis of Pneumonia Pathology of Pneumonia Clinical features and Radiology Treatment Epidemiology and prevention Medico Legal Aspect of Pneumonia	1 Hour 1 Hour 1 Hour 1 Hour 1 Hour 1 Hour
3	Tuberculosis	Microbiology Pathology Medicine Pharmacology Community Medicine Pulmonary Medicine	Bacteriology of M. tuberculosis Lab diagnosis of Tuberculosis Pathology of pulmonary TB Pathology of extra pulmonary TB Clinical features and radiology Treatment-1 Treatment-2 Epidemiology Prevention, RNTCP Management	1 Hour 1 Hour 1 Hour 1 Hour 1 Hour 1 Hour 1 Hour 1 Hour
4	HIV	Microbiology Pathology Medicine Pharmacology Community Medicine F.M.T	Virology of HIV Diagnosis of HIV Pathogenesis of HIV infection Clinical features and opportunistic Infections in HIV Treatment of HIV Epidemiology of HIV Prevention of HIV NACO activities Medico legal aspect of HIV	1 Hour 1 Hour 1 Hour 1 Hour 1 Hour 1 Hour 1 Hour 1 Hour
5	Enteric Fever	Microbiology Pathology Medicine Pharmacology Community Medicine	Bacteriology and lab diagnosis of enteric fever Pathology of enteric fever Clinical features Treatment Epidemiology and prevention	1 Hour 1 Hour 1 Hour 1 Hour 1 Hour

- Aorta – atherosclerosis (D)
- Lung – Lobar and bronchopneumonia (M)
- Lung fibrocaceous tuberculosis (M)
- Kidney – Chronic Pyelonephritis (M)
- Kidney – Crescentic Glomerulonephritis (D)
- Kidney – Renal cell carcinoma (D)
- Ileum – typhoid ulcer (D)
- Stomach – Chronic peptic ulcer (M)
- Liver – Cirrhosis (M)
- Liver – massive necrosis (D)
- Brain – Meningioma (D)
- Neurilemmoma (D)
- Lymph node – Hodgkin’s lymphoma (M)
- Lymph node – Non Hodgkin’s lymphoma (D)
- Lymph node – Metastasis (M)
- Bone – Osteogenic sarcoma (M)
- Bone – Giant cell tumour (M)
- Bone – Chondroma (D)
- Bone – Ewing’s sarcoma (D)
- Benign Prostatic hyperplasia (M)
- Mature cystic teratoma (M)
- Testis – Seminoma (M)
- Products of conception (D)
- Breast – Fibroadenoma (M)
- Breast – Infiltrating duct carcinoma (M)
- Hashimoto’s thyroiditis (D)
- Thyroid – Multi nodular goiter (D)

8.2 Haematology slides

- Eosinophilia (M)
- Polymorphonuclear Leucocytosis (M)
- Iron deficiency anaemia (M)
- Hemolytic anaemia (M)
- Macrocytic anaemia (M)
- Chronic myeloid leukaemia (M)
- Acute leukaemia (D)
- Bone Marrow – Plasma cells, megakaryocytes, megaloblast (M)
- Malarial Parasite (M)

8.3 List of specimens

- Liver – Fatty change (M)
- Kidney – Cloudy change (D)
- Atheroma with calcification (D)
- Kidney – Infarct (M)
- Spleen – Infarct (M)
- Intestine – Gangrene (M)
- Foot – Gangrene (D)
- Lymph node – Caseation (M)
- Lobar pneumonia (M)
- Kidney – Abscess (D)
- Liver – Abscess (M)
- Acute appendicitis (M)
- Acute pyogenic meningitis (M)
- Fibrinous pericarditis (M)
- Syphilitic aortitis (D)

- Lymph node – TB (M)
- Lung – Miliary TB (M)
- Fibrocaceous TB (M)
- Kidney – Amyloidosis (D)
- Spleen – Amyloidosis (D)
- Liver and spleen – Malaria (M)
- Liver and spleen – Prussian blue reaction
- Liver – Chronic passive congestion (M)
- Lung – Chronic passive congestion (M)
- Intestine – gangrene (M)
- Infarction – Kidney, spleen (M)
- Infarction – Lung, testis (D)
- Heart – Left ventricular hypertrophy (M)
- Heart – Brown atrophy (M)
- Kidney – Hydronephrosis (M)
- Skin – Papilloma (M)
- Adenomatous polyp (M)
- Fibroadenoma breast (M)
- Squamous cell carcinoma – skin (M)
- Basal cell carcinoma – skin (M)
- Adenocarcinoma – colon (M)
- Metastasis – lung, liver (M)
- Leiomyoma uterus (M)
- Soft tissue – Lipoma (M)
- Soft tissue sarcoma (D)
- Melanoma Metastasis in LN, liver (M)
- Rheumatic mitral stenosis (M)
- Healed myocardial infarct (M)
- Atheroma with complications (M)
- Aortic aneurysm (D)
- Bacterial endocarditis (D)
- Lung – Lobar/bronchopneumonia (M)
- Lung abscess (D)
- Bronchogenic carcinoma (M)
- Fibrocaceous TB (M)
- Lung – emphysema, bronchiectasis (D)
- Flea bitten kidney (M)
- Large white kidney (D)
- Contracted granular kidney (M)
- Renal cell carcinoma (M)
- Bladder – transitional carcinoma (D)
- Stomach – Chronic peptic ulcer (M)
- Stomach carcinoma (M)
- Intestine TB (M)
- Colon – amoebic colitis, carcinoma colon (M)
- Liver – Amoebic abscess (M)
- Liver – Cirrhosis (M)
- Liver – Hepatocellular carcinoma (D)
- Liver – Metastasis (M)
- Brain – Meningitis (M)
- Brain – Glioma (M)
- Brain – hemorrhage (CVA) (D)
- Lymph Node TB (M)
- Lymph Node Lymphoma (D)
- Spleen – Infarct, splenomegaly (D)
- Bone – giant cell tumour (M)

- Bone – Osteogenic sarcoma (M)
- Seminoma – Testis (M)
- Teratoma _ Testis (M)
- Uterus – Leiomyoma (M)
- Ovary – Dermoid cyst (M)
- Breast – fibroadenoma (M)
- Breast – carcinoma (M)
- Thyroid – Multinodular goiter (M)
- Thyroid adenoma (M)

12.1 INTERNAL ASSESSMENT

Evaluation shall be done at the end of 3rd, 4th and 5th term as per the following pattern

9. TEACHING / LEARNING METHODS

- Lectures
- Structured interactive sessions
- Small group discussions
- Seminar and symposia , integrated teaching sessions
- Problem based learning with different clinical situations and written case scenario
- Self learning tools and resources selection
- Interactive learning
- e – modules

10. BOOKS RECOMMENDED FOR READING

1. Robbins Basic Pathology – Kumar Cotran Robbins
2. de Gruchy's Clinical Haematology in Medical Practice
3. Pathology – Muir
4. Clinical Pathology
 - Essential Lab Medicine – V.H.Talib ,
 - Medical Lab Technology by Kanai Mukherjee Vol. I,II,III
 - Clinical Pathology by Sanyal
5. IAPM text book of Pathology
6. Y.M. Bhendes General Pathology – S.G.Deodhar
7. Text book of Pathology – Harsh Mohan
8. Atlas & text book of haematology – Dr.Tejinder Singh

11 REFERENCE BOOKS

1. Robbins and Cotran's Pathologic basis of disease – Kumar & Abbas
2. Pathology Rubin , Farber
3. Anderson's Pathology- Vol I & II
4. Pathology Illustrated – Govan , Callander
5. Concise Pathology – Chandrasoma
6. Internet resources

12 EVALUATION METHODS

Internal assessment examination and comprehensive final examination at the end of 1 ½ years of learning in Theory, Orals and Practicals

12.2.2 PRACTICALS

Total Marks = 40

Practical examination will be conducted as per the following schedule

Exercise	Marks (Total 26)
- 10 spots, 90 seconds each	
4 specimens, 1 instrument } Identification	½ mark
3 histopathology slides } Specific short	
1 haematology slide and } question	½ mark
1 chart } Total 1 mark for each spot	- 10
- Urine examination	
Complete physical examination and detection of two abnormal constituents	- 08
- One exercise to be chosen by lot system from	
(i) Haemoglobin estimation	
(ii) Blood smear staining and study	- 08
(iii) Total leucocyte count	
(iv) Blood grouping	

12.2.3 ORAL EXAMINATION (VIVA)

Two tables. Each candidate will face 2 examiners for 5 minutes each

Table I	General and Systemic Pathology	07 marks
Table II	Clinical Pathology and Haematology	07 marks

TOTAL	14 marks
-------	----------

These marks will be added to theory marks

Note : Number of candidates for practicals should not exceed 30/day

CURRICULUM FOR PHARMACOLOGY

1. GOAL

The broad goal of teaching pharmacology to undergraduate students is to inculcate in them a rational and scientific basis of therapeutics for use at Primary Health Centre level and in general practice.

2. EDUCATIONAL OBJECTIVES

2.1 KNOWLEDGE

At the end of the course, the student shall be able to -

- 2.1.1 describe the pharmacokinetics and pharmacodynamics of essential and commonly used drugs
- 2.1.2 list the indications, contraindications, interactions and adverse reactions of essential drugs.
- 2.1.3 indicate the use of appropriate drug in a particular disease with consideration of its cost, efficacy and safety for –
 - individual needs, and
 - mass therapy under national health programmes.
- 2.1.4 explain pharmacological basis of prescribing drugs in special situations such as pregnancy, lactation, infancy and old age.
- 2.1.5 state the principles underlying the concept of 'Essential Drugs'

The criteria for selection of essential drugs are :

- i. Adequate data on its efficacy and safety should be available from clinical studies.
- ii. It should be available in a form in which quality, including, bioavailability, and stability on storage can be assured.
- iii. Its choice should depend upon patter of prevalent disease; availability of facility and trained personnel; financial resources; genetic, demographic and environmental factors.
- iv. In case of two or more similar drugs, choice should be made on the basis of relative efficacy, safety, quality, price and availability. Cost benefit ratio should be a major consideration.
- v. Choice may also be influenced by comparative pharmacokinetic properties and local facilities for manufacture and storage.
- vi. Most essential drugs should be single compounds. Fix ratio combination product should be included only when dosage of each ingredient meets the requirements of defined population group, and when combination has a proven advantage.
- vii. Selection of essential drug should be a continuous process, which should take into account the changing priorities for public health action, epidemiological conditions as well as availability of better drugs/ formulation and progress in pharmacological knowledge.

2.2 SKILLS

At the end of the course, the student shall be able to -

- 2.2.1 prescribe drugs for common ailments.
- 2.2.2 identify adverse reactions and interactions of essential drugs.
- 2.2.3 interpret the data of experiments designed for the study of effects of drugs.
- 2.2.4 scan information on common pharmaceutical preparations and critically evaluate the drug formulations.
- 2.2.5 be well conversant with the principles of pharmacy and pharmaceutical preparations.

2.3 INTEGRATION

Practical knowledge of rational use of drugs in clinical practice will be acquired through integrated teaching vertically with pre-clinical & clinical subjects and horizontally with other para-clinical subjects.

3. DURATION OF PARA-CLINICAL TEACHING

3.1 Semesters	:	III, IV, V
3.2 Teaching days	:	360 per batch (II MBBS Course)
3.3 Teaching hours	:	300 per batch (II MBBS Course)

4. SYLLABUS

4.1 LEARNING METHODS

Lectures, tutorials, practicals, case studies, group discussions, seminars, integrated Teaching.

Distribution of teaching hours

4.1.1 Theory

• Lectures	-	108 ± 7
• Case studies, group discussions & seminars	-	12 ± 5
Total	-	120 ± 12

4.1.2 Practicals & Tutorials - 120 ± 5

4.1.3 Revision & Evaluation (Internal Assessment) - 60

4.2 SEQUENTIAL ORGANISATION OF CONTENTS

The students are expected to study the drugs as given below :

(a) Essential Drugs that must be known	(b) Other Drugs that must be known	(c) Drugs that may be mainly required to be known for solving MCQs
<ul style="list-style-type: none">• Pharmacokinetics• Dosage schedule• Pharmacodynamics• Indications (Uses)• Contraindications• Drug interactions• Adverse effects	<ul style="list-style-type: none">• Mechanism of action• Therapeutic Uses• Important Adverse Effects <p>(without dosage schedule, contraindications, drug interactions)</p>	<ul style="list-style-type: none">• Classification of drugs

A) INTRODUCTION:

PHARMACOLOGY –

(N=3)

- **A FOUNDATION TO CLINICAL PRACTICE** (n=1)

- Development of the branch of pharmacology; Scope of the subject; role of drugs as one of the modalities to treat diseases,

- Definition of drug;

- Nature and sources of drugs;

- Subdivisions of pharmacology

- Rational pharmacotherapy

- **DRUG DEVELOPMENT.** (n=1)

- **DRUG ASSAYS.** (n=1)

B) GENERAL PHARMACOLOGY: (N=11 ± 2)

- Pharmacokinetics: Absorption, Distribution, Biotransformation, Elimination (n=5)
Pharmacodynamics: Principles of drug action, Mechanisms of drug action.
- Receptors (Nature, Types, Theories, Regulation) (n=1)
- Application to pharmacotherapeutics: Relevance of Pharmacokinetics and dynamics in clinical practice, Sequelae of repeated administration of drug (n=2)
- Factors modifying drug action (n=1)
- Adverse Drug Reactions (n=2)

C) AUTONOMIC PHARMACOLOGY: (N= 9 ± 2)

- General Considerations (n=1)
- Adrenergic agonists (n=2)

Adrenaline, Isoprenaline, Ephedrine, Dopamine Phenylephrine, Xylometazoline, Isoxsuprine	Dobutamine, Mephenteramine, Ritodrine.	Noradrenaline, Oxymetazoline, Amphetamine, Fenfluramine, Methoxamine.
------------------------------------------------------------------------------------------	----------------------------------------	-----------------------------------------------------------------------

- Adrenergic antagonists (n=2)

Prazosin, Propranolol, Timolol, Atenolol	Metoprolol	Phentolamine, Acebutalol, Labetalol
------------------------------------------	------------	-------------------------------------

- Cholinergic agonists & Anticholinesterases (n=2)

Pilocarpine, Neostigmine,	Acetylcholine,	Methacholine, Carbachol, DFP,
Physostigmine, Pyridostigmine,	Bethanechol,	Tik 20, Soman, Propoxur,
Pralidoxime.	Edrophonium.	Echothiophate, Tabun, Sarin,
		Parathion, Malathion.

- Antimuscarinic drugs (n=1)

Atropine, Hyoscine butyl bromide, Homatropine, Ipratropium bromide, Tropicamide, Dicyclomine, Biperidine.	Glycopyrrolate, Pirenzepine, Benzhexol, Benztropine.	Cyclopentolate, Propantheline.
-----------------------------------------------------------------------------------------------------------	------------------------------------------------------	--------------------------------

- Skeletal muscle relaxants (n=1)

Succinylcholine, Vecuronium, Alcuronium, Pancuronium, Atracurium,	d - Tubocurarine	Dantrolene, Baclofen
-------------------------------------------------------------------	------------------	----------------------

**D) CARDIOVASCULAR SYSTEM INCLUDING DRUGS AFFECTING COAGULATION AND THOSE ACTING ON KIDNEYS:
(N=13 ± 2)**

- General Considerations and Overview of antihypertensive therapy (n=1)

- Diuretics (n=2)

Frusemide, Hydrochlorothiazide, Acetazolamide, Mannitol Spironolactone,	Chlorthalidone,	Triamterene Amiloride.
----------------------------------------------------------------------------------	-----------------	---------------------------

- Angiotensin Converting Enzyme (ACE) inhibitors & A II antagonists (n=1)

Enalapril	Captopril	Ramipril, Lisinopril, Losartan
-----------	-----------	-----------------------------------

- Sympatholytics & vasodilators (n=1)

Methyldopa, Hydralazine, Sodium Nitroprusside.	Clonidine	Reserpine, Minoxidil
------------------------------------------------------	-----------	-------------------------

- Antianginal Drugs (n=1)

Glyceryl Trinitrate, Isosorbide-5- Mononitrate, Isosorbide dinitrate		Nicorandil
----------------------------------------------------------------------------	--	------------

- Drugs affecting coagulation / thrombosis / bleeding Coagulants

(n=2)

Vit. K (Phytomenadione), Factor VIII conc.& Factor IX complex		
---------------------------------------------------------------------	--	--

- Anticoagulants, Thrombolytics & Antiplatelet Agents

Heparin, Warfarin, Acenocumarol, Streptokinase.	Urokinase	Alteplase, Ticlopidine, Dipyridamol.
-------------------------------------------------------	-----------	--------------------------------------------

- Drugs for CCF: Digitalis glycosides & Other agents (n=1)

Digoxin		Amrinone, Milrinone.
---------	--	-------------------------

- Antiarrhythmic Agents (n=1)

Quinidine, Procainamide, Mexiletin, Amiodarone		
---------------------------------------------------	--	--

- Agents used for the management of shock (n=1)
Plasma expanders, water and electrolyte balance (I.V Fluids)

Albumin, Dextran-70, polygelene, Glucose, Glucose + NaCl, Ringer Lactate, NaCl, KCL, Intraperitoneal Dialysis soln.	P.V.P.	
---------------------------------------------------------------------------------------------------------------------	--------	--

- Hypolipidaemic drugs (n=1)

Lovastatin	Cholestyramine, Clofibrate, Probucof, Nicotinic Acid	
------------	------------------------------------------------------	--

E) HAEMATINICS AND HAEMATOPOIETIC FACTORS:

(N=1)

- Agents used in the therapy of iron deficiency and megaloblastic anaemia

Ferrous salt, Folic acid Ferrous salt + Folic acid, Folinic Acid, Iron Dextran	Iron Sorbitol Citric Acid	
--------------------------------------------------------------------------------------	---------------------------	--

F) DRUGS AFFECTING C.N.S.

(N=15 ± 2)

- Sedative-Hypnotics (n=1)

Diazepam, Clonazepam, Phenobarbitone, Chloral hydrate.	Alprazolam	Lorazepam
--------------------------------------------------------	------------	-----------

- Psychopharmacology: (n=3)
Antianxiety & Antimanic

Lithium		Buspirone
---------	--	-----------

- Antipsychotics:

Chlorpromazine, Flufenazine, Haloperidol.		
-------------------------------------------	--	--

- Antidepressants:

Amitriptyline, Imipramine, Clomipramine, Fluoxetine,		Citalopram, Sertraline
-------------------------------------------------------------	--	------------------------

- Antiepileptics (n=2)

Carbamazepine, Sodium Valproate, Phenytoin Sodium		Ethosuximide,
---------------------------------------------------	--	---------------

● Anti-Parkinsonian agents (n=1)

Levodopa-Carbidopa, Trihexiphenidyl	Selegiline	Bromocriptine, Amantadine
----------------------------------------	------------	------------------------------

● Local anaesthetics (n=1)

Lignocaine, Bupivacaine, Lignocaine + Adrenaline, Tetracaine.	Procaine	
------------------------------------------------------------------------	----------	--

● General anaesthetics (n=1)

Thiopental Sodium, Ether, Halothane, Ketamine, Nitrous Oxide	Isoflurane, Fentanyl	Lorazepam, Propofol
-----------------------------------------------------------------------	----------------------	------------------------

● Analgesics: (n=3)

Opioids & NSAIDs:

Morphine, Pethidine, Codeine, Naloxone, Pentazocine		Methadone, Naltrexone
Acetyl Salicylic Acid, Ibuprofen, Paracetamol, Diclofenac,	Piroxicam, Ketorolac, Nimesulide	Flurbiprofen, Celecoxib

● Pharmacotherapy of rheumatoid arthritis and gout (n=1)

Allopurinol, Colchicine,	Probenecid	d-penicillamine
--------------------------	------------	-----------------

● Substance abuse: Management of opioid, alcohol and tobacco addictions(n=1)

● Alcohol (n=1)

Ethyl Alcohol (70 %)		Disulfiram
----------------------	--	------------

G) MISCELLANEOUS TOPICS - I: (N=7 ± 2)

Autacoids (to be covered before pain lectures)

● Drug treatment of migraine (n=1)

● Ergot, serotonin. (n=1)

Ergotamine, Dihydroergotamine, Methyl ergometrine	Ondansetron, Sumatriptan	Cyproheptadine
---------------------------------------------------------	-----------------------------	----------------

● Antihistaminics (n=1)

Chlorpheniramine, Promethazine, Pheniramine	Loratadine, Cetirizine, Diphenhydramine	Meclizine, Cyclizine, Cinnarizine.
---------------------------------------------------	-----------------------------------------------	------------------------------------------

● Drugs acting on the uterus (n=1)

Oxytocin		Ethacridine, Magnesium
----------	--	---------------------------

Drugs acting on immune system:

- Immunostimulants, immunosuppressants; pharmacology of vaccines & sera (n=1)

Cyclosporine Tuberculin purified protein derivative Vaccines- Typhoid (TAB), Pertussis, Meningococcal, Influenza, B.C.G., A.R.V. (Semple), Hepatitis B, O.P.V., Mumps, Measles, Rubella, Tetanus toxoid, D.P.T. Immunoglobulin Anti tetanus Ig, Rabies Ig, Anti- D-Ig, Ig Human Normal, Anti Snake Venom, Diphtheria Anti toxin,	P.C.E.V. H.D.C.V.	M.M.R. P.V.R.V I.P.V (Salk's Vaccine) Hepatitis A Typhoid-Ty 21a Anti Gas Gangrene Serum
---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------	-----------------------------------------------------------------------------------------------------------

H) RESPIRATORY SYSTEM

- Drugs used for bronchial asthma (n=1)

Salbutamol, Terbutaline, Aminophylline, Theophylline, Sodium Cromoglycate, Beclomethasone		Leukotriene Inhibitors (Zafirlukast, Montelukast), Salmeterol, Budesonide
----------------------------------------------------------------------------------------------------------	--	---------------------------------------------------------------------------------

- Pharmacotherapy of cough (n=1)

Dextromethorphan,	Ammonium Salts, Bromhexine	Ambroxol, Acetylcystine, Codeine
-------------------	-------------------------------	----------------------------------------

- Therapeutic Gases
 Oxygen

I) CHEMOTHERAPY INCLUDING CANCER CHEMOTHERAPY:

(N=21 ± 2)

- General considerations (n=2)
- Antimicrobial agents (n=8)

- Sulphonamides & Cotrimoxazole

Sulfadiazine, Sulfacetamide, Silver Sulfadiazine, Trimethoprim, Cotrimoxazole	Sulfamethoxazole	Sufadoxine
-------------------------------------------------------------------------------------------	------------------	------------

- Quinolone derivatives

Nalidixic Acid, Ciprofloxacin, Ofloxacin, Norfloxacin, Levofloxacin		Pefloxacin, Gatifloxacin, Sparfloxacin
---------------------------------------------------------------------------	--	----------------------------------------------

- β Lactams
Penicillins

Benzyl penicillin, Benzathine penicillin G, Phenoxy methyl penicillin, Procaine penicillin G, Cloxacillin, Ampicillin Amoxycillin, Amoxycillin + Clavulanic Acid.	Carbenicillin, Methicillin, Sulbactam	Mecillinam, Ticarcillin, Piperacillin, Mezlocillin.
----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------	--------------------------------------------------------------

- Cephalosporins

Ceftazidime, Ceftriaxone, Cephalexin	Cefotaxime, Cefadroxil.	Cefepime. Other β -Lactams (Imipenem + Cilastatin),
--------------------------------------------	----------------------------	--------------------------------------------------------------------

- Aminoglycosides

Streptomycin, Gentamicin, Kanamycin, Amikacin, Neomycin, Framycetin Neomycin + Bacitracin		
-------------------------------------------------------------------------------------------------------	--	--

- Macrolides

Erythromycin	Roxithromycin, Azithromycin, Clarithromycin	Miscellaneous Antibiotics Clindamycin, Vancomycin
--------------	---------------------------------------------------	------------------------------------------------------------

- Tetracyclines & Chloramphenicol

Tetracycline, Doxycycline, Chloramphenicol		Minocycline, Demeclocycline.
--------------------------------------------------	--	---------------------------------

- Urinary antiseptics

		Nitrofurantoin, Methanamine
--	--	--------------------------------

- Anti-Tuberculosis agents; Anti-leprotic agents (n=3)

Isoniazid (H), Rifampicin (R), Pyrazinamide (Z), Ethambutol (E), H+ E, H+ R, H + R + Z, H + R + Z + E		Rifabutin, Thiacetazone + Isoniazid Ethionamide
Dapsone, Clofazimine		Minocycline

- Antiprotozoal agents: (n=3)

Antiamoebic & Other antiprotozoal

Metronidazole, Diloxanide furoate, Tinidazole, Furazolidone,	Sodium Stibogluconate, Pentamidine	Secnidazole
-----------------------------------------------------------------------	------------------------------------------	-------------

- Antimalarials

Chloroquine, Mefloquine, Quinine, Primaquine, Pyrimethamine+Sulfadoxine	Artemether, Artesunate, Artesunate + Lumifantrine	Proguanil, Halofantrine.
-------------------------------------------------------------------------	---------------------------------------------------	--------------------------

- Anthelmintics (n=1)

Mebendazole, Albendazole, Pyrantel pamoate, Diethylcarbamazine, Niclosamide, Praziquantel		Thiabendazole, Ivermectin, Levamisole, Piperazine.
-------------------------------------------------------------------------------------------	--	----------------------------------------------------

- Antifungal agents (n=1)

Amphotericin-B, Nystatin, Griseofulvin, Ketoconazole, Miconazole, Fluconazole, Flucytosine		Tolnaftate
--------------------------------------------------------------------------------------------	--	------------

- Antiviral agents including antiretroviral agents (n=1)

Acyclovir, Zidovudine, Idoxuridine	Didanosine	Lamivudine, Abacavir, Nevirapine, Ritonavir, Indanavir, Saquinavir, Nelfinavir, Efavirenz, Lopinavir + ritonavir, Interferon
------------------------------------	------------	------------------------------------------------------------------------------------------------------------------------------

- Pharmacotherapy of STDs (n=1)

- Principles of cancer chemotherapy and their adverse drug reactions (n=1)

(individual agents and regimes need not be taught)

	Cyclophosphamide, Methotrexate, Vincristine, Vinblastine, Actinomycin D	Mechlorethamine, Chlorambucil, Melphalan, Dacarbazine, 6-Mercaptopurine, Azathioprine, Flurouracil, Cytosine arabinocide, Etoposide, Doxorubicin, Daunorubicin, Bleomycin, Procarbazine, Mitomycin C, Cisplatin, L- Asparaginase.
--	-------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

J) ENDOCRINOLOGY: (N=11 ± 2)

- Corticosteroids (n=2)

Hydrocortisone, Hydrocortisone sodium succinate, Prednisolone, Methylprednisolone, Dexamethasone, Betamethasone, Fludrocortisone.		
-----------------------------------------------------------------------------------------------------------------------------------	--	--

• Oestrogens & its antagonists (n=1)

Ethinylestradiol, Centchroman, Tamoxifen.	Stilbestrol	
-------------------------------------------	-------------	--

• Progestins & their antagonists (n=1)

Medroxyprogesterone acetate, Norethisterone enanthate, Norethisterone, Levonorgestrel		Norgestrel
---------------------------------------------------------------------------------------	--	------------

• Contraceptives & Ovulation inducing agents (n=1)

Ethinylestradiol+Levonorgestrel, Ethinylestradiol+Norethisterone, Ethinylestradiol + Norgestrel, I.U.C.D with Copper		Clomiphene Citrate
----------------------------------------------------------------------------------------------------------------------	--	--------------------

• Testosterone & anabolic steroids (n=1)

Testosterone propionate, Danazol		Nandrolone, Finasteride
----------------------------------	--	-------------------------

Thyroid

- Thyroxine and antithyroid agents (n=2)

Levothyroxine, Propylthiouracil, Carbamezole, Potassium iodide, Iodine,		Methimazole, Radioactive iodine
----------------------------------------------------------------------------------	--	------------------------------------

- Agents affecting calcium balance (n=1)

D ₃ (Ergocalciferol), Calcium Salt,		Calcitonin
---------------------------------------------------	--	------------

Antidiabetic agents:

- Insulin; Oral antidiabetic drugs (n=2)

Insulin Injection, Lente/NPH Insulin, Glibenclamide, Metformin		New Preparations (Insulin), Chlorpropamide, Acarbose, Ripaglinide, Roglitazone
-------------------------------------------------------------------------	--	-----------------------------------------------------------------------------------------------

K) AGENTS USED IN GASTROINTESTINAL DISORDERS:

(N=5 ± 1)

- Pharmacotherapy of nausea & vomiting (n=1)

Metoclopramide, Domperidone, Prochlorperazine,		Ondansetron, Cisapride, Ipecacuanha
------------------------------------------------------	--	-------------------------------------------

- Pharmacotherapy of peptic ulcer (n=2)

Cimetidine, Ranitidine, Aluminum hydroxide + Magnesium hydroxide	Omeprazole, Sucralfate, Misoprostol	Colloidal Bismuth, Carbenoxolone Sodium
------------------------------------------------------------------------	-------------------------------------------	-----------------------------------------------

Antihaemorrhoidal agents-(Local anaesthetic, Astringent & Anti-inflammatory)

- Management of diarrhoea and constipation (n=2)
- Antidiarrheal
- Laxatives

O.R.S, Sodium hydrogen carbonate, Sulfasalazine, 5- Amino Salicylic acid, Loperamide	Diphenoxylate	
Senna, Magnesium hydroxide, Bisacodyl, Ispaghula, Liquid paraffin, Castor oil		Magnesium Trisilicate, Cascara sagrada, Lactulose, DOSS

L) MISCELLANEOUS TOPICS – II**(N=8 ± 1)**

- Drug-Drug Interactions (n=1)

- Drug use at extremes of age, in pregnancy & in organ dysfunction (n=2)

- Use of chelating agents in heavy metal poisonings (n=1)

Dimercaprol (B.A.L.), Calcium disodium edetate, Desferrioxamine, Activated charcoal	d-Penicillamine, N- acetylcysteine.	Deferiprone
----------------------------------------------------------------------------------------------	----------------------------------------	-------------

- Ocular pharmacology (n=1)

- Dermatopharmacology (n=1)

Glycerin, Calamine, Silver nitrate, Podophyllum resin, Benzoin compound, Selenium sulfide, Coal tar, Benzoyl peroxide, Benzyl benzoate, Permethrin, Gamma benzene hexachloride		
-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	--

- Diagnostic Agents

Fluorescein		
-------------	--	--

- Vitamins (n=1)

Retinol, Conc. Vit A sol., Thiamine, Riboflavin, Nicotinamide, Pyridoxine, B ₁₂ , Ascorbic Acid, Hydroxocobalamine, Vitamin B complex & Multi vitamins as per Schedule V	Vitamin E	
----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------	--

- Antiseptics and disinfectants (n=1)

Povidone iodine, Cetrimide, Potassium permanganate, Bleaching powder, Chlorhexidine, Glutaraldehyde, Formaldehyde, Chloroxylenol, Hydrogen Peroxide, Gentian Violet, Acriflavin + Glycerine		
---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	--

M) RATIONAL PHARMACOTHERAPY: (N=4)

Prescription writing and P-drug concept Rational Drug Use; Essential Drug List (EDL)

Criticism with reference to Fixed Drug Combinations (FDCs)

4.3 TERM-WISE DISTRIBUTION I

Term

Introduction
General pharmacology
Autonomic pharmacology
Endocrinology

II Term

Chemotherapy
Central Nervous System

III Term

Agents used in gastro-intestinal disorders
Drugs acting on cardiovascular system including drugs affecting coagulation and those acting on the kidneys Miscellaneous (including RS)

4.4 PRACTICALS & TUTORIALS: TOTAL HOURS, NUMBER & CONTENTS

Total hours : 120
Number : 60
Contents :

I Term practicals (N=10)

Introduction to Practical Pharmacology, animal study and drug development, Assay (Computer simulated), Effect of drug on blood pressure and respiration (Computer simulated),

Neuromuscular signal transmission (Computer simulated), Mydriatic and miotics (Computer simulated), Effect of drug on ciliary motility of frogs oesophagus (Computer simulated), Study of drug antagonism (Computer simulated), Case studies: Diabetes Mellitus and Organophosphorus poisoning. Dissolution and disintegration, Introduction to Pharmacopoeia. Printed material.

II Term practicals (N=30)

Pharmacy: Prescription Writing, Clinical Prescription Writing, Evaluation of analgesics (Computer simulated), Clinical evaluation, Visit to pharmaceutical company, Clinical trials, Study of drug utilisation pattern in hospitals, Case studies: Methanol poisoning, with standard prescription, Printed material

III Term practicals (N=20)

Effect of nitrate on volunteers, Problem solving, Adverse Drug Reactions, Comments on the FDCs, Case studies: - Bronchial Asthma, Hypertension, Diarrhoea, Anaemia, Skin, Drug interaction - book information, Printed material.

The journal should be scrutinized by the teacher concerned and presented during university examination.

4.5 BOOKS RECOMMENDED

4.5.1. Pharmacology & Pharmacotherapeutics. Satoskar RS, Bhandarkar SD (Ed), Publisher: Popular Prakashan, Bombay.

4.5.2 Essentials of Medical Pharmacology. Tripathi KD (Ed), Jaypee Brothers, publisher: Medical Publishers (P) Ltd.

4.5.3 Clinical Pharmacology. Laurence DR, Bennet PN, rown MJ (Ed). Publisher: Churchill Livingstone

4.6 REFERENCE BOOKS:

4.6.1 Basic & Clinical Pharmacology. Katzung BG (Ed), Publisher: Prentice Hall International Ltd., London

4.6.2 Goodman & Gilman's The Pharmacological Basis of Therapeutics. Hardman JG & Limbird LE (Ed), Publisher: McGraw-Hill, New York

4.6.3 Pharmacology: H.P.Rang, M. M. Dale, J.M. Ritter publisher: Churchill Livingstone

5. EVALUATION

5.1 METHODS

Theory, Practical and Viva

No	Head	Total Marks
1	Theory (2 papers – 40 marks each)	80
2	Oral (Viva)	14
3	Practical	26
4	Internal Assessment (Theory – 15, Practicals- 15)	30
	TOTAL	150

Passing : A candidate must obtain 50% in aggregate with a minimum of 50% in theory + orals, 50 % in practicals.

5.2 PATTERN OF THEORY EXAMINATION

Nature of Question Paper

- i) Total duration - 4 hrs (each paper of 2 hrs)
- ii) Each paper of 3 sections

Suggested Pattern of marking for a paper of 40 marks

Sections	Nature of questions	Total no. of questions	Marks per question	Total marks
A	1. One line Answer Questions	8 out of 10	1	08
	2. Long Answer Questions	2 out of 3	7	14
B	Short Answer Questions(SAQ)	6 out of 8	3	18
			TOTAL	40

5.3 TOPIC DISTRIBUTION

PHARMACOLOGY PAPER I - includes General Pharmacology including drug-drug interactions; Autonomic Nervous System, Cardiovascular System including drugs affecting Coagulation and those acting on the Kidneys; Haematinics; Agents used in Gastro- Intestinal Disorders; Ocular pharmacology; Drug use at extremes of age, in pregnancy & in organ dysfunction; Diagnostic & Chelating agents; Environmental & Occupational Pollutants; Vitamins

PHARMACOLOGY PAPER II - includes Neuro-Psychiatric Pharmacology including Antiinflammatory - Analgesics and Addiction & its management; Pharmacology in Surgery (particularly peri-operative management);

Chemotherapy including Cancer Chemotherapy; Endocrinology; Dermatology; Miscellaneous Topics I (Lipid-derived autacoids; Nitric Oxide; Allergy - Histaminics & Antihistaminics including anti - vertigo; Anti Asthmatics; Anti-tussive agents; Immunomodulators; Vaccines & sera; Drugs acting on the uterus)

5.4 MARKING SCHEME

Each paper of 40 marks as shown in the above table.

5.5 NATURE OF PRACTICALS AND DURATION Practical Heads

Marks 26

i) Prescription writing	7
One Long	(5)
One Short	(2)
ii) Criticism	6
Prescription & rewriting the wrong prescription	(3)
Fixed dose formulation	(3)
iii) Clinical Pharmacy	5
iv) Spots (8 nos.)	8

5.6 VIVA: DURATION AND TOPIC DISTRIBUTION

Pharmacology Viva Total Marks - 14 , distributed as follows:

Viva I –7 marks . Two examiners will examine each candidate covering topics of the theory paper I.

Viva II –7 marks. Two examiners will examine each candidate covering topics of the theory paper II.

5.7 PLAN FOR INTERNAL ASSESSMENT

Marks for Internal Assessment:

Theory:	15
Practical:	15

Pattern for computation of 'Internal Assessment' in the subject of Pharmacology. (Applicable to the batch joining in June 2004)

THEORY:

There will be three mid term examination, one in each term in addition to 4th and 5th term examinations and preliminary examination. Each mid term examination will be of 15 marks each. They will be of following types:

Ist Mid Semester	-	MCQ Paper
IInd Mid Semester	-	Practical & Viva/MCQ IIIrd
Mid Semester	-	Journal & Viva/MCQ

The best two performances of each student will be included in the already existing internal assessment exam and final grading will be given as under:

Subject	Practical	Theory
Pharmacology	40+40+40=120/10 =12+3(Journal)=15	50+50+40+40+15+15 =210/14=15

Terminal and prelim examination pattern will be as follow:

EXAMINATION	No. of Papers	Pattern	Duration of each paper	Tot al Marks
1ST TERMINAL	One-50 Marks	MCQs – 28 (14 Marks) SAQs–10/12 (20 Marks) LAQs-2/3 (16 Marks)	2 Hours 30 Minutes	50
2ND TERMINAL	One-50 Marks	MCQs – 28 (14 Marks) SAQs–10/12 (20 Marks) LAQs-2/3 (16 Marks)	2 Hours 30 Minutes	50

PRELIMINARY (As per final University pattern)	Two- 40 Marks each	One line answer question-8/10 (08 Marks) SAQs-6/8 (18 Marks) LAQs-2/3 (14 Marks) (Total – 40 Marks paper)	2 Hours each papers	80
	TOTAL			180

Final internal assessment in THEORY shall be computed on the basis of actual marks obtained out of 180, reduced to marks out of 15.

PRACTICAL:

Internal assessment of PRACTICALS shall be computed on the basis of three term ending examination and marks allotted to practical Journal.

EXAMINATION	PATTERN	MARKS	TOTAL
1ST TERMINAL	Viva	30	40
	Spots	10	
2ND TERMINAL	Viva	20	40
	Spots	10	
	Clinical Pharmacy	5	
	Prescription writing	5	
PRELIMINARY EXAM (As per University pattern)	Viva	14	40
	Prescription writing	7	
	Criticism	6	
	Clinical Pharmacy	5	
	Spots	8	
		TOTAL	120

Actual marks obtained out of 120 shall be reduced to out of 12. Add marks obtained out of 3 for Practical Journal.

Total internal assessment marks for Practical shall be out of (12+3) 15.

Total Internal Assessment:	Theory ---	15
	Practical ---	15
		30

CURRICULUM IN MICROBIOLOGY

1. GOAL :

The goal of teaching Microbiology is to provide understanding of the natural history of infectious diseases in order to deal with the etiology, pathogenesis, pathogenicity, laboratory diagnosis, treatment, control and prevention of these infections and infectious diseases.

9. EDUCATIONAL OBJECTIVES :

KNOWLEDGE :

The student at the end of one and half years should be able to: -

State the etiology, pathogenesis and methods of laboratory diagnosis and apply that knowledge in the diagnosis, treatment, prevention and control of communicable diseases caused by microorganisms.

Understand commensally, opportunistic and pathogenic organisms of human body and describe host parasite relationship.

Know and describe the pathogenesis of diseases caused by microorganisms.

State the sources and modes of transmission of pathogenic and opportunistic micro-organisms including knowledge of insect vectors & their role in transmission of infectious diseases.

Choose appropriate laboratory investigations required for clinical diagnosis.

SKILLS :

Plan and interpret laboratory investigations for diagnosis of infectious diseases and correlate the clinical manifestations with the etiological agent.

Identify common infectious agents with the help of laboratory procedure, acquire knowledge of antimicrobial agents, use of antimicrobial sensitivity tests to select suitable antimicrobial agents for treatment.

Perform simple laboratory tests, which help to arrive at rapid diagnosis.

Be conversant with proper methods of collection, storage & transport of clinical material for microbiological investigations.

Understand the principles of immunology and its application in the diagnosis and prevention of infectious diseases including immunization schedule, acquire knowledge of the scope of immunotherapy and different vaccines available for the prevention of communicable diseases.

Understand methods of disinfection and sterilization and their application to control and prevent hospital and community acquired infections including universal biosafety precautions and waste disposal.

Recommend laboratory investigations regarding bacteriological examination of food, water, milk and air.

The student should be well equipped with the knowledge of prevalent communicable diseases of national importance and of the newer emerging pathogens.

ATTITUDE :

The student will be regular, sincere, punctual and courteous and regular in studies.

The student will follow all the rules laid down by the department and participate in all activities.

The student will understand the importance of, and practice asepsis, waste segregation and appropriate disposal.

The student will understand the importance of, and practice the best methods to prevent the development of infection in self and patient. (E.g. hand washing, using aprons for hospitals in hospitals only, regularly washing the aprons, wearing gloves (as and when required / handling specimens etc.).

The student will understand the use of the different antimicrobial agents including antibiotics to use judiciously and prevent misuse, (prescribing attitude).

The student will understand the significance of vaccinations and will receive appropriate vaccines (e.g. TT, Hepatitis B and any other as per needs).

The student will wash his/her hands with soap after each practical class.

The student will leave the area allotted for his practical neat and tidy.
 The student will discard the slides in the appropriate container provided for the same.
 The student will report any injury sustained in class, immediately.
 The student will report any breakage occurring during class times immediately.
 The student may give suggestions to improve teacher student association.

10. INTEGRATION –

INTEGRATED TEACHING PROGRAMME	
Urinary Tract infection	Semester - I
Pneumonia	
Tuber culosis	Semester - II
HIV	
Enteric fever.	Semester - III
Myocardial infection	

Problem Based Learning –(PBL)

Meningitis

Pyrexia of unknown origin

UTI

11. LEARNING METHODS

Lectures, practicals Distribution of teaching hours –

A) Theory:Lectures	71
Tutorials	26
Total	97
B) Practical and Revision	120
C) Assessments	33
Total	250

SEQUENTIAL ORGANISATION OF CONTENTS

The areas of study in Microbiology will include General Microbiology, Systemic Microbiology including Bacteriology, Immunology, Mycology, Virology, Rickettsia, Chlamydia, Parasitology and Applied microbiology in relation to infections and diseases of various systems of the body.

12. SYLLABUS

SEMESTER- I

I. GENERAL MICROBIOLOGY: (n=10)

A) Introduction and historical background.

Definitions: Medical Microbiology, Pathogen, commensal, symbiont etc.

In History: Anton van Leeuwenhoek, Pasterur, Lister, Koch, Flemming etc.

B) Morphology of bacteria and Classification.

Bacterial cell and its organelles, morphological classification, methods of Studying bacteria, staining methods & their principles. Grams & ZiehlNeelson staining, their Importance in presumptive diagnosis, negative staining, dark ground illumination, phase and fluorescent, microscopes, briefly about electron microscopy. Principles and applications of all microscopes.

C) Physiology including growth requirements & metabolism.

Nutrition, respiration (anaerobic & aerobic) and growth of bacteria, growth curve, physical Factors influencing, growth. Culture media: Definition, classification and application.

D) Sterilization

Definition of sterilization, disinfections, asepsis, antiseptics. Ubiquity of bacteria, modes of killing microbes and preventing them, factors determining selection of the mode, factors adversely affecting sterilization. Enumeration of physical methods of sterilization including principle & their application.

Work and efficacy testing of autoclave, inspissator and hot air oven Central Sterile supply Department (CSSD).

E) Disinfectants

Asepsis and antiseptics, modes of Action of chemical agents on microbes, Phenols, Halogens, Aldehydes, Acids, Alcohol, heavy metals, oxidizing agents etc. Universal bio-safety precautions.

Dyes, soaps and detergents. Concentration and contact time.

F) Waste disposal

Definition of waste, classification, segregation, transport and disposal.

G) Bacterial genetics and drug resistance to antimicrobial agents.

Introductions – codon, lac operon, mutation, transformations, transductions & conjugations, R Factor, mode of action of antimicrobials on bacteria, mechanism of drug resistance and Antimicrobial susceptibility test, steps taken to minimize emergence of resistant strains (Antibiotic policy, formulatons) Microorganisms as modes in Molecular Biology and Genetic engineering.

H) Host parasite relationship and bacterial infections.

Commensal, pathogenic, and opportunistic organisms, their pathogenic factors and modes of transmission.

Microbial factors: spores, capsule, toxins, enzymes, intracellular parasitism, antigenic Variation & extrinsic factors etc. leading to establishment of infection.

Type of infection: primary, secondary, general, local, natural, nosocomial iatrogenic, zoonotic.

I) Normal flora

Introduction – various sites, types and role

J) Methods of identification of bacteria. Diagnosis of infections

(direct and indirect)

Principles of laboratory diagnosis of infectious diseases . General procedures for collection transport, processing of specimens for microbiological diagnosis.

PCR, RIA, DNA probes.

II. IMMUNOLOGY :

A) Introduction

Definition of immunity, type of immunity, factors responsible, mechanism of innate immunity.

Herd immunity.

B) Antigens, HLA

Definition, types, antigen determinants, properties of antigen. MCI – concept, class – I, II & III functions, indications, indication of typing, MHC restriction.

Nature of determinants, e.g. of haptens, e.g. of cross-reactive antigen.

C) Antibodies Definition, nature, structure of immuno- immunoglobulin classes, physical and biological properties of immunoglobins, Pepsin digestion, amino acid sequence, immunoglobulin domain, abnormal immunoglobins.

Understand isotypic, allotypic, and idiotypic markers.

D) Serological reactions

Definition, characteristics, titre, sensitivity & specificity, antigen-antibody interaction-primary.

Secondary & tertiary, prozone phenomenon, principle, types and application of precipitation, agglutination, complement fixation, enzyme immunoassay, radioimmunoassay, immunofluorescence test, neutralization and opsonisation.

Techniques of precipitation and their uses, blocking antibodies, antiglobulin reactions, co-agglutination, in vitro test, techniques of EIA, IF & electron microscopy.

E) Immune response

Types, developments, role of- thymus, bone marrow, lymph nodes & spleen, cell of lymphoreticular system, morphology and role of T subsets, NK cells, B cells, plasma cells and macrophages, B & T cell activation, antigen processing and presentation, primary and secondary immune response, principle and use of monoclonal antibodies, factors affecting antibody production, CMI –definition, type, role of T cell and macrophages, definition of immune tolerance and mechanism of tolerance.

Lymphokines and their role, clonal selections, mechanism of immunoregulation, theories of antibodies formation, techniques of monoclonal antibody formation, detection of CME, types of immunotolerance.

F) Complement

Definition, synthesis, pathways, activations, role & biological function, components, measurement. **Complement deficiency** Regulation of complement activation,

G) Hypersensitivity

Definition, classification, difference between immediate and delayed reaction, mechanism of anaphylaxis, type V reaction, ADCC, schwartzman phenomenon.

H) Autoimmunity

Definition, mechanism, classification. Pathogenesis.

I) Transplantation & tumor immunology

Type of transplants, mechanism of transplant rejection, prevention of graft rejection GVH reaction, IR to tumors, tumor antigens, mechanism of IR to tumours.

Type of tumor antigens, immune surveillance

J) Immuno- Deficiency

Classification, examples, laboratory test for detection, manifestations.

SEMESTER- II

III. SYSTEMIC BACTERIOLOGY:

TOPIC FOR LECTURES WITH PATHOGENESIS INCLUDES:

- Infectious agent
- Habitat
- Source / Reservoir
- Mode
- Infective dose
- Multiplication, spread
- Clinical features, pathology.

- Complications
- Virulence factors
- Immunological response

LABORATORY DIAGNOSIS:

- Specimen selection
- Collection
- Transport
- Primary smear, hanging drop
- Selection of media
- Pathogenicity testing
- Anti microbial drug susceptibility testing
- Serological interpretation

TOPICS FOR LECTURES:

- | | |
|---------------------------------------------------------------------------------|----------|
| 1. Staphylococci | :1 hour |
| 2. Streptococci Pneumococci | : 1 hour |
| 3. Neisseria | : 1 hour |
| 4. C.diphtheriae | : 1 hour |
| 5. M .Tuberculosis | : 1 hour |
| 6. Atypical mycobacteria | : 1 hour |
| 7. M.leprae | : 1 hour |
| 8. Bacillus, methods of anaerobiosis and classification. Non sporing anaerobes. | : 1 hour |
| 9. Clostridium welchii, tetani, botulinum | : 1 hour |
| 10. Enterobacteriaceae | : 1 hour |
| 11. Salmonella typhi, paratyphi | : 1 hour |
| 12. Shigella | : 1 hour |
| 13. Vibrio & Campylobacter | : 1 hour |
| 14. Pseudomonas | : 1 hour |
| 15. Other GNB Hemophilus, Brucella, Bordetella | : 1 hour |
| 16. Newer bacteria Listeria, Gardnerella | : 1 hour |
| 17. Spirochetes | : 1 hour |
| 18. Actinomycosis & Nocardia | : 1 hour |
| 19. Rickettsia | : 1 hour |
| 20. Chlamydia & Mycoplasma | : 1 hour |
| 21. Bacteriology of air, water, milk and food | : 1 hour |

MYCOLOGY :

A) Introduction to Mycology

Nature of fungus (definition, differences with bacteria), characteristics of fungi, common terminologies, brief account of types of sporulation and morphological classification of fungi. Methods of identification, Infections produced, Lab Diagnosis, processing of skin, hair and nail. Growth requirements, ecological, medical and industrial importance of fungi.

B) Agents of Superficial mycosis

Predisposing factors, morphological features and Lab diagnosis.

Colony Characteristics of common dermatophytes

C) Subcutaneous mycosis

Predisposing factors, Mycetoma, Rhinosporidiosis, Pathogenesis and Lab diagnosis

D) Systemic mycosis opportunistic fungal infections

Classification, predisposing factors, Candida, Cryptococcus, Histoplasma morphology pathogenesis, lab. Diagnosis Classification, predisposing factors, Mucor, Aspergillus, pneumocystis carinii Cultural characteristic.

SEMESTER- III

V. VIROLOGY: (n=12)

Morphology, pathogenesis, laboratory diagnosis, prevention and control for all viruses.

- i. General Virology
Size, shape, symmetry, structure, resistance, multiplication, properties and classification of viruses, pathogenesis, bacteriophages, concept of virions
- ii. Laboratory diagnosis of viral infections
Collection of samples, transport, cultivation & methods of diagnosis
- iii. Viral immunity
Viral immunity, interferon, viral vaccines
- iv. Pox viruses
Small pox and Molluscum
- v. DNA viruses
Papova, Adeno, Herpes viruses (Herpes simplex, Varicella zoster, CMV, EBV)
- vi. Respiratory viruses
Orthomyxo & paramyxoviruses, Ag shift and drift Rhinoviruses
- vii. Picornaviruses
Polio, Coxsackie, Enteroviruses, Viruses causing diarrhea – Rota viruses, Immunity (polio)
- viii. Hepatitis viruses
Hepatitis viruses, immunity and laboratory diagnosis
- ix. Arboviruses
Dengue, KFD, Japanese Encephalitis – definition, classification, enumeration in India, Pathogenesis, laboratory diagnosis and control
- x. Rhabdoviruses
Rabies
- xi. Slow and Oncogenic viruses
Characteristics of slow virus infection, pathogenesis and laboratory diagnosis and viruses associated with it
- xii. Retroviruses
HIV/AIDS, Immunity USP

VI. PARASITOLOGY:

- Geographical distribution
 - Habitat
 - Morphology (different stages) found in human beings
 - Life cycle
 - Pathogenesis
 - Laboratory diagnosis
 - Treatment
 - Control
 - Immuno-prophylaxis
- A) Introduction to medical Parasitology**
Parasites : their nature, classifications, and explanation of terminologies, epidemiology, emerging parasitic infections, (pathogenicity and laboratory diagnosis)
- B) E. histolytica**
Amoebic infections
- C) Free living amoebae and flagellates**
Free living amoebae, PAME, Giardia and Trichomonas
- D) Haemoflagellates**
L. donovani: life cycle, morphology, pathogenicity, and lab. Diagnosis etc.
Brief account of trypanosomes.
- E) Malaria**
Malaria parasites: life cycle, morphology, pathogenicity, laboratory Diagnosis etc.

F) Misc. pathogenic protozoa Toxoplasma, **Cryptosporidium Isospora, B.coli, Cyclospora.**

G) Cestodes

Taenia saginata and solium, Echinococcus granulosus, life cycle, morphology, pathogenicity and laboratory diagnosis.

Brief mention of other cestodes

H) Trematodes

Schistosomiasis : life cycle, morphology, pathogenicity, and lab. Diagnosis

Brief account of fasciola hepatica.

I) Intestinal Nematodes

A. duodenale, A. lumbricoides, E. vermicularis, T. tritura, **brief mention of S.stercoralis life cycle, morphology lab. Diagnosis**

J) Tissue Nematodes

W. bancrofti, D. medinensis, in brief T. spiralis.

VII. APPLIED CLINICAL MICROBIOLOGY

a) Urinary tract infection	1 hr
b) Respiratory tract infection	1 hr
c) Gastro-intestinal tract infection & Food poisoning	1 hr
d) Surgical site infection	1 hr
e) Septicaemia	1 hr
f) Acute meningitis	1 hr
g) Healthcare associated infection	1 hr
h) Pyrexia of unknown origin	1 hr
i) Emerging & re-emerging infection	1 hr
j) Bioterrorism	1 hr
k) Sexually transmitted infections	1 hr
l) Hand hygiene	1hr

DURATION OF PARA-CLINICAL TEACHING :

Semesters	03
Teaching days	360
Teaching Hours	250
(As per MCI guidelines 1997).	

13. LECTURES, TUTORIALS IN EACH SEMESTER

(Total Number, Topics)

No.	Topics
SEMESTER -I	
GENERAL MICROBIOLOGY	
1	Introduction
2	Morphology-1
3	Morphology-1
4	Growth and nutrition
5	Sterilization-1
6	Sterilization-2
7	Genetics-1
8	Genetics-2
9	Host- parasite relationship-1

No.	Topics
10	Host- parasite relationship-2
11	Antibiotic sensitivity and resistance
IMMUNOLOGY	
12	Introduction of immunology
13	Antigen
14	Immunoglobulins
15	Complement
16	Structure and function of Immune system-1
17	Structure and function of Immune system-2
18	Immune response
19	Ag- Ab reaction-1
20	Ag- Ab reaction-2
21	Hypersensitivity
22	Autoimmune diseases
23	Immunodeficiency diseases
24	Immunology of transplantation and malignancy
	Tutorial
	Tutorial On General Microbiology-I
	Tutorial On General .Microbiology-I
	Tutorial On Antigen & Antibody
	Tutorial On Immune Response & Complement
SEMESTER -II	
SYSTEMIC BACTERIOLOGY	
25	Staphylococci
26	Streptococci
27	Pneumococci
28	Gram negative cocci
29	Enterobacteriaceae-E.coli,Klebsiella, Proteus
30	Salmonella - I
31	Salmonella – II
32	Shigella
33	Vibrio
34	Pseudomonas
35	Corynebacterium. Diphtheriae
36	Bacillus
37	Haemophilus influenzae
38	Brucella
40	Bordetella
41	Yersinia
42	Anaerobiasis and Clostridia-1
43	Clostridia-2
44	Mycobacteria-1
45	Mycobacteria-2
46	Mycobacterium leprae
47	Non sporing anaerobes

No.	Topics
48	Spirochaetes-1
49	Spirochaetes-2
50	Mycoplasma and Chlamydia
51	Rickettsiae
52	Miscellaneous bacteria
	Tutorial
	Tutorial On Gram Positive Cocci
	Tutorial On Gram Negative Cocci
	Tutorial On Gram Positive Bacilli
	Tutorial On Gram Negative Bacilli
	MYCOLOGY
53	Mycology-1
54	Mycology-2
55	Mycology-3
56	Mycology-4
	SEMESTER -III
	VIROLOGY
57	General properties of viruses-1
58	General properties of viruses-2
59	Lab diagnosis of viral infection (2 nd sem)
60	Bacteriophage
61	Herpes
62	Pox and adenovirus
63	Picorna
64	Orthomyxovirus
65	Paramyxovirus
66	Retroviruses-1
67	Retroviruses-2
68	Arbovirus
69	Rabdovirus
70	Hepatitis- I
71	Hepatitis- II
72	Oncogenic viruses
73	Miscellaneous viruses
	PARASITOLOGY
74	Introduction and lab. Diagnosis
75	Intestinal protozoa-1
76	Intestinal protozoa-2
77	Leishmaniasis
78	Trypanosomes
79	Malaria-1
80	Malaria-2
81	Cestodes-1
82	Cestodes-2
83	Trematodes

No.	Topics
84	Intestinal nematodes-1
85	Intestinal nematodes-2
86	Tissue Nematodes-1
87	Tissue Nematodes-2
88	Cryptosporidium and Toxoplasma
	CLINICAL MICROBIOLOGY
89	Lab diagnosis of PUO
90	Lab diagnosis of meningitis
91	Lab diagnosis of UTIP
92	Lab diagnosis of STD
93	Lab diagnosis of GIT infections
94	Lab diagnosis of wound infection
95	Lab diagnosis of respiratory infection
96	Lab diagnosis of food poisoning
97	Microbiology of food, water and milk
98	Hospital acquired infections
99	Bioterrorism
100	Emerging & re-emerging infection
101	Hand hygiene
	Tutorial
	Tutorial On Parasitology
	Tutorial On Virology
	Tutorial On Mycology

14. Practical List

S.N.	Practical Topics
1.	Microscopy
2.	Morphology of Bacteria-I
3.	Morphology of Bacteria-II
4.	Common Methods of Sterillisation
5.	Growth Requirements of Bacteria: common Media
6.	Principles and Methods of Diagnostic Microbiology- I Principles and Methods of Diagnostic Microbiology- II
7.	Common Serological Reactions
8.	Staphylococcus
9.	Streptococcus and Pneumococcus
10.	Neisseria
11.	Enterobacteria-I
12.	Enteric fever (Salmonella typhi)
13.	Vibrio and pseudomonas
14.	Mycobacterium tuberculosis
15.	M. leprae & Atypical Mycobacteria
16.	Yersinia, Brucella, Haemophilus, Bordetella
17.	Corynebacteria
18.	Gram Positive Bacilli
19.	Spirochaetes
20.	Fungi
21.	Rickettsia and Viruses
22.	HIV (Human Immunodeficiency Virus)
23.	Parasitology introduction
24.	Intestinal Protozoa
25.	Haemoflagellates
26.	Plasmodia
27.	Helminthology: Phylum Platyhelminthes- Cestodes
28.	phylum Platyhelminthes-Trematodes
29.	Phylum Nematelminthes-Intestinal Nematodes
30.	Phylum Nematelminthes-Tissue Nematodes
31.	Toxoplasma, Cryptosporidium, Pneumocystic
32.	Entomology

Examination				
1 st Terminal	One – 50 Marks	MCQ – 20 (10 marks) SAQ – 8/9 (24 marks) LAQ – 2 (16 marks)	2 Hours 30 Minutes	50
2 nd Terminal	One – 50 Marks	MCQ – 20 (10 marks) SAQ – 8/9 (24 marks) LAQ – 2 (16 marks)	2 Hours 30 Minutes	50
Preliminary (As per Final University Pattern)	Two – 40 Marks each	Each paper- Sec A One line answer 8/10 (08 Marks) LAQs- 2/3(14 Marks) Sec B SAQs- 6/8 (18 Marks) (Total- 40 Marks paper)	2 Hours As for final	80
Total				180

PLAN FOR INTERNAL ASSESSMENT

Pattern for computation of ' Internal Assessment ' in the subject of Microbiology

THEORY

Internal Assessment shall be computed on the three term ending examinations (two terminals & one Preliminary examination before the university examination

PRACTICAL:

Internal assessment in PRACTICALS shall be computed on the basis of three term ending examinations and the marks allotted to practical record book.

Examination	Pattern	Marks	Total
1 ST TERMINAL	Exercise (eg.Gram's Stain)	10	40
	Spotting	10	
	Viva	20	
2 ND	Exercise/Exercises (eg.Gram's & Z.N. Stain)	10	40
	Spotting	10	
	Viva	20	
PRILIMINARY EXAM As per University pattern	Gram's Stain	05	40
	Ziehl-Neelson Stain	05	
	Stool Exam.	05	
	Spotting	10	
	Viva	15	
Total			120

THERE WILL BE 03 MID-TERM EXAMINATIONS	
1 st Mid - term examination MCQ type	– 15 marks
2 nd Mid - term examination Practical/ MCQ	– 15 marks
3 rd Mid - term examination Journal/ MCQ	– 15 marks
Best two of three performances will be considered for internal assessment	

Actual marks obtained out of 120 shall be reduced to out of 12. Add marks obtained out of 3 for Practical Record Book. Total internal assessment marks for Practical shall be out of (12+3) 15.

Total Internal Assessment :	
Theory	15
Practical	15
Total:	30

15. PATTERN OF FINAL EXAMINATION

METHODS :

THEORY, PRACTICAL & VIVA

No.		Total Marks
1	Theory (2 papers – 40 marks each)	80
2	Oral (Viva)	14
3	Practical	26
4	Internal assessment (theory-15, practicals-15)	30
	Total	150

Passing: A candidate must obtain 50% in aggregate with minimum 50% in Theory+orals, 50% in Practicals.

PATTERN OF THEORY EXAMINATION:

Distribution Of Marks, Questions, Time.

Nature of Question Paper -
i) Total duration -4 hrs (each paper of 2 hrs or 120 minutes)
ii) Each paper will have 2 sections

Suggested pattern and marking for each paper of 40 marks

Sections	Nature of Questions	Total No. of Questions	Marks for Each Question	Total Marks
Section -A	(i) One line Answer questions	8 out of 10	01	08
	(ii) Structured Long Answer Question	2 out of 3	07	14
Section -B	Short Answer Question	6 out of 8	3	18
Total				40

* One compulsory question of 7 marks on applied Microbiology in each paper.

Paper I -Related to General Microbiology & Systematic Bacteriology

Paper II -Related to Parasitology, Mycology, Virology & Immunology

(a.) TOPIC DISTRIBUTION

A) MICROBIOLOGY PAPER - I

- General Microbiology
- Systematic bacteriology including Rickettsia, Chlamydia and Mycoplasma
- Related applied microbiology.

B) MICROBIOLOGY PAPER II

- Parasitology
- Mycology
- Virology
- Immunology
- Related applied Microbiology.

(b.) MARKING SCHEME

Each paper of 40 marks as shown in the above table.

(c.) NATURE OF PRACTICALS AND DURATION

Practical examination in MICROBIOLOGY will be of 26 marks and oral (viva) of 14 marks of THREE hours duration.

Q.1: Gram staining	6
Q.2: Zeil – Nelson’s staining	6
Q.3: Stool examination for Ova/cyst	4
Q.4: Spot identification (Ten spots)*	10
Total	26

*Spots- Microscopic slides, Mounted specimen, Instruments used in laboratory, Serological tests, Inoculated culture medium, Sterile culture medium, Vaccines / serum), Lab Animal.

The journal should be scrutinized by the teacher concerned and presented during university examination."

(d.) VIVA (Two Tables)

Marks

- A: General & Systemic Microbiology 7
B: Mycology, Parasitology, Virology, Immunology 7

BOOKS RECOMMENDED

10.1 Text books:-

1. Ananthanarayan and Paniker’s textbook of Microbiology 9th edition
2. A Textbook of Microbiology – P. Chakraborty
3. Parasitology (protozoology & Helminthology) edition- 13th K.D Chatterjee
4. Textbook of Medical parasitology (Panicker)

10 .2 Reference books:-

1. Textbook of Medical Mycology (JogdishChander)
2. Principle and Practice of Infectious diseases-by Mandell, seventh edition.

CURRICULUM FOR **FORENSIC MEDICINE AND MEDICAL JURISPRUDENCE** **INCLUDING TOXICOLOGY**

1. GOAL

The broad goal of teaching undergraduate students Forensic Medicine is to produce a physician who is well informed about Medico-legal responsibility during his/her practice of Medicine. He/She will also be capable of making observations and inferring conclusions by logical deductions to set enquiries on the right track in criminal matters and associated medico-legal problems. He/She acquires knowledge of law in relation to Medical practice, Medical negligence and respect for codes of Medical ethics.

2. EDUCATIONAL OBJECTIVES

KNOWLEDGE

At the end of the course, the student shall be able to

- identify the basic Medico-legal aspects of hospital and general practice
- define the Medico-legal responsibilities of a general physician while rendering community service either in a rural primary health centre or an urban health centre
- appreciate the physician's responsibilities in criminal matters and respect for the codes of Medical ethics
- diagnose, manage and identify also legal aspect of common acute and chronic poisonings
- describe the Medico-legal aspects and findings of post-mortem examination in cases of death due to common unnatural conditions and poisonings
- detect occupational and environmental poisoning, prevention and epidemiology of common poisoning and their legal aspects particularly pertaining to Workmen's Compensation Act
- describe the general principles of analytical toxicology
- understand Clinical Forensic Medicine
- understand issues in organ transplantation

SKILLS

At the end of the course, the student shall be able to

- 2.2.1 make observations and logical inferences in order to initiate enquiries in criminal matters and Medico-legal problems
 - a. to be able to carry on proper Medico-legal examination and documentation/ Reporting of Injury and Age
 - b. to be able to conduct examination for sexual offences and intoxication
 - c. to be able to preserve relevant ancillary materials for medico - legal examination
 - d. to be able to identify important post-mortem findings in common unnatural deaths and be able to distinguish between Natural and Un-natural deaths.
 - e. to diagnose and treat common emergencies in acute and chronic poisoning
 - f. to observe the principles of medical ethics in the practice of his profession

INTEGRATION

Department shall provide an integrated approach towards allied disciplines like Pathology, Radiology, Forensic Sciences, Hospital Administration etc. to impart training regarding Medico-legal responsibilities of physicians at all levels of health care. Integration with relevant disciplines will provide scientific basis of clinical toxicology e.g. Medicine, Pharmacology etc.

3. DURATION OF TEACHING

Semesters -	3	
Teaching Days -		360

4. SYLLABUS**a) LEARNING METHODS**

Lectures, tutorials, practical demonstrations, group discussions and seminars

Distribution of teaching hours

Didactic lectures should not exceed one third of the time schedule, two third schedules should include Practicals, Demonstrations, Group discussions, Seminars and Tutorials.

Learning process should include living experiences and other case studies to initiate enquiries in criminal matters and Medico-legal problems.

A) Theory :	Lectures	.....	40 hours
	(including Tutorials, Seminars & Allied)	.....	20 hours
	Total	.....	60 hours
B) Practicals		.....	25 hours
	(including demonstrations)	.....	15 hours
	Total	.....	40 hours

This period of training is minimum suggested. Adjustments, whenever required, depending on availability of time, may be made.

CONTENTS & DIVISION**1. PART – 1 FORENSIC MEDICINE:****A) INTRODUCTION**

- i. Definition, Scope Relevant To Subject
- ii. History of Forensic Medicine
- iii. Need, Scope, Importance and probative value of Medical evidence in Crime Investigation

B) FORENSIC IDENTITY:

- i. Introduction, definition, types, corpus delicti
- ii. Data useful for Identification of Living and Dead
- iii. Age estimation and its medico-legal Importance
- iv. Sex determination and it's medico-legal importance
- v. Other methods of establishing identity: Dactylography, Tattoo marks, Deformities, Scars
- vi. Identification of decomposed, Mutilated bodies and skeletal remains
- vii. Medico legal aspect of DNA fingerprinting - a brief introduction
- viii. Value for evidence in crime
- ix. Medico-legal aspect of blood and blood stains.

Note: Collection, Preservation and Dispatch of Specimen for Blood and other ancillary material for identification and Medico-legal examination.

C) THANATOLOGY:

- i. Definition and concept of death, Brainstem Death in relation to Organ Transplantation
- ii. Causes of sudden Natural deaths
- iii. Changes after death, Cooling, Hypostasis, Changes in eye, Muscle changes, Putrefaction, Adipocere, Mummification, Estimation of time since death
- iv. Presumption of death and survivorship, disposal and preservation of dead bodies

D) MEDICO-LEGAL AUTOPSY

- i. Autopsy: Objectives, Facilities, Rules and Basic techniques, Proforma for reporting medico-legal autopsy
- ii. Exhumation, examination of mutilated remains, Obscure autopsy and post-mortem artifacts

E) TRAUMA

- i. Definition and classification of injuries:
- ii. Blunt force Trauma : Abrasions, Contusions and Lacerations
- iii. Sharp force Trauma : Incised, Stab and Chop wounds
- iv. Physical methods of Torture and their identification
- v. Firearm injuries and Explosive injuries and Basics of Firearms
 - a) PM examination of Firearm injury deaths.
 - b) Removal and collection of Bullets, Pellets etc.
- vi. Complications and causes of death due to injury.
- vii. Medico-legal aspect of injury/hurt, simple and grievous hurts, murder, Ante-mortem & Postmortem Wounds, Age of the injury, cause of death and relevant sections of I.P.C., Cr.P.C.
- viii. Causative Weapon and appearance of Suicidal, Accidental and Homicidal injuries.
- ix. Regional injuries: Head injury, mechanism, Injury to Scalp, Skull, Brain and Spinal Injuries
- x. Intracranial Haemorrhage, changes in Brain
- xi. Road Traffic Accidents
- xii. Thermal injuries: Injuries due to heat and cold, Frostbite, Burns, Scalds and Bride burning
- xiii. Injuries due to Electricity, Lightning
- xiv. Non-Accidental Domestic Violence
- xv. Starvation deaths

Note: Collection, Preservation and Dispatch of Specimen for Blood and other ancillary material for Medico-legal examination.

F) MEDICO-LEGAL ASPECTS OF SEX, MARRIAGE AND INFANT DEATH

- i. Explanation and ML Importance of Terminologies: Impotence, Sterility, Virginity, Pregnancy, Delivery, Paternity, Legitimacy, Assisted Reproductive Technique Medico Legal Aspects and PNDT Act,
- ii. Sexual Offences and perversions: Natural (Rape, Adultery and Incest), Unnatural (Sodomy, Bestiality and Buccal coitus) Lesbianism, perversions and relevant sections of I.P.C. and Cr.P.C.
- iii. Examination of Rape and Sodomy cases.
- iv. Abortions, Medical Termination of pregnancy, Criminal abortions and relevant IPC sections.
- v. Infant death:
 - a) Explanation of Terminologies Viability Live Births, Deadborn, Stillborn
 - b) Determination of age of Foetus and Infant with special reference to 3, 5, 7 & 9 months of I.U.Age
 - c) Infanticides: Autopsy to confirm Livebirth, period of survival, causes of deaths
 - d) Battered Baby Syndrome and Sudden Infant Death Syndrome.

Note: Collection, Preservation and Dispatch of Specimen: Hair, seminal fluid/stains and other ancillary material for medico-legal examination, examination of seminal stains and vaginal swabs.

G) ASPHYXIAL DEATHS:

- i. Introduction, Pathophysiology, General Signs-Symptoms Asphyxia
- ii. Hanging: Definition, Types and Causes of death, PM Finding, MLI
- iii. Strangulation, Suffocation and Traumatic Asphyxia: Definition, Types and causes of death, PM Finding, MLI
- iv. Drowning – Definition, Types, Mechanisms and Causes of death, MLI, PM Finding, Diatom Test.

H) FORENSIC PSYCHIATRY

- i. Basic concepts of Forensic Psychiatry in respect of Civil and Criminal responsibility
- ii. Examination, Certification, restraint and admission to Mental Hospital
- iii. Mental Health Act 1987: Principles and Objectives

2. **PART – 2 TOXICOLOGY:**

A) GENERAL PRINCIPLES :

- i. Introduction to Toxicology
- ii. Epidemiology of poisoning
- iii. General consideration and Laws in relation to poisons / Narcotic drugs and Psychotropic substances Act, Duties and Responsibilities of attending Physician.
- iv. Basics of Environmental and Industrial Toxicology in relation to Health & Ecology;
- v. Common poisons and their classification, Identification of common poisons, Routes of Administration, Actions of poisons and factors modifying them, Diagnosis of poisoning (Clinical and Confirmatory), Treatment / Management of cases of acute and chronic poisoning.
- vi. Analytical Toxicology (Principles: Bedside & Common Lab. Tests), Collection, Preservation and Dispatch of Viscera to FSL
- vii. Regulatory Toxicology for prevention of Hazards to Health and Ecology.

B) CORROSIVE & IRRITANT POISONS:

- i. Inorganic Corrosives- Sulphuric, Nitric & Hydrochloric Acid
- ii. Organic Corrosives- Phenol, Oxalic Acid
- iii. Inorganic Non-Metallic Irritants- Phosphorus, Halogens
- iv. Inorganic Metallic Irritants- Arsenic, Lead, Mercury, Copper
- v. Organic Vegetable Irritants- Abrus, Castor, Croton, Calotropis, Semicarpus, Ergot.
- vi. Organic Animal Irritants – Snake Bite, Scorpion & other common insect bites diagnosis and Management; Medicolegal Aspects
- vii. Mechanical Irritants- diagnosis and treatment & Medicolegal Aspects

C) NEUROTOXIC :

- i. Inebriates- Ethyl Alcohol, Methyl Alcohol
- ii. Somniferous and Sedative Hypnotics – Opium and Derivatives, Barbiturates
- iii. Deliriant- Dhathura, Cannabis, Cocaine .
- iv. Insecticides/ Pesticides/ Agrochemical- Organo-phosphorus Compounds. Organo-chlorides, Carbamates , Pyrethroids, Aluminium phosphide.
- v. Spinal Poisons- Strychnine
- vi. Peripheral Poisons- Curare

D) ASPHYXIANTS (GASES)-

Carbon monoxide, Carbon Dioxide, Cyanogens and Cyanides

E) CARDIAC POISONS-

Oleanders, Aconite, Tobacco

F) OTHER POISONS:

- i. Domestic/ Household Poisons- Kerosene, Detergents, Disinfectants, Cosmetics, Rodenticide mothballs etc.
- ii. Therapeutic Drug Toxicity/ poisoning by Medicines- Salicylates, Paracetamol, Newer derivatives of sedatives
- iii. Food Poisoning- Bacterial, Viral, Mushrooms, Chemical etc.
- iv. Drugs of dependence and Drug Abuse

3. **PART – 3 MEDICAL JURISPRUDENCE:**

A) LEGAL AND ETHICAL ASPECTS OF PRACTICE OF MEDICINE

- i. The Indian Medical Council and State Medical Council: Formation, Functions

- ii. Rights, Privileges and Duties of Registered Medical Practitioners
- iii. Infamous conduct, Professional secrecy and privileged communications
- iv. Medical Ethics and prohibition of Torture & care of Torture Victims
- v. Consent – Its relevance in Medical Practice & medical record maintenance.
- vi. Medical Negligence and contributory negligence, Precautionary measures and defences for Medical Practitioners against legal actions, Medical/Doctors indemnity insurance, Consumer Protection Act relevant to medical practice
- vii. Euthanasia – Current views and dilemmas, Different codes of Medical Ethics and Ethics in Research
- viii. Common medico-legal problems in Hospital practice
- ix. Medico-legal, ethical & social problems in relation to AIDS

Note: Workmen's compensation Act, * Mental Health Act, Medical Practitioner Act, Protection of human rights Act, 1993, * National Human Rights Commission, * Human Organ Transplantation Act and other relevant sections of I.P.C., Cr.P.C. and I.E. Act. Maharashtra civil medical code, Hospital administration manual.

4. PART – 4 LEGAL PROCEDURES IN MEDICO-LEGAL CASES:

- i. Medico-Legal Investigations of death in suspicious circumstances, different Inquest, type of offences
- ii. Types of Criminal courts and their powers, punishments prescribed by law, kinds of witnesses, Evidence, Documentary Medical evidence, Dying declaration and Dying deposition
- iii. The Trial of criminal cases, Rules and Conventions to be followed by Medical Witness at Medical evidence, subpoena, conduct money
- iv. Relevant Sections from the Indian Evidence Act, Indian Penal code and Criminal Procedure code

PRACTICALS (INCLUDING DEMONSTRATIONS)

Practicals will be conducted in the laboratories.

Objective will be to assess proficiency in skills, conduct of experiment, interpretation of data and logical conclusion.

Emphasis should be on candidate's capacity in making observations and logical inferences in order to initiate enquiries in criminal matters and medico-legal problems.

Contents:

Part 1 Forensic Medicine

Report on:

- 1. Estimation/Certification of Age
- 2. Recording of fingerprints
- 3. Examination/Certification of the Injured
[Prescribed Forms]
- 4. Examination of the Causative Agents in cases of Injuries
(e.g. Weapons, Instruments)
 - a) Hard and blunt weapons
 - b) Sharp cutting, sharp pointed and Sharp Heavy cutting weapons
 - c) Firearm weapons
- 5. Sexual offences :
 - a) Examination/Certification of Victim
 - b) Examination/Certification of Accused
- 6. Examination of Foetus to opine about age
- 7. Examination of Bones for Medico-legal purpose to determine age, sex, stature, cause of death, time since death

- a. Skull and Mandible
- b. Pelvis, Sternum
- c. Femur, Humerus

Study of:

8. Medical certification of cause of Death as per Birth and Death registration Act [Prescribed Forms]
9. Studies of Skiagrams for estimation of age, bony injury, foreign body, and pregnancy
10. Photograph of different events of Medico-legal importance and post-mortem changes
11. Study of Various museum specimens of medico-legal significance
12. Study of Various slides of medico-legal significance
13. Demonstration of Instruments:
 - a) Used in treatment of acute poisoning cases
 - b) Used for causing abortions
 - c) Used for conducting autopsy (Dissection Set)

Part 2 Forensic Toxicology

1. Examination/Certification of Alcoholic [Prescribed Forms 'A' & 'B']
2. Study of Common poisons:
[Sulphuric Acid, Nitric Acid, Hydrochloric Acid, Carbolic Acid and Oxalic Acid, Phosphorous, Lead, Arsenic, Mercury, Copper, Glass powder, Castor, Croton, Calatropis Abrus Precatorius (Ratti), Dhatura, Cannabis Indica, Opium, Aconite, Yellow Oleander, Strychnine, Snakes, Scorpion, Alcohol, Methyl Alcohol, Kerosene, Organo-phosphorus compounds, Organo Chloro compounds, Carbamates (Carbaryl)] and other commonly used poisons, antidotes and preservatives

Part 3 Medical Jurisprudence

Study of Medical Certificates [Prescribed Forms]

- a. Sickness Certificate
- b. Fitness Certificate
- c. Certificate of Physical fitness
- d. Medical certificate prescribed under Mental Health Act: 1987
- e. Medical Certificate of Sound/Unsoundness of mind.

Part – 4 Legal procedures in medico-legal cases

Orientation of various formats of specified forms:

Consent to surgery Anaesthesia and other Medical services, Request for sterilization, Consent to access to hospital records, Authorization for Autopsy, Dead body Challan used for sending a dead body for post-mortem examination, Request for the second inquest by Magistrate on the dead body, Provisional post-mortem certificate, Post-mortem form, Pictorial Post-mortem form, Form for the Final cause of death, Forms for despatch of exhibits other than the viscera to chemical analyser, Forms for despatch of Viscera for Histopathological Examination, Form for dispatch of viscera to chemical analyser, Forensic Science Laboratory report form, Summons to witness.

Each student shall attend and record as a clerk

- a. As many as possible cases / items of medico-legal importance
- b. 10 cases of medico-legal autopsies

The Journal should be scrutinised by the teacher concerned and presented during the university examination.

Efforts be made so that each student will attend the court at least 2 cases when Medical Evidence is being recorded.

BOOKS RECOMMENDED

1. Modi's Textbook of Medical Jurisprudence and Toxicology
2. The Essentials of Forensic Medicine & Toxicology by K.S. Narayan Reddy
3. Text Book of Forensic Medicine – J.B. Mukherjee VOL 1 & 2
4. Principles of Forensic Medicine - A. Nandy

5. Bernard Knight et. All: Cox's Medical Jurisprudence & Toxicology
6. Krishnan Handbook of Forensic Medicine, V.V. Pillay
7. Text Book of Forensic Medicine & Toxicology – Krishna Viz
8. Text Book of Forensic Medicine & Toxicology – R. Basu

REFERENCE BOOKS

1. Russell S. Fisher & Charles S. Petty: Forensic Pathology
2. Keith Simpson: Forensic Medicine
3. Jurgen Ludwig: Current Methods of autopsy practice.
4. Gradwohl – Legal Medicine
5. A Doctors Guide to Court – Simpson
6. Polson C.J. : The essentials of Forensic Medicine
7. Adelson, L.: The Pathology of Homicide.
8. Atlas of Legal Medicine (Tomro Watonbe)
9. Sptiz, W.U. & Fisher, R.S.: Medico-legal Investigation of Death.
10. A Hand Book of Legal Pathology (Director of Publicity)
11. Taylor's Principles & Practice of Medical Jurisprudence.
Edited by A.Keith Mant, Churchill Livingstone.
12. Ratanlal & Dhirajlal, The Indian Penal Code; Justice Hidayatullah & V.R. Manohar
13. Ratanlal & Dhirajlal, The Code of Criminal procedure; Justice Hidayatullah
& S.P. Sathe
14. Ratanlal & Dhirajlal, The Law of Evidence; Justice Hidayatullah & V.R. Manohar
15. Medical Law & Ethic in India – H.S. Mehta
16. Bernard Knight : Forensic Pathology
17. Code of medical ethics : Medical Council of India, approved by Central Government, U/S 33
(m) of IMC Act, 1956 (Oct 1970)
18. Krogman, W.M.: The human skeleton in legal medicine.
19. FE Camps, JM Cameren, David Lanham : Practical Forensic Medicine

5. EVALUATION

METHODS

Theory, Practical & Viva

Passing: A candidate must obtain minimum 50% marks in Aggregate, with a minimum of 50% marks in Theory+Orals & minimum 50 % in Practicals in University examination.

PATTERN OF THEORY EXAMINATION

(A) First & Second Terminal Examination (Internal Assessment)

Nature of Question Paper

- i) Duration - 2 hrs (one paper of 2 hrs or 120 minutes)
- ii) The paper will have 3 sections

Suggested pattern and marking for paper of 40 marks

Section	Question	Pattern of Question	Number of Question	Marks	Time
A	1	Multiple choice questions (MCQ)	16 (all compulsory)	16 x ½ each = 08	20 minutes
B	2	Short answered questions (SAQ)	4 (out of 05)	04 x 02 each = 08	01 hour 40 minutes
	3	Structured long answer question (LAQ)	1 (compulsory)	01 x 08 = 08	
C	4	Short answered questions (SAQ)	4 (out of 05)	04 x 02 each = 08	
	5	Structured long answer question (LAQ))	1 (compulsory)	01 x 08 = 08	
Total				40 marks	02 hours

(B) Third Terminal / Preliminary (Internal Assessment) & University Examination Nature of Question Paper

- i) Duration - 2 hrs (one paper of 2 hrs or 120 minutes)
- ii) The paper will have 2 sections

Suggested pattern and marking for paper of 40 marks

Section	Question	Pattern of Question	Number of Question	Marks	Time
A	1	One-line Answer Question	8 (Out of 10)	08 X 01 = 08	02 hrs
	2	Structured long answer question (LAQ)	2 (Out of 3)	02 X 07 = 14	
B	3	Short Answer Question (SAQ)	6 (Out of 8)	06 X 03 = 18	
Total				40 Marks	02 hrs

PATTERN OF PRACTICAL EXAMINATION

(A) First Terminal Examination (Internal Assessment)

PRACTICAL: Will be of 25 marks and the distribution of marks will be as follows:

1: Practical	15 Marks
2: Viva (oral)	10 Marks

Practical: Distribution recommended as follows:

1) Structured question station (2 marks each × 5 Nos)	10 Marks
2) Certificate (5 marks × 1 Nos)	05 Marks

Note:

1. Structured question station includes: Bones, Weapons, X rays, Photographs, Specimens etc.
2. Certificates include: - Death/Sickness/Fitness/Physical fitness Certificate
- Report of Examination for Age/Drunkenness/Injury/Sexual offence (Victim & Accused)

(B) Second Terminal Examination (Internal Assessment)

PRACTICAL: Will be of 40 marks and the distribution of marks will be as follows:

1: Practical	30 Marks
2: Viva (oral)	10 Marks

Practical: Distribution recommended as follows:

1) Structured question station (2 marks each × 10 Nos)	20 Marks
2) Certificates (5 marks each × 2 Nos)	10 Marks

Note:

1. Structured question station includes:
Bones, Weapons, X rays, Photographs, Specimens etc.
2. Certificates include:
 - (a) Medical Certificate: Death/Sickness/Fitness/Physical fitness certificate.
 - (b) Medico-legal Report/Certificate: Examination for Age/Drunkenness/Injury/
Sexual offence (Victim & Accused)

(C) Third Terminal / Preliminary (Internal Assessment) & University Examination

PRACTICAL: Will be of 40 marks and the distribution of marks will be as follows:

1: Practical	30 Marks
2: Viva (oral)	10 Marks

Practical: Distribution recommended as follows:

1) Structured question station (1.5 marks each × 10 Nos)	15 Marks
2) Certificates (5 marks each × 2 Nos)	10 Marks
3) Toxicology Spots (1 mark each × 5 Nos)	05 Marks

Note:

1. Structured question station includes:
Bones, Weapons, X rays, Photographs, Specimens etc.
2. Certificates includes:
 - (a) Medical Certificate: Death/Sickness/Fitness/Physical fitness certificate.
 - (b) Medico-legal Report/Certificate: Examination for Age/Drunkenness/Injury/
Sexual offence (Victim & Accused).
3. Toxicology spots includes: Poisons, Drugs, Articles.

Viva/Oral: Distribution recommended as follows:

Table 1: Forensic Medicine: 05 Marks

Table 2: Toxicology, Psychiatry, Legal Procedures, Medical Jurisprudence: 05Marks

PATTERN OF INTERNAL ASSESMENT

III Semester:

- 1) Mid Term Exam: 15 marks
- 2) Terminal Exam:
Theory: One Paper: 40 marks, Practicals including Viva: 25 marks

IV Semester:

- 1) Mid Term Exam: 15 marks
- 2) Terminal Exam:
Theory: One Paper: 40 marks , Practicals including Viva: 40 marks

V Semester:

- 1) Mid Term Exam: 15 marks
- 2) Preliminary Exam:
Theory: One Paper: 40 marks, Practicals including Viva: 40 marks

Note: Best 2 (out of 3) Mid term exam marks will be added to Theory marks.

Theory: Marks secured in Theory & Mid term examinations will be converted to out of 10 marks.

Practicals: - Marks secured in Practical examinations will be converted to out of 7 marks.
- Day to day practical work and record will be evaluated for 3 marks.

Total Internal Assessment Marks: 10 (Theory) + 10 (Practicals) = 20 marks

Internal Assessment Calculation: Fraction will be rounded to nearest whole figure e.g. if less than ½ it will be brought to previous round figure. If it is ½ or more it will be taken to next round figure.

NOTE: For qualifying for University Examination, a Candidate should obtain minimum 35% marks in internal assessment.

Heads of Passing in University Examination

Theory + Orals (40+10)	Practicals	Internal Assessment (Theory 10 + Practical 10)	Total
50 marks	30 marks	20 marks	100 marks

Passing: A candidate must obtain minimum 50% aggregate marks with a minimum 50% marks in Theory + Orals & minimum 50% marks in Practical.

CURRICULUM FOR COMMUNITY MEDICINE (PSM)

Preventive and Social Medicine / Community Medicine (PSM)

- A. The teaching of Social & Preventive Medicine shall take place throughout the teaching period.
- B. Field experience in rural health is included in pre-clinical as well as during clinical period
- C. During attendance at various departments which is now required under medicine and surgery, such as infectious diseases. T.B. Leprosy, V.D. etc. emphasis shall be laid as much on the preventive as on the clinical and therapeutic aspects of these diseases.
- D. In addition to the teaching undertaken by the department of Social & Preventive Medicine, a joint programme with other departments is essential in order to give the students a comprehensive picture of man, his health and illness.
- E. Stress shall be laid on national programmes, including those of control of communicable diseases and family planning and health education.
- F. An epidemiological unit should be established as an integral part of every hospital in order to achieve a comprehensive study of disease by the students.
- G. The objective of the internship shall be clearly defined and a proper training programme be oriented for this period. Objectives and the methods by which the internship could be made into a satisfying and fruitful experience should be laid down. Planning in this phase of education shall be done.
- H. As regards the qualifications of the teachers it is highly important that all teachers in Preventive and Social Medicine should as far as possible have had adequate administrative experience in addition to the teaching experience. They should also be encouraged to acquire skills in clinical subject specially related to community medicine.
- I. Practical Skills: Due stress shall be laid on the students acquiring practical skill in the various procedures.

Community Medicine including Humanities

(Preventive and Social Medicine)

GOALS:

The broad goal of the teaching of undergraduate students in community medicine is to prepare them to function as community and first level physicians in accordance with the institutional goals.

OBJECTIVES:

Knowledge: At the end of the course the student shall be able to

- Explain the principles of sociology including demographic population dynamics.
- Identify social factors related to health, disease and disability in the context of urban and rural societies.
- Appreciate the impact of urbanization on health and disease.
- Observe and interpret the dynamics of community behavior.
- Describe the elements of normal psychology and social psychology.
- Observe the principles of practice of medicine in hospital and community settings.
- Describe the health care delivery systems including rehabilitation of the disabled in the country.
- Describe the National Health Programmes with particular emphasis on reproductive and child health programmes and population control.
- List the epidemiological methods and techniques.
- Outline the demographic pattern of the country and appreciate the roles of the individuals, family, community and socio-cultural milieu in health and disease.
- Describe the health information systems.
- Enunciate the principles and components of primary health care and the national health policies to achieve the goal of "Health for all".
- Identify the environmental and occupational hazards and their control.
- Describe the importance of water and sanitation in human health.
- Understand the principles of health economics, health administration, health education in relation to community.

Skills:-

At the end of the course, the student shall be able to make use of

- The principles and practice of medicine in hospital and community settings and familiarization with elementary practices.
- Use the art of communication with patients including history taking and medico social work.
- Use epidemiology as a scientific tool to make rational decisions relevant to community and individual patient.
- Collect, analyse, interpret and present simple community and hospital based data.
- Diagnose and manage common health problems and emergencies at the individual, family and community levels keeping in mind the existing health care resources in the context of the prevailing socio-culture beliefs.
- Diagnose and manage common nutritional problems at the individual, family and community level.
- Plan, implement and evaluate a health education programme with skill to use simple audio-visual aids.
- Interact with other members of the health care team and participate in the organization of health care services and implementation of national health programmes.

Integration:

Develop capabilities of synthesis between cause of illness in the environment or community and individual health and respond with leadership qualities to institute remedial measures for this.

Course Content:

Total hours of teaching in community medicine and humanities are 376. The distribution of them shall be as follows.

Phase	Semester	Theory	Practical Hours
I	I & II	30	30
II	III & IV	68	132
III Part I st	VI & VII	50	66

COMMUNITY MEDICINE (P.S.M.)

List of theory lectures

Phase I (1st and 2nd semester) 30 Hours

1. Introduction – Evolution of Community Medicine.
2. Health – Definition, spectrum of health, factors affecting health and indicators of health.
3. Health Problem of World – Urban and Rural – Indian Health.
4. Health Care Delivery system in India – Urban and Rural.
5. Health Education and Communication.
6. Hospital Management.
7. Nutrition and Health.
 - Constituents of food.
 - Food and food groups.
 - Diet planning and recommended dietary allowances.
 - Nutritional diseases.
 - Iodine deficiency disorders.
 - Diseases due to vitamin and mineral imbalance
 - Toxins in the food.
 - Assessment of Nutritional status.
8. Examination

List of theory leacture (4Th semester)

1. Demography, Demographic cycle, Population trends – World and India.
2. Fertility and factors affecting it.
3. Family welfare and population control and National Population Policy.
4. Medical ethics and doctor – patient relationship – Consumer Protection Act.
5. Sociology and Social factors effecting health.
6. Social Psychology – Introduction, Group Behaviour, Motivation Personality.
7. Economics and health.

Phase II – (3rd and 4th Semester) 68 Hours

General Epidemiology

- The concepts of disease.
- Natural history of disease.
- Epidemiological triad.
- Dynamics of diseases transmission.
- Concept of disease control.

Epidemiology

- Definition, types, measurements in epidemiology, epidemiological studies, and clinical trial, investigation of an epidemic.
- Uses of epidemiology.
- Screening for disease.
- Disinfection, sterilization and control of Hospital acquired infections.
- Immunity.

Environmental health

- Introduction to environment health.
- Water in relation to health and disease.
- Air pollution and ecological balance.
- Housing and health.
- Effects of radiation on human health (Ionizing, Non-ionizing & Nuclear warfare)
- Effects of Noise on human health.
- Meteorological environment including effects of global warming.
- Effects of heat and cold

- Solid and Liquid waste disposal
- Disposal of hospital waste.

Medical entomology

Arthropods of medical importance and their control.

Biostatistics (Theory and Practical)

- Introduction and uses.
- Data- Types, Collection and Presentation.
- Centering constants.
- Measures of Variation.
- Normal distribution.
- Sampling methods and Sampling variability.
- Tests of significance.
 - SE of mean and difference between two means.
 - SE of proportion and difference between two proportions
 - X² tests. (Chi-square)
 - Students 't' test – Paired and Unpaired.
- Statistical fallacies.

Computers in Medicine

Their use at all the stages to be demonstrated. The students should use computers in analysis and presentation of data

Epidemiology of communicable diseases.(6th and 7th semester)

- Air borne infections.
 - Exanthematous fevers.
 - Chicken pox, Rubella, and Measles
 - Factors responsible for eradication of small pox.
 - Influenza,SARS and ARI.
 - Diphtheria, Pertussis, meningococcal meningitis, mumps
 - Tuberculosis.
- Faeco-oral infections.
 - Poliomyelitis.
 - Hepatitis.
 - Enteric Fever ,Cholera and Food poisoning
 - Acute diarrheal diseases including Bacillary,Amoebic dysentery,Hookworm infection & Dracunculioses
- Soil transmitted and other Helminthes.
- Tetanus
- Rabies and other Viral Zoonotic disease.
- Leprosy & bacterial Zoonotic, Rickettsial diseases and Parasitic Zoonoses.
- Malaria
- Filariasis.
- Arthropod borne diseases.
- Sexually transmitted diseases and their control.
- AIDS
- Emerging and Re-emerging Infections.

Examinations at the end of 3rd and 4th semester.

(Phase III (6th and 7th Semester)

50 hrs.

(Teaching in 7th semester includes tutorials also.)

- Community development programmes and multisectoral cooperation
- Comprehensive medical care and Primary health care.
- National Health Policy (to date).
- Reproductive and Child Health care.
- Epidemiology of Non-communicable diseases.

- Occupational health.
- Problems of adolescence including Drug dependence.
- Geriatrics and problems of ageing population
- Vital statistics – sources and uses, Census, Fertility statistics.
- Management information system.
- Mental health.
- Genetics in public health.
- Health planning and management.
- National Health Programmes including rural health mission.
- Millenium development goals,sustainable development goals
- International health and Voluntary Health Agencies.
- Disaster Management
 - ❖ Pre-Conception and Prenatal Diagnostic Technique Act

Tutorials.

Examination at the end of 6th and 7th semester.

Phase I (1st And 2nd semester) 30 hours.

Field visit-

Every Medical College should have

adequate transport facilities to take medical undergraduate for field visits. In the phase I total 15 visits, each of 2 hours duration or total 10 visits – each of 3 hours duration (depending on distances) are to be planned by the departments of community medicine. The broad outline of place for educational field visits is given below.

- Hospital visits (O.P.D., Casualty, Immunization clinic, different wards, Kitchen, FW Centre, PPP, Blood Bank, Sterilization section, Infectious disease ward, Minor operation theatre, etc.)
 - Rural Health Training Centre.
 - Primary Health Centre.
 - Urban Health Centre.
- District Health Office (DHO).
- District Training Team (DTT)/IEC Bureau.
- District Tuberculosis Centre.
- Public Health Laboratory.
- District Malaria Office.
- Remand Home.
- Rehabilitation Centre.

IIIrd Semester, 1st Clinical Posting - 66 hours.

Lecture – Cum – Demonstration, at appropriate places

S. No.	Topic	Demonstration
1	Visit to Urban / Rural health Training Centre.	Functions of UHC/ RHTC Manpower & Duty arrangements
2	Immunization Programme	I (demonstration)
3	Immunization Programme	II (Cold Chain)
4	Antenatal care	Demonstration of Antenatal case
5	Care of Infant	Demonstration of case
6	Post-natal case of mother/child.	Demonstration of case
7	Contraceptives	Situation to be given and sex education.
8	Exclusive breast feeding	Visit to Baby Friendly Hospital
9	Weaning foods	Demonstration
10	Nutritional demonstration	Explain nutritive values of Indian foodstuff
11	Nutritional assessment	Demonstration
12	Anthropometric measurements	Demonstration
13	Nutritional deficiency disorders	With A/V aids or case, Road to Health Chart
14	Protein Energy Malnutrition	With A/V aids or case
15	Diarrhea as a community health problem	With A/V aids or case, ORS preparation and composition
16	ARI as a community health problem	With A/V aids or case
17	Elementary essential drugs	Visit to drug store, Inventory control
18	Examination	

4th Semester 2nd Clinical Posting 66 hours.

The broad guidelines for planning programmes are as follows.

- 1) Posting for family care study - 5 days
 - Principle of clinical epidemiology
 - Morbidity Survey.
 - Data analysis and presentation.
- 2) Posting for School Health - 3 days
 - Health check-up of school children.
 - Data analysis and presentation.
 - Health education activities in the school by the students.
- 3) Visit to anganwadi and ICDS scheme block - 1 days
- 4) Students' seminars on topics like - 5 days
 - Disaster management
 - Road traffic accidents
 - PBL topics
 - Geriatric, children under difficult circumstances etc.
 - Socioeconomically, ethical issues on brain death & organ donation
- 5) Introduction of statistical package and assessment Examinations 1days.

Phase III (6th and 7th Semester) 3rd Clinical Posting - 66 hours

Posting: Clinical case presentation by students

1. Introduction to infectious diseases – history taking
2. Exanthemata's fevers.
3. Diarrhea / Cholera / Dysentery.
4. Tuberculosis
5. Leprosy.
6. Dog – bite case and abies.
7. Tetanus.
8. PUO / Enteric fever / Malaria.
9. STD / AIDS.
10. Hepatitis
11. Non- communicable diseases.
 - CHD, RHD, hypertension.
 - Cancer.
 - Obesity / diabetes.
12. Examination.

MARKS OF INTERNAL ASSESSMENT: -

Theory –20 marks and practical 20 marks. The students must secure at least 50% marks of the total marks fixed for internal assessment in the subject in order to clear the subject.

I)	Theory		
	1) 3 rd Semester	50 Marks	
	2) 4 th Semester	50 Marks	
	3) 6 th Semester	<u>50 Marks</u>	
		Total 150 Marks	Convert it to out of 10 marks
	4) Prelim exam. Theory	Paper I - 60 Marks	
		Paper II - <u>60 Marks</u>	
		Total 120 Marks,	Convert it to out of 10 marks
		Total Theory Internal Assessment marks will be 20.	

II)	Practicals	-	
	1) 1 st Clinical rotation exam. -	3 rd Semester -	50 Marks
	2) 2 nd Clinical rotation exam. -	4 th Semester -	50 Marks
	3) 3 rd Clinical rotation exam. -	6 th Semester -	50 Marks
	4) Practicle Exam	- 3 rd Semester -	50 Marks
	5) Practicle Exam	- 4 rd Semester -	50 Marks
		(Best 3 out of 5)Total -	150 Marks
			Convert it to out of 10 Marks

4) Prelim exam.	-	40 Marks	
		10 Marks for Journals	
		<u>Total 50 Marks</u>	
			Convert it to out of 10 marks
		Total Practical Internal Assessment marks will be 20.	

BOOKS RECOMMENDED.

1. Text book of Community Medicine; Kulkarni A.P. and Baride J.P.
2. Principles of Preventive and Social Medicine; K. Mahajan
3. Textbook of Community Medicine; Sunderlal, Adarsh and Pankaj
4. Park's Textbook of Preventive and Social Medicine, Park
5. Textbook of Biostatistics; B. K. Mahajan

FURTHER READING.

1. Epidemiology and Management for health care for all P.V. Sathe and A.P. Sathe.
2. Essentials of Preventive Medicine O.P. Ghai and Piyush Gupta.

Record Book :

- 1) The case records will have to be entered in a record book separately for General Medicine, for Paediatrics and for PSM.
- 2) In the record book of General Medicine, number of case records for Medicine shall be 12, for Skin & V.D. & Leprosy shall be 3, for Psychiatry shall be 2 and for Chest & TB shall be 3 cases.
- 3) The certificate of satisfactory completion of all Clinical postings will be entered based on similar certificates from all postings in all the above subjects.
- 4) In addition, details of the marks secured in the posting ending examination shall be entered on the second page on which the calculations of the internal assessments shall also be stated. Record book will not carry any marks but its satisfactory completion will be a prerequisite for appearing in examination.

University Examinations in Community Medicine :-

Theory 2 papers of 60 marks each	= 120 marks.
Includes problems showing applied aspects of management at primary level including essential drugs, occupational (agro based) diseases, rehabilitation and social aspects of community.	
Oral (Viva)	= 10 marks
Practical /Project evaluation	= 30 marks
Internal Assessment	= 40 marks
(Theory 20 Marks, Practical 20 Marks)	
Grand Total	= 200 marks

Criteria of passing in various subjects at III MBBS Examination

Sr. No.	Subject	Theory Paper ./ Oral/ Practical / Internal Assessment		Maximum Marks in each of the subject	Minimum marks required to pass in each part of any subject		Minimum marks required to pass in each subject out of
01)	Community Medicine	a) Theory	Paper - I	60	60	65	100
			Paper - II	60			
		b) Oral		10			200
		c) Practical		30		15	
		d) Internal Assessment	Theory	20			
	Practical	20		20			

It is compulsory to obtain 50% marks in theory.

It is mandatory to obtain 50% marks in theory +viva/oral.

The Frequency & other details of Internal Assessment Examinations shall be as laid down. Passing in Internal Assessment is prerequisite for eligibility to clear the subject. For passing in Internal Assessment student should secure minimum 30 out of 60 marks (theory & practical combined)

The Internal Assessment Examination shall consist of one clinical case paired with viva-voce for the periodical tests. However, the preliminary examination shall be carried out in a pattern similar to final University examination.

University (Final) Exam: Preventive and Social Medicine

The distribution of marks at final examination

Theory: two papers of 60 marks each	120 Marks
Oral (Viva)	10 Marks
Practicals	30 Marks
Internal assessment	40 Marks
<input type="checkbox"/> (Theory 20 Marks)	
<input type="checkbox"/> (Practical 20 Marks)	

Total	200 Marks

PATTERN :

THEORY : TWO PAPERS OF 60 MARKS EACH 120 MARKS :-

- **Paper I** include Concepts in Health & Disease, Sociology / Humanities, Epidemiology, Biostatistics, Communicable and non- communicable diseases, Genetics and Environmental Health.
- **Paper II** includes Demography & Family Planning, Maternal and child health Nutrition, Occupational Health, Mental Health, Health Education, Health Planning & Management, Health Care Delivery System, National Health Programmes, International Health,
- These are broad divisions. There are some chances of overlapping.

NATURE OF THEORY QUESTION PAPERS:

Final MBBS Examination of subject-Community Medicine

Theory

- **Two papers: Paper I & Paper II** (Paper pattern for both papers is same)

Paper –I (Duration- 3hrs.)Total = 60 Mark

Paper-II (Duration- 3hrs.)Total = 60 Mark

- **Paper pattern**

Duration- 3 hrs

Total = 60 Marks

a) Sec-A

30 Marks

i) One line answer questions (Answer any 12 out of 14)

12x1=12

ii) Structural long answer question (Answer any 2out of 3)

2x9=18

b) Sec-B

30 Marks

i) Short answer question (Answer any 6 out of 8)

6x5=30

PATTERN AT PRACTICAL EXAMINATION

	Marks
Orals (Viva)	10
Practical	30

The distribution of 30 marks of practical shall be -

- 1) Spots - 10 Marks (5 spots of 2 marks each) Time 10 min.
 - 2) Exercises - 10 Marks (6 marks for Epidemiological and 4 marks for Bio statistical exercises) Time 10 min
 - 3) Clinical case - 10 Marks Time 45 min.
Presentation
-
- Total 30 Marks

It is compulsory to obtain 50% marks in theory.

It is mandatory to obtain 50% marks in theory +viva/oral.

CURRICULUM FOR OPHTHALMOLOGY

DEPARTMENT OF OPHTHALMOLOGY

These guidelines are based on MCI recommendations. Teaching has to be done keeping in mind the goal and Objectives to be achieved by medical students

(1) GOAL

The broad goal of the teaching of students in ophthalmology is to provide such knowledge and skills to the student that shall enable him/her to practice as a clinician and as a primary eye care physician and also to function effectively as a community health leader to assist in the implementation of National Programme for the prevention of blindness and rehabilitation of the visually impaired.

(2) OBJECTIVES

2.1 Knowledge : -

At the end of the course, student shall have the knowledge of –

- 2.1.1 Common problems affecting the eye,
- 2.1.2 Principles of management of major ophthalmic emergencies,
- 2.1.3 Main systemic diseases affecting the eye;
- 2.1.4 Effects of local and systemic diseases on patient's vision and the necessary action required to minimize the sequelae of such diseases;
- 2.1.5 Adverse drug reactions with special reference to ophthalmic manifestations;
- 2.1.6 Magnitude of blindness in India and its main causes;
- 2.1.7 National programme for control of blindness and its implementation at various levels.
- 2.1.8 Eye care education for prevention of eye problems 24
- 2.1.9 Role of primary health center in organization of eye camps;
- 2.1.10 Organization of primary health care and the functioning of the ophthalmic assistant;

2.1.11 Integration of the national programme for control of blindness with the other national health

2.1.12 Programmes.

2.1.13 Eye bank organization

2.2 Skills :-

At the end of the course, the student shall be able to: elicit a history pertinent to general health and ocular status;

- 2.2.1 assist in diagnostic procedures such as visual acuity testing, examination of eye, Schiötz tonometry, staining of Corneal pathology, confrontational perimetry, subjective refraction including correction of presbyopia and aphakia, direct ophthalmoscopy and conjunctival smear examination and Cover test;
- 2.2.2 diagnose and treat common problems affecting the eye;
- 2.2.3 interpret ophthalmic signs in relation to common systemic disorders,
- 2.2.4 assist/observe therapeutic procedures such as subconjunctival injection, corneal conjunctival foreign body removal, carbolic cautery for
- 2.2.5 corneal ulcers, Nasolacrimal duct syringing and tarsorrhaphy;
- 2.2.6 provide first aid in major ophthalmic emergencies;
- 2.2.7 assist to organize community surveys for visual check-up; 25
- 2.2.8 assist to organize primary eye care service through primary health centers.
- 2.2.9 use effective means of communication with the public and individual to motivate for surgery in cataract and for eye donation.
- 2.2.10 establish rapport with his seniors, colleagues and paramedical workers, so as to effectively function as a member of the eye care team.

(3) INTEGRATION

The undergraduate training in Ophthalmology will provide an integrated approach towards other disciplines

especially Neuro-sciences, ENT, General Surgery and Medicine.

(4) LEARNING METHODS

4.1 Total teaching hours: - 100

4.2 Theory lectures: -70 (6th,7th term).
Tutorials-30 (6th+7th term)

4.3 Clinical postings : Three clinical postings of total 10 weeks

4.3.1 1st in 4th semester (2 weeks)

4.3.2 2nd in 6th semester (4 weeks)

4.3.3 3rd in 7th semester (4 weeks) Clinical postings will also include bedside clinics

(5) SYLLABUS

5.1 Anatomy & Physiology of the eye, Orbit, – 3 Lectures

5.1.1 Introduction to eye

5.1.2 Anatomy of the eye

5.1.3 Physiology of the eye

5.1.4 Neurology of the eye 26

5.2 Conjunctiva- 4 lectures

5.2.1 Symptomatic conditions

(a) Hyperemia, subconjunctival haemorrhage

5.2.2 Diseases

(a) Classification of conjunctivitis

(b) Mucopurulent Conjunctivitis

(c) Trachoma

(d) Membranous Conjunctivitis, spring catarrh

(e) Degenerations: - Pinguecula and Pterygium

(f) ophthalmia neonatorum
(resolution no. BM-04-(i)-15 dated 15/5/2015)

5.3 Cornea - 5 lectures

5.3.1 Corneal ulcers: Bacterial, fungal, viral

5.3.2 Hypopyon ulcer

5.3.3 Complication of corneal ulcer

5.3.4 Management of complication of corneal ulcer

5.3.5 Fascicular ulcer

5.3.6 Interstitial keratitis

5.3.7 Herpes zoster ophthalmicus

5.3.8 Keratoconus

5.3.9 Corneal opacities

5.3.10 Keratomalacia (Vit A deficiency)

5.3.11 Pannus

5.3.12 Keratoplasty-eye donation

5.3.13 Eye banking

5.4 Sclera – 1 lecture

5.4.1 Episcleritis

5.4.2 Scleritis

5.4.3 Staphyloma

5.5 Uvea - 3 lectures

5.5.1 Classification of uveitis

5.5.2 Gen. Etiology, investigation and principle management of uveitis

5.5.3 Acute & chronic iridocyclitis

5.5.4 Panophthalmitis

5.5.5 Endophthalmitis

5.5.6 Choroiditis

5.5.7 Chorioretinitis

5.5.8 D/D of Red eye (resolution no. BM-04-(i)-15 Dated 15/5/2015)

5.6 Lens – 5 lectures

5.6.1 Cataract- Aetiological classification

5.6.2 Senile mature cataract

5.6.3 Management of cataract 1) Medical 2) Surgical

5.6.4 Anesthesia

5.6.5 Treatment of aphakia

5.6.6 IOL implant (Phacoemulsification)

5.6.7 Recent advances in cataract management

5.6.8 Role of eye camp (resolution no. BM-04-(i)-15 Dated 15/5/2015)

5.7 Glaucoma – 4 lectures

5.7.1 Aqueous Humor Dynamics

5.7.2 Factors Controlling Normal IOP

5.7.3 Tonometry, Automated perimetry

5.7.4 Provocative tests

5.7.5 Classification of Glaucoma

5.7.6 Congenital Glaucoma

5.7.7 Angle Closure Glaucoma

5.7.8 Open Angle Glaucoma

5.7.9 Secondary Glaucoma

5.7.10 Recent advances in treatment of glaucoma

5.8 Vitreous – 1 lecture

5.8.1 Vitreous Haemorrhage & Opacities

5.8.2 PVD

5.8.3 Proliferative vitreo – retinopathy

5.9 Intraocular Tumors – 2 lectures

5.9.1 Retinoblastoma

5.9.2 Malignant Melanoma

5.10 Retina – 3 lectures

5.10.1 Vascular Retinopathies: Diabetic, Hypertensive, Toxemia of pregnancy

5.10.2 Retinal Detachment – classification, aetiology & management

5.10.3 Retinitis Pigmentosa

5.11 Optic nerve – 2 lectures

5.11.1 Optic Neuritis

5.11.2 Papilloedema

5.11.3 Optic Atrophy

5.12 Optics - 5 lectures

5.12.1 Basic Optics

5.12.2 Principles: V.A. testing, Retinoscopy, Ophthalmoscopy (distant direct, direct, indirect)

5.12.3 Refractive errors – Myopia, Hypermetropia, Astigmatism

5.12.4 Accommodation & Presbyopia

5.12.5 Spectacles, Contact Lens

5.12.6 Surgical treatment of Refractive Errors
1) RK 2) PRK 3) LASIK

5.13 Orbit – 2 lectures

5.13.1 Proptosis- Aetiology, Clinical Evaluation, Investigations & Principles of Management

5.13.2 Endocrinal Exophthalmos

5.13.3 Orbital Haemorrhage

5.14 Lids – 3 lectures

5.14.1 Inflammation of various lid glands

5.14.2 Blepharitis

5.14.3 Trichiasis, Entropion

5.14.4 Ectropion

5.14.5 Symblepharon

5.14.6 Ptosis

5.15 Lacrimal System – 3 lectures

5.15.1 Epiphora

5.15.2 Dry Eye – etiology & treatment

5.15.3 Nasolacrimal Duct Obstruction

5.15.4 Dacrocystitis – Acute & Chronic

5.15.5 Lacrimal gland tumors 29

5.16 Ocular Mobility – 4 lectures

5.16.1 Extraocular muscles-Basic anatomy & actions

5.16.2 Squint: Gen. Etiology, Diagnosis and principles of management

5.16.3 Paralytic and Non Paralytic Squint

5.16.4 Heterophoria

5.16.5 Nystagmus

5.17 Miscellaneous – 3 lectures

5.17.1 Colour Blindness

5.17.2 Lasers in Ophthalmology- Principles

5.17.3 Recent advances in ophthalmology

5.18 Ocular trauma – 3 lectures

5.18.1 Blunt Trauma

5.18.2 Perforating Trauma

5.18.3 Chemical Burns

5.18.4 Sympathetic Ophthalmitis

5.19 Principles of Management of Major Ophthalmic Emergencies – 2 lectures

5.19.1 Acute Congestive Glaucoma

5.19.2 Corneal Ulcer

5.19.3 Intraocular Trauma

5.19.4 Chemical Burns

5.19.5 Sudden Loss of Vision

5.19.6 Acute Iridocyclitis

5.19.7 Secondary Glaucoma

5.19.8 Endophthalmitis

5.20 Systemic Diseases Affecting the Eye – 2 lectures

5.20.1 Tuberculosis

5.20.2 Syphilis

5.20.3 Leprosy

5.20.4 AIDS

5.20.5 Diabetes

5.20.6 Hypertension 30

5.21 Drugs – 2 lectures

5.21.1 Antibiotics

5.21.2 Steroids

5.21.3 Anti Glaucoma Drugs

- 5.21.4 Mydriatics&Cycloplegics
- 5.21.5 Viscoelastics
- 5.21.6 Fluorescein dye
- 5.21.7 Adverse reactions affecting the eye
- 5.22 Community Ophthalmology – 2 lectures**
- 5.22.1 Blindness: Definition, causes & Magnitude
- 5.22.2 N.P.C.B- Vision 2020
- 5.22.3 Preventable Blindness – causes & treatment
- 5.22.4 Role of PHCs in Eye Care
- 5.22.5 Nutritional deficiencies
- 5.22.6 Role of camp in vision 2020

(6) TUTORIALS (Total 30 Hours)

6.1 Surgical Techniques Cataract - ECCE

- ICCE
- IOL Implantation
- Phaco-emulsification.
- Pterygium
- Chalazion
- Glaucoma
- Foreign Body Removal
- Enucleation
- Keratoplasty
- Basic of squint, L 10

6.2 Instruments

- OPD
- Operative
- Basic Examination and Diagnostic instruments Tonometer, Sac Syringing, Slit Lamp.

6.3 Optics - Lenses – Spherical, Cylindrical, Prisms,

- Pinhole, Slit, Maddox Rod & Maddox wing,
- Red & Green Glasses.
- IOLs
- Ophthalmoscopy 31
- Retinoscopy
- Contact Lenses
- Colour Vision

6.4 Drugs

Miotics, Antibiotics, Antiglaucoma, Mydriatics, Steroids, Anti virals, NSAIDS, Anti Fungals Viscoelastics Pre-Op. & Post – Op.

(7) Brief Summary of theory lectures held in 6th & 7th Terms

- 7.1 Anatomy & Physiology 3

- 7.2 Optics 5
- 7.3 Conjunctiva 4
- 7.4 Cornea 5
- 7.5 Sclera 1
- 7.6 Uvea 3
- 7.7 Cataract 5
- 7.8 Glaucoma 4
- 7.9. Optic Nerve 2
- 7.10 Retina 3
- 7.11 Vitreous 1
- 7.12 Squint 4
- 7.13 Community Ophthalmology 2
- 7.14 Lids 3
- 7.15 Orbit 2
- 7.16 Lacrimal Apparatus and Dry Eye 3
- 7.17 Miscellaneous & Others 20

Total Lectures	70
Tutorials	30
	100

(8) Evaluation Methods

(Theory, Practical and Viva)

8.1 Internal assessment: 20 (Theory 10 +Practical 10)

8.1.1 Marks of Internal Assessment should be sent to University before the commencement of Theory examination.

8.1.2 Passing in internal assessment is essential for passing, as Internal assessment is separate head of passing. in examination.

8.1.3 It will also be considered for grace marks as per existing rules

8.1.4 Combined theory and practical of internal assessment will be considered for passing in internal assessment.

8.1.5 Student will be allowed to appear for both theory and practical exam independent of marks obtained in internal assessment but he if fails in that head even after including the grace marks he will be declared “Fail in that Subject”.

8.2 Internal Assessment in Theory

8.2.1 Examinations during semesters : This will be carried out by conducting theory examinations during 6th semester(50 marks). Total of 50marks to be converted into 5 marks.(A/5)

8.2.2 Prelim examination : This shall be carried out during 7th semester. One theory papers of 40 marks as per university examination. Total of 40 marks to be converted into 5 marks. (B/5) Total marks

of Internal assessment- Theory will be addition of A and B.

8.3 Internal assessment in Practical

Examinations at end of Clinical postings:

8.3.1 There will be practical examination at the end of each clinical posting of Ophthalmology, 6th and 7th semester. Each examination will be of 50 marks. Best of two- 50marks, will be converted to 5 marks.(C/5)

8.3.2 Preliminary examination: This will be conducted for 40 marks as per university pattern and marks will be converted to 5 (D/5).

Total marks of Internal of Practical will be addition of C and D.

(9) PATTERN OF FINAL EXAMINATION (Including distribution of marks, questions and time)

Pattern of theory examination including distribution of marks -

9.1 There shall be one theory paper, carrying 40 marks

9.2 The paper will have two sections, A and B

9.3 The paper will be of 2.5 hours duration.

9.4 Section A and Section B will have to be written in separate answer sheets.

9.5 Theory :40 marks Duration : Two and half hours (2 & 1/2) hours

9.5.1 Section A(22)

i) One line answer questions. Answer any 8 out of 10 (8marks)

ii) Structured Long Answer question- Answer any 2 out of 3 (2X7=14 marks)

9.5.2 Section B

9.5.3

i) Short answer question—Answer any 6 out of 8 (18 marks)

9.6 Practical: 40 marks

9.6.1 Clinical : One long case : 25 marks :30 min. for taking case and 10 minutes for assessment,
Drugs:5 marks34

9.6.2 Oral (viva voce) :10 marks:10 min. duration

1. Optics 05 marks
2. Instruments 05 marks

(10) BOOKS RECOMMENDED

10.1 Text books :

10.1.1 Parson` Diseases of Eye 22nd Edition – 2014 publisher Butterworth-Heinemann

10.1.2 elsevier publication

10.1.3 Text book of diseases of eye by Vasudev Anand Rao- ISBN -13 3rd edition 2015 Published by A.I.T.R.S publisher& distributors

10.1.4 Comprehensive Ophthalmology by A K Khurana 6th edition 2015 Jaypee publication

10.1.5 Basic Ophthalmology by Renu Jogi- 5th edition 2016 Published by Jaypee Brothers Medical Publisher (P)Ltd.

10.1.6 Essential of Ophthalmology by Samar K. Basak- 6th edition Published by jaypee brothers

10.2 Reference Books :

10.2.1 Clinical Ophthalmology Jack J Kanski, 8th edition, 2015 elsevier publication -

10.2.2 Essentials of Ophthalmology Pradeep Sharma, 3rd edition CBS Publishers

10.2.3 Manual of Ocular Diagnostic & Therapy Pavan Langston, 6th edition, 2008 wolterkluw

CURRICULUM FOR GENERAL MEDICINE

1. GOAL

To teach undergraduate MBBS students the subject of General medicine (theory and clinical) so that they develop knowledge, skills and behavioral attitudes to function effectively as the first contact physicians.

2. OBJECTIVES

The teaching shall be designed to fulfill the following objectives:-

a) Knowledge

1. At the end of the course the student shall have adequate knowledge to; diagnose common clinical conditions with special reference to infectious diseases, nutritional disorder, metabolic disorders and environmental disorders.
2. Propose diagnostic and investigative procedures and ability to interpret them;
3. Outline various modes of management including drug therapy especially doses, side effects, toxicity, indications, contraindications and interaction;
4. Provide first level management of acute emergencies promptly and efficiently and decide on the timing and level of referral if required;
5. Recognize geriatric disorders and their management.

b) Skills

At the end of the course the student should be able to;

1. Apply clinical skills of history taking, clinical examination to diagnose common medical disorders and medical emergencies;
2. Perform simple routine investigations like haemogram, stool, urine, sputum and other biological fluids;
3. To interpret simple X-Ray, ECG, CT scan and laboratory report findings;

4. Assist common bedside medical procedures like pleural tap, lumbar puncture, bone marrow
5. Institute primary care and refer the patient to a higher care center if required.

3. ATTITUDE

The student shall inculcate;

1. A sympathetic and compassionate attitude towards patient and their relatives;
2. A curiosity to learn about medical research
3. To correctly record case files, medical certificates

4. INTEGRATION

1. With community medicine and physical medicine and rehabilitation to have the knowledge and be able to manage important current National Health Programmes .
2. Also be able to view the patient in his / her total physical, social and economic milieu ;
3. 2. With other relevant academic inputs which provides scientific basis of clinical medicine e.g., Anatomy, Physiology,

5. SYLLABUS

I. GENERAL INSTRUCTION:

1. The Lectures Stated below shall cover knowledge about applied aspects of basic & allied sciences, practical approaches in the management of patients in the outdoor & indoor setting as well as their management in the community. Special emphasis shall be placed on preventive aspects, National Health Programs & dietetics & nutrition.)

2. During practical teaching & training in wards,

OPD & fields works proper emphasis should be given to common health problems in addition to other diseases. Emphasis should be given to learning of tacit knowledge & skills in diagnosis & interpretation of finding & Laboratory Data.

Department of Medicine
CS-(04)
UG LECTURES & TUTORIALS LESSION PLAN

S. N.	Code	4 th Semester Lecture
		Topic:- Introduction & Symptomatology
1	UG/4/L/IS	History of Medicine Concept & Objective of Diagnosis. <ul style="list-style-type: none"> History of medicine from Hippocrates to present day developments Diagnosis clinical, laboratory & its correlation
2	UG/4/L/IS	Medical Ethics. <ul style="list-style-type: none"> Principles of medical ethics Doctor patients relationship Communication skills End of life care Disclosure of diagnosis
3	UG/4/L/IS	History taking Differential Diagnosis. <ul style="list-style-type: none"> Detailed history taking form personal data chief complains history of presenting illness past/family history- significant of each Differential diagnosis & approach to case
4	UG/4/L/IS	Cardio-vascular system (CVS Symptomatology). <ul style="list-style-type: none"> Signs & symptoms of CVS & approach to case of CVS
5	UG/4/L/IS	Respiratory system (RS) Symptomatology. <ul style="list-style-type: none"> Signs & symptoms of respiratory system & approach to case of RS
6	UG/4/L/IS	Nervous system CNS Symptomatology. <ul style="list-style-type: none"> Signs & symptoms of NS Definition of different symptoms & approach to a NS case
7	UG/4/L/IS	Gastro intestinal tract (GIT) Symptomatology. <ul style="list-style-type: none"> Signs & symptoms of GIT diseases Approach to case of GIT diseases
8	UG/4/L/IS	Hepatobiliary Symptomatology. <ul style="list-style-type: none"> Anatomy, signs, symptoms, approach to a case of hepatobiliary disease
9	UG/4/L/IS	Patient with fever & Edema – approach <ul style="list-style-type: none"> Definition / types of fever/ approach to case of fever/PUO
10	UG/4/L/IS	Patient with Anaemia & Jaundice – Approach <ul style="list-style-type: none"> Definition of anaemia / classification /signs /symptoms /diagnosis /treatment/approach to case of anemia
11	UG/4/L/IS	<ul style="list-style-type: none"> Revision
12	UG/4/L/IS	Patient with Lymphadenopathy – Approach <ul style="list-style-type: none"> Definition/generalized lymphadenopathy/ localized lymphadenopathy differential diagnosis
13	UG/4/L/IS	Investigation -I (Non Invasive) X-Ray USG CT MRI PBS <ul style="list-style-type: none"> Importance of each investigations / technical details / indications / contra indications / recent advances
14	UG/4/L/IS	Investigation -II (Invasive) FNAC, LP, BM, LN, Liver biopsy <ul style="list-style-type: none"> Indication / contra indications / methods of each surgical procedures
15	UG/4/L/IS	Review of common Diseases in India <ul style="list-style-type: none"> Malaria/ TB / enteric fever etc short review
16	UG/4/L/IS	Approach to oedema <ul style="list-style-type: none"> Definition of edema/causes / pathophysiology/approach to case of edema
17	UG/4/L/IS	Approach to jaundice <ul style="list-style-type: none"> Definition of jaundice/clinical features / causes/ complications/ diagnosis/treatment/ approach/ differential diagnosis
18	UG/4/L/IS	<ul style="list-style-type: none"> Revision

Sr. No.	Code	5 th Semester Lectures - I
		Topic:- Infection Diseases
1	UG/5/L/ID	Staphylococcus, infections <ul style="list-style-type: none"> • Skin infections, wound infections, cannula related infections, MRSA • Staph toxic shock syndrome and management Streptococcal infections • Skin infections, scarlet fever, toxic shock syndrome, related infections, management
2	UG/5/FL/ID	Typhoid Fever- Flipped Classroom Teaching <ul style="list-style-type: none"> • Causative agents • Epidemiology • Pathogenesis • Clinical features • Complication • Investigations • Management
3	UG/5/L/ID	Gastroenteritis & Cholera <ul style="list-style-type: none"> • Causative agents • Epidemiology • Clinical features • Complications • Investigations • Prevention
4	UG/5/L/ID	Tetanus / Leptospirosis <ul style="list-style-type: none"> • Epidemiology • Pathogenesis • Clinical features • Complications • Prevention
5	UG/5/L/ID	Anthrax, brucellosis, plague. <ul style="list-style-type: none"> • Causative agents microbiology • Epidemiology • Pathogenesis • Clinical features • Complications • Treatment • Prevention
6	UG/5/FL/ID	Leprosy- Flipped Classroom Teaching <ul style="list-style-type: none"> • Types • Definition • Investigation • Complication • Management
7	UG/5/FL/ID	Syphilis <ul style="list-style-type: none"> • Causative agent • Epidemiology • Pathogenesis • Stages of syphilis • Clinical features of each stage. • Complications • Treatment • Prevention
8	UG/5/FL/ID	Malaria- Flipped Classroom Teaching <ul style="list-style-type: none"> • Causative agents • Epidemiology • Pathogenesis • Clinical features Complications. • Investigation • Management Prevention.
9	UG/5/L/ID	Amoebiasis & Amoebic Liver Abscess & Kala Azar

		<ul style="list-style-type: none"> • Causative agents microbiology • Epidemiology, Pathogenesis • Clinical features and Complications • Treatment • Prevention
10	UG/5/L/ID	<p>Filariasis /worm infestations</p> <ul style="list-style-type: none"> • Causative agents • Epidemiology • Pathogenesis • Clinical features • Complications • Investigations • Management

Sr. No.	Code	5 th Semester Lectures - I	
		Topic:- Infection Diseases	
11	UG/5/L/ID	<p>Measles, mumps, chicken pox, herpes simplex, herpes zoster.</p> <ul style="list-style-type: none"> • Causative agents • Epidemiology • Pathogenesis • Clinical features • Complications • Investigations • Management 	
12	UG/5/L/ID	<p>Dengue, Chikungunya, Yellow fever</p> <ul style="list-style-type: none"> • Causative agents • Epidemiology • Pathogenesis • Clinical features • Investigations • Complications and Management 	
13	UG/5/L/ID	<p>HIV-I</p> <ul style="list-style-type: none"> • Clinical examination, • Epidemiology and biology(Modes of transmission), • Natural history, • Classification, • Post exposure prophylaxis. • Management 	
14	UG/5/L/ID	<p>HIV-II</p> <ul style="list-style-type: none"> • Clinical examination, • Epidemiology and biology(Modes of transmission), • Natural history, • Classification, • Post exposure prophylaxis. • Management 	
15	UG/5/L/ID	<p>Polio, rabies, japanese encephalitis</p> <ul style="list-style-type: none"> • Causative agent • Epidemiology • Pathogenesis, Complication • Investigations • Management 	
16	UG/5/L/ID	<p>Rickettsial infection</p> <ul style="list-style-type: none"> • Causative agent • Epidemiology • Pathogenesis, Complication • Investigations • Management 	
17	UG/5/L/ID	<p>New emerging infections- H1N1, SARS ,Bird flu</p> <ul style="list-style-type: none"> • Clinical features • Investigations • Management • Prevention 	
18	UG/5/L/ID	<p>Antibiotic resistance</p>	

		<ul style="list-style-type: none"> • Mechanisms • Causes • Types
19	UG/5/L/ID	Fever of unknown origin <ul style="list-style-type: none"> • Clinical assessment • Etiology • Investigations
20	UG/5/L/ID	Febrile neutropenia, fever in immune compromised <ul style="list-style-type: none"> • Definition • Investigations • treatment
21	UG/5/L/ID	<ul style="list-style-type: none"> • Revision

Lecture number 2 (Typhoid Fever), 6 (Leprosy) and 8 (Malaria) in will be conducted by using Flip Classroom Method.

Sr. No.	Code	5 th Semester Lectures - II
		Topic:- Cardiovascular System (CVS)
1	UG/5/L/CVS	Introduction – (CVS) <ul style="list-style-type: none"> • clinical examination • Anatomy physiology of CVS
2	UG/5/L/CVS	CVS - Method of Evaluation - Non invasive CVS <ul style="list-style-type: none"> • ECG • 2DECHO • X ray chest • Stress test • CAG
3	UG/5/L/CVS	Arrhythmias <ul style="list-style-type: none"> • Tachyarrhythmias • Bradyarrhythmias
4	UG/5/L/CVS	Congestive Cardiac Failure, LVF <ul style="list-style-type: none"> • Clinical features • Investigation • Treatment • Complications of Treatment
5	UG/5/L/CVS	Cong Heart Diseases Aetiology, Classification CHD in Adults <ul style="list-style-type: none"> • Foetal heart circulation • Cyanotic heart disease • Acyanotic heart disease
6	UG/5/L/CVS	Rheumatic Fever <ul style="list-style-type: none"> • Clinical features • Investigations • Treatment & Prophylaxis. • Complications
7	UG/5/L/CVS	Valvular heart diseases (MS,MR,TR)- Part- I <ul style="list-style-type: none"> • Haemodynamics- clinical features • Investigation • Complications • Treatment
8	UG/5/L/CVS	Valvular heart diseases (AS,AI) - Part- II <ul style="list-style-type: none"> • Haemodynamics- clinical features • Investigation • Complications • Treatment
9	UG/5/L/CVS	Infective Endocarditis <ul style="list-style-type: none"> • Etiology • Clinical features • Investigation • Treatment • Complications
10	UG/5/L/CVS	Coronary Artery Disease <ul style="list-style-type: none"> • Definition etiology, Pathophysiology, clinical features, investigations, diagnosis & management
11	UG/5/L/CVS	Myocardial Infarction, Angina pectoris. <ul style="list-style-type: none"> • Definition, etiology, Pathophysiology, clinical features, investigations, diagnosis & management, Complications

12	UG/5/L/CVS	Cardiomyopathy <ul style="list-style-type: none"> • Definition, etiology, types, pathophysiology, clinical features, investigations, diagnosis, management
13	UG/5/L/CVS	Pericardial Disease <ul style="list-style-type: none"> • Definition, etiology, pathophysiology, clinical features, investigations, diagnosis, management, deferential diagnosis & complication
14	UG/5/L/CVS	Hypertension - I <ul style="list-style-type: none"> • Definition , JNC classification, causes, secondary causes investigation
15	UG/5/L/CVS	Hypertension - II <ul style="list-style-type: none"> • Management, treatment individual drugs with doses & contra indication, Treatment of complications, prevention of complications
16	UG/5/L/CVS	Disorders of aorta and peripheral blood vessels <ul style="list-style-type: none"> • Aortic aneurysm, aortic dissection(etiology, types, clinical features, treatment, management) • Atherosclerosis. • Acute & Chronic upper & lower limb ischaemia.
17	UG/5/L/CVS	<ul style="list-style-type: none"> • Revision

Sr. No.	Code	6 th Semester Lectures	
		Topic:- GIT / Liver	
1	UG/6/L/GIT	Diseases of oral cavity, aphthos ulcer <ul style="list-style-type: none"> • Aphthos ulcer differential diagnosis, etiology, management • Haematemesis causes & management • Malena causes & management 	
2	UG/6/L/GIT	Esophagus Anatomy & physiology of deglutition dysphasia, GERD, Achlasia cardiac Reflux oesphagitis <ul style="list-style-type: none"> • Esophagus Anatomy • Reflux oesphagitis- etiology, types management • Achlasia cardiac GERD etiology, presentation, management 	
3	UG/6/L/GIT	Heametmesis & Maleana <ul style="list-style-type: none"> • D/D • Management 	
4	UG/6/L/GIT	Disease of Stomach <ul style="list-style-type: none"> • Peptic Ulcer, Acute & Chronic Gastritis, malignancies • Peptic ulcer- types, etiology, symptoms, investigation & Management 	
5	UG/6/L/GIT	Diseases of Small Intestine <ul style="list-style-type: none"> • Anatomy Secretions, Functions , Malabsorption Syndrome 	
6	UG/6/L/GIT	Blood Supply of bowel & ischemic disease of bowel <ul style="list-style-type: none"> • Blood Supply of bowel • Etiology,clinical features and management of ischemic bowel disease 	
7	UG/6/L/GIT	IBS <ul style="list-style-type: none"> • Definition, presentation etiology & management 	
8	UG/6/L/GIT	Ulcerative Colitis Crohn's Disease; other disease of large intestine. <ul style="list-style-type: none"> • Crohn's Disease; other disease of large intestine. 	
9	UG/6/L/GIT	Tuberculosis abdomen <ul style="list-style-type: none"> • Types • Management 	
10	UG/6/L/GIT	Jaundice <ul style="list-style-type: none"> • D/D, • Bilirubin metabolism & LFT 	
11	UG/6/L/GIT	Hepatitis-Acute & Chronic Hepatitis –I <ul style="list-style-type: none"> • Etiology • Pathology • Clinical features • Complication • Management 	
12	UG/6/L/GIT	Hepatitis-Acute & Chronic Hepatitis –II <ul style="list-style-type: none"> • Etiology • Pathology • Clinical features • Complication • Management 	
13	UG/6/L/GIT	Cirrhosis of Liver – I <ul style="list-style-type: none"> • Aetiopathogenesis, clinical Features & Diagnosis 	

14	UG/6/L/GIT	Cirrhosis of Liver - II <ul style="list-style-type: none"> • Management • Complications including portal hypertension.
15	UG/6/L/GIT	Acute pancreatitis <ul style="list-style-type: none"> • Etiology • Pathology • Clinical features • Complication • Management
16	UG/6/L/GIT	Chronic pancreatitis <ul style="list-style-type: none"> • Etiology • Pathology • Clinical features • Complication • Management
17	UG/6/L/GIT	Disease of gall bladder <ul style="list-style-type: none"> • Etiology • Clinical Features • Management
18	UG/6/L/GIT	<ul style="list-style-type: none"> • Revision

Sr. No	Code	6 th Semester Lectures
		Topic:-Respiratory System
1	UG/6/L/RS	Approach to haemoptysis <ul style="list-style-type: none"> • Definition • Causes • Management
2	UG/6/L/RS	Bronchial asthma <ul style="list-style-type: none"> • Epidemiology • Etiology • Pathology • Clinical features • investigations • Management
3	UG/6/L/RS	COPD <ul style="list-style-type: none"> • Etiology • Pathology • Clinical features • investigations • Management
4	UG/6/L/RS	Tropical Eosinophilia <ul style="list-style-type: none"> • Definition • Etiology • types • Treatment
5	UG/6/L/RS	Occupational lung diseases <ul style="list-style-type: none"> • Occupational airway disease • Pneumoconiosis • Asbestosis related lung and pleural disease • Lung diseases due to organic dust • Occupational lung cancer • Occupational pneumonia
6	UG/6/L/RS	Pulmonary thromboembolism <ul style="list-style-type: none"> • clinical features • risk factors • diagnosis • management

7	UG/6/L/RS	<ul style="list-style-type: none"> • Revision
8	UG/6/L/RS	<p>Sleep disordered breathing</p> <ul style="list-style-type: none"> • etiology • clinical features • investigations • management
9	UG/6/L/RS	<p>Mediastinal syndrome</p> <ul style="list-style-type: none"> • clinical features • investigations
10	UG/6/L/RS	<p>Carcinoma lung</p> <ul style="list-style-type: none"> • risk factors • pathology • clinical features • investigations • management
11	UG/6/L/RS	<p>Pleural effusion</p> <ul style="list-style-type: none"> • Types • Causes • Clinical features • investigations • Management.
12	UG/6/L/RS	<p>Pneumothorax</p> <ul style="list-style-type: none"> • types • causes • treatment
13	UG/6/L/RS	<p>Interstitial lung diseases</p> <ul style="list-style-type: none"> • diffuse parenchymal lung disease • systemic inflammatory disease • pulmonary eosinophilia • Lung diseases due to irradiation drugs. • Rare ILD
14	UG/6/L/RS	<ul style="list-style-type: none"> • Revision

Sr. No.	Code	6 th Semester
		Tutorial
1	UG/6/T/MISC	<p>Blood Transfusion & Components Therapy</p> <ul style="list-style-type: none"> • Types, indications, contra indication, adverse effects Blood components- eg :platelets, FFPs RDP's, cryoprecipitate
2	UG/6/T/MISC	<p>Obesity</p> <ul style="list-style-type: none"> • Problems of obesity with changed life style • Various causes of obesity • Anthropometric measurements • Complication of obesity, • treatment options <p>Metabolic syndrome</p> <ul style="list-style-type: none"> • definition • management
3	UG/6/T/MISC	<p>Protein - Energy Malnutrition, anorexia nervosa</p> <ul style="list-style-type: none"> • PEM in adults • Methods to diagnose of PEM • Treatment of PEM Vitamin Deficiency States Beri - Beri, Pellagra, Scurvy, Vitamin A Deficiency, Thiamine Deficiency • Vitamin deficiency in adults • Signs , syptoms & treatment
4	UG/6/T/MISC	<p>Acid base imbalance</p> <ul style="list-style-type: none"> • Metabolic acidosis & alkalosis. • Respiratory acidosis & alkosis. • Mixed acid base disorders.

		<ul style="list-style-type: none"> Anionic gap disorders.
5	UG/6/T/MISC	<p>Hyponatremia & hypernatremia</p> <ul style="list-style-type: none"> Definition Approach Types Management
6	UG/6/T/MISC	<p>Hypokalemia & hyperkalemia</p> <ul style="list-style-type: none"> Approach Causes ECG changes Management
7	UG/6/T/MISC	<p>Hypertensive emergencies</p> <ul style="list-style-type: none"> Etiology Types Investigation Management
8	UG/6/T/MISC	<p>Approach to dyspnoea</p> <ul style="list-style-type: none"> d/d acute dyspnoea chronic dyspnoea
9	UG/6/T/MISC	<p>Approach to polyarthritis</p> <ul style="list-style-type: none"> causes clinical features investigations management
10	UG/6/T/MISC	<ul style="list-style-type: none"> Revision
11	UG/6/T/MISC	<p>Fever with Rash</p> <ul style="list-style-type: none"> macular maculopapular vesicular, purpurial, petechial. erythema multiforme erythema nodosum diffuse erythema migrating erythema
12	UG/6/T/MISC	<p>Pulmonary function tests.</p> <ul style="list-style-type: none"> Methods Measurements Lung volumes Transfer factor Arterial blood gas analysis Exercise test
13	UG/6/T/MISC	<p>Complementary medicine</p> <ul style="list-style-type: none"> Safety Regulation Integrated health care
14	UG/6/T/MISC	<p>Acute severe asthma</p> <ul style="list-style-type: none"> Clinical features Investigations Management
15	UG/6/T/MISC	<ul style="list-style-type: none"> Revision

Sr. No.	Code	7 th - Semester Lectures
		Topic :- Hematology & Rheumatology
1	UG/7/L/RHEUM	<p>Approach & Investigations to a Patients with Joint Disease</p> <ul style="list-style-type: none"> Clinical approach Physical examination, investigations, management
2	UG/7/L/RHEUM	<p>Rheumatoid Arthritis</p> <ul style="list-style-type: none"> Etiology, Genetic background, Pathogenesis, criteria for diagnosis, radiological features, clinical features,

		<p>extra articular manifestation,</p> <ul style="list-style-type: none"> • Investigations & management DMARD's, newer drugs
3	UG/7/L/RHEUM	<p>Seronegative Spondyloarthropathies</p> <ul style="list-style-type: none"> • Classification • Types • Investigations • Clinical approach • Management
4	UG/7/L/RHEUM	<p>Collagen vascular diseases – I</p> <ul style="list-style-type: none"> • SLE • Systemic sclerosis • MCTD • Sjogrens syndrome • Polymyositis, • Dermatomyositis, inclusion body myositis.
5	UG/7/L/RHEUM	<p>Collagen vascular diseases – II</p> <ul style="list-style-type: none"> • Takayasu disease • Kawasaki disease • Polyarteritis nodosa • Giant cell arteritis • ANCA associated vasculitis • Churg strauss syndrome, henoch schonlein purpura • Cryoglobulinemic vasculitis, behchets and relapsing polychondritis
6	UG/7/L/RHEUM	<p>Gout & Pseudogout</p> <ul style="list-style-type: none"> • Etiology • Clinical features • Treatment <p>Osteoarthritis</p> <ul style="list-style-type: none"> • Etiology • Clinical features • Treatment
7	UG/7/L/HEM	<p>Classification of Anemia & Approach to Investigation</p> <ul style="list-style-type: none"> • Types of anemia physiology clinical approach
8	UG/7/L/HEM	<p>Iron Deficiency Anemia & Hypochromic Microcytic Anaemia</p> <ul style="list-style-type: none"> • Causes of IDA • Clinical features • Lab diagnosis • Treatment of IDA • Parenteral & oral preparation
9	UG/7/L/HEM	<p>Megaloblastic Anaemia</p> <ul style="list-style-type: none"> • Classification & causes of megaloblastic anaemia lab diagnosis bone marrow findings, pernicious anaemia management
10	UG/7/L/HEM	<p>Haemolytic Anaemia</p> <ul style="list-style-type: none"> • Classification of hemolytic anaemia • G6PD deficiency hereditary spherocytes • Sicklecell syndrome- clinical features, complications management
11	UG/7/L/HEM	<p>Haemoglobinopathies</p> <ul style="list-style-type: none"> • Thalasemia alfa & beta clinical features & management • PNH hereditary & acquired
12	UG/7/L/HEM	<p>Acute Leukemia's</p> <ul style="list-style-type: none"> • ALL- FAB classification physical examination • Clinical features- complications prognosis index • Management of ALL & ANL
13	UG/7/L/HEM	<p>Chronic Leukemia's</p> <ul style="list-style-type: none"> • CML genetics- diagnosis, clinical features • Prognosis management • Recent advances
14	UG/7/L/HEM	<p>Lymphomas-Hodgkins & Non Hodgkin's Disease</p> <ul style="list-style-type: none"> • Classification- pathology, clinical approach bone marrow finding • Investigation & management
15	UG/7/L/HEM	<p>Bleeding Disorders</p> <ul style="list-style-type: none"> • Physiology of coagulation • Clinical approach

		<ul style="list-style-type: none"> • Lab investigations • Diagnosis • Complications, DIC, management • Blood component therapy
16	UG/7/L/HEM	Coagulation disorders <ul style="list-style-type: none"> • Physiology of coagulation • Clinical approach • Lab investigation • Diagnosis
17	UG/7/L/HEM	Myeloproliferative & myelodysplastic syndromes <ul style="list-style-type: none"> • Classification • Management
18	UG/7/L/HEM	<ul style="list-style-type: none"> • Revision

Sr. No.	Code	7 th - Semester Lectures
		Topic :- Nervous System
1	UG/7/L/NS	Introduction, applied Anatomy & Physiology of Brain & Spinal Cord <ul style="list-style-type: none"> • Basic Anatomy & Physiology. • Localising lesions
2	UG/7/L/NS	History taking in Neurology & Investigation <ul style="list-style-type: none"> • How to take CNS History • Neuroimaging CSF & other Investigations • Neurophysiological testing
3	UG/7/L/NS	Coma, Causes & Investigations <ul style="list-style-type: none"> • Definition • History taken and examination in a patient with coma • Diagnosis and Management
4	UG/7/L/NS	CVA -1 <ul style="list-style-type: none"> • Blood supply to brain • Circle of Wills • Clinical presentation
5	UG/7/L/NS	CVA-2 <ul style="list-style-type: none"> • Concepts Types & Differential predisposing factors Diagnosis & Management • Types of cerebrovascular disorders • Risk factors • Diagnosis
6	UG/7/L/NS	Space Occupying Lesions, Brain abscess & tumor <ul style="list-style-type: none"> • Etiology • Clinical features • Investigation & Management
7	UG/7/L/NS	Encephalitis <ul style="list-style-type: none"> • Etiology of encephalitis • Clinical features • Investigation • Management
8	UG/7/L/NS	Meningitis <ul style="list-style-type: none"> • Etiology of meningitis • Clinical features • Management
9	UG/7/L/NS	Epilepsy <ul style="list-style-type: none"> • Classifications • Different types • Investigations • Management
10	UG/7/L/NS	Parkinsonism <ul style="list-style-type: none"> • Etiology • Clinical features • Management
11	UG/7/L/NS	Cerebellar Syndrome

		<ul style="list-style-type: none"> • Etiology • Clinical features • Management
12	UG/7/L/NS	Demylinating Disorders, Multiple Sclerosis, Heridofamilial disorders & Motor Neuron Disease <ul style="list-style-type: none"> • Causes of demylination disorders • Common Heridofamilial disorders • Etiology, clinical features and management of Multiple Sclerosis & Motor Neuron Disease
13	UG/7/L/NS	Extrapyramidal disorders <ul style="list-style-type: none"> • Types • Clinical features Movement disorders <ul style="list-style-type: none"> • Different types of Involuntary Movements • Etiology, management
14	UG/7/L/NS	Toxic & Nutritional disorders of CNS <ul style="list-style-type: none"> • Etiology • Clinical features • Management
15	UG/7/L/NS	Spinal Cord Disorders & Paraplegia & Quadriplegia <ul style="list-style-type: none"> • Compressive myelopathy-etiology ,Clinical features& Management
16	UG/7/L/NS	Peripheral Neuropathy <ul style="list-style-type: none"> • Etiology of peripheral Neuropathy • Clinical features • Investigation & Management GB Syndrome <ul style="list-style-type: none"> • Etiology clinical features & management
17	UG/7/L/NS	Muscle Disorders in Brief <ul style="list-style-type: none"> • Types of myopathies including congenital, Metabolic inflammatory & other • Clinical features& Management Myasthenia Gravis <ul style="list-style-type: none"> • Etiology ,clinical features& management
18	UG/7/L/NS	<ul style="list-style-type: none"> • Revision

Sr. No.	Code	8 th Semester Lectures - I
		Topic:- Nephrology / General
1	UG/8/L/GEN	Genetic Disorders – introduction, common genetic disorders & prevention <ul style="list-style-type: none"> • Importance of genetics • Structure of chromosome & gene • Identification of genetic disease • Methods to prevention.
2	UG/8/L/IMM	Immunology, anatomy, & physiology of immune system. Stem cells in clinical Medicine. <ul style="list-style-type: none"> • Innate immunity • Adaptive • Use of Stem cells in clinical Medicine
3	UG/8/L/IMM	Immune deficiency, SIRS <ul style="list-style-type: none"> • Presenting problems

		<ul style="list-style-type: none"> • Recurrent infections • Primary phagocyte deficiency • Complement pathway deficiency • Primary deficiencies of adaptive immune system • Secondary immune deficiency.
4	UG/8/L/IMM	<p>Cancer & chemotherapy</p> <ul style="list-style-type: none"> • Hallmarks • Environmental and genetic determinants • Investigations • Presenting problems • Complications of cancer • Therapeutics in oncology
5	UG/8/L/GEN	<p>Human genome & Genetic Engineering and Gene Therapy</p> <ul style="list-style-type: none"> • Human genome project • Lab methods utilized in genetics • Concept of genetic engineering • Present & future of genetic engineering • Gene Therapy
6	UG/8/L/NUT	<p>Protein - Energy Malnutrition, anorexia nervosa</p> <ul style="list-style-type: none"> • PEM in adults • Methods to diagnose of PEM • Treatment of PEM
7	UG/8/L/NUT	<p>Vitamin Deficiency States Beri - Beri, Pellagra, Scurvy, Vitamin A Deficiency, Thiamine Deficiency</p> <ul style="list-style-type: none"> • Vitamin deficiency in adults • Common vit deficiencies in adults • Signs , syptoms & treatment
8	UG/8/L/NUT	<p>Obesity</p> <ul style="list-style-type: none"> • Problems of obesity with changed life style • Various causes of obesity • Anthropometric measurements • Complication of obesity • Treatment options
9	UG/8/L/NUT	<p>Balanced Diet & Diet in Various Disorders</p> <ul style="list-style-type: none"> • Concept of balanced diet • Diets recommended in various medical disorders
10	UG/8/L/NUT	<p>Fluid & electrolyte disorders</p> <ul style="list-style-type: none"> • Water & electrolyte distribution • Investigation of water & electrolyte disorders • Disorders of sodium balance • Disorders of water balance • Disorders of potassium balance
11	UG/8/L/NEP	<p>Applied Anatomy, Physiology of Urinary System and Renal function Tests</p> <ul style="list-style-type: none"> • In brief anatomy & physiology of renal system • Laboratory investigation • Radiological investigations in renal system
12	UG/8/L/NEP	<p>Proteinuria, Haematuria, Renal Colic : Approach</p> <ul style="list-style-type: none"> • Proteinuria- etiology, investigation, management • Hematuria- etiology, investigation, management
13	UG/8/L/NEP	<p>Acute Glomerulonephritis</p> <ul style="list-style-type: none"> • Etiology, • Pathogenesis • Investigation • Management
14	UG/8/L/NEP	<p>Nephrotic Syndrome</p> <ul style="list-style-type: none"> • Clinical features, • Differential diagnosis • Management
15	UG/8/L/NEP	<p>Acute kidney injury</p> <ul style="list-style-type: none"> • Causes

		<ul style="list-style-type: none"> • Complication • Treatment of renal failure
16	UG/8/L/NEP	Chronic kidney disease <ul style="list-style-type: none"> • Clinical presentation • Complication of CRF • Treatment & prevention
17	UG/8/L/NEP	Dialysis & Renal Transplant <ul style="list-style-type: none"> • Hemodialysis • Peritoneal dialysis • Renal transplantation
18	UG/8/L/NEP	Infections of the Urinary System <ul style="list-style-type: none"> • Upper & lower UTI • Evaluation • Treatment
19	UG/8/L/NEP	Tubulo interstitial diseases <ul style="list-style-type: none"> • Etiology • Clinical features • Management
20	UG/8/L/NEP	<ul style="list-style-type: none"> • Revision

Sr. No.	Code	8 th Semester Lectures - II
		Topic:- Endocrinology
1	UG/8/L/ENDO	Approach to patient with Endocrine Disorders <ul style="list-style-type: none"> • Anatomy of various glands • physiology of glands • Action of Hormones • Common symptoms
2	UG/8/L/ENDO	Applied Anatomy of Pituitary and Disorders of Pituitary – I <ul style="list-style-type: none"> • Anatomy of pituitary gland • Physiology of hormones secreted by anterior pituitary gland • Prolactinoma • Microadenoma • Macroadenoma • Acromegaly
3	UG/8/L/ENDO	Applied Anatomy of Pituitary and Disorders of Pituitary – II <ul style="list-style-type: none"> • Anatomy • Physiology of posterior pituitary gland • SIADH • Diabetes insipidus • Treatment
4	UG/8/L/ENDO	Thyroid Disorders – I <ul style="list-style-type: none"> • Anatomy of thyroid gland • Physiology of thyroid gland with common signs and symptoms of hypothyroidism, lab diagnosis • Treatment of hypothyroidism • Autoimmune thyroiditis
5	UG/8/L/ENDO	Thyroid Disorders – II <ul style="list-style-type: none"> • Hyperthyroidism & thyroid malignancies & treatment • Subclinical hypothyroidism and hyperthyroidism
6	UG/8/L/ENDO	Disorders of Adrenal gland – I <ul style="list-style-type: none"> • Adrenal gland anatomy • Physiology & action of adrenal gland hormones • Cushing disease • Treatment
7	UG/8/L/ENDO	Disorders of Adrenal gland – II <ul style="list-style-type: none"> • Addison's disease • Pheochromocytoma • Treatment • Adrenal crisis
8	UG/8/L/ENDO	<ul style="list-style-type: none"> • Revision
9	UG/8/L/ENDO	Vitamin D Metabolism Parathyroid Disorders with calcium metabolism-I <ul style="list-style-type: none"> • Vit D metabolism • Hyperparathyroidism

		<ul style="list-style-type: none"> • Hypoparathyroidism • Osteoporosis
10	UG/8/L/ENDO	Vitamin D Metabolism Parathyroid Disorders with calcium metabolism –II <ul style="list-style-type: none"> • Hypercalcemia • Hypocalcaemia • Familial hypocalciuric hypercalcemia
11	UG/8/L/ENDO	Osteomalacia, Osteopetrosis & Rickets <ul style="list-style-type: none"> • Causes , Clinical Features & treatment osteomalacia, rickets • Causes, types, Pathophysiology, osteoporosis & Treatment
12	UG/8/L/ENDO	FSH, Estrogen, Progesterone & their Disorders <ul style="list-style-type: none"> • Physiology of FSH, Estrogen, Progesterone secretion • Disorders due to hypo and hyper secretion of FSH, Estrogen, Progesterone
13	UG/8/L/ENDO	Gynaecomastia,Hirsutism <ul style="list-style-type: none"> • Causes • Factors associated • Management Turner's syndrome,klinefelters syndrome. <ul style="list-style-type: none"> • Genetics • Features.
14	UG/8/L/ENDO	Testicular disorders & male hypogonadism <ul style="list-style-type: none"> • Clinical features • Investigations • Infertility • Androgen replacement therapy and management
15	UG/8/L/ENDO	Neuroendocrine tumours and MEN <ul style="list-style-type: none"> • Multiple endocrine neoplasia type1(werners syndrome) and type 2(sipples syndrome) • Autoimmune polyendocrine syndromes.
16	UG/8/L/ENDO	Diabetics Mellitus-I <ul style="list-style-type: none"> • Etiology, theories • Genetic in heritage • Management of type- I D M • DKA
17	UG/8/L/ENDO	Diabetics Mellitus-II <ul style="list-style-type: none"> • Insulin resistance, syndrome x • OHA / insulin • Complications
18	UG/8/L/ENDO	<ul style="list-style-type: none"> • Revision

Sr. No.	Code	8 th Semester
		Topic:- Tutorial & Seminar Programme
1	UG/8/T&S/MISC	Poisoning –I <ul style="list-style-type: none"> • Different types of poisoning • Classification of Poisonous agents
2	UG/8/T&S/MISC	Poisoning -II <ul style="list-style-type: none"> • First Aid measures • Decontamination removal of poisons • Organophosphorus poisons, opium, alcohol, etc
3	UG/8/T&S/MISC	Animal bites <ul style="list-style-type: none"> • Classification of poisons snakes • Clinical features • Management • Complications • Scorpion bite clinical features, management.
4	UG/8/T&S/MISC	ECG – I <ul style="list-style-type: none"> • Simplest, cheapest, easily available, noninvasive, investigation, physiology of myocardial contraction, action potential, conducting system of heart, lead systems, intervals, rhythm & heart rate
5	UG/8/T&S/MISC	ECG – II <ul style="list-style-type: none"> • Acute coronary syndrome • Stable CAD, TMT
6	UG/8/T&S/MISC	ECG – III <ul style="list-style-type: none"> • Arrhythmias • AV blocks • AF, SVT etc
7	UG/8/T&S/MISC	X-Ray Chest

		<ul style="list-style-type: none"> • Normal chest x ray PA view , AP view, lateral view, decubitus view Pneumonia • Lung abscess • Pleural effusion • Cavitary lesion
8	UG/8/T&S/MISC	Other X-Rays & imaging procedures – USG <ul style="list-style-type: none"> • CT Scan • MRI
9	UG/8/T&S/MISC	Pleural Tap ICD, Pleural Fluid & PFT <ul style="list-style-type: none"> • Indications • Procedures & precautions • Complications • PFT- obstructive and restrictive lung disease
10	UG/8/T&S/MISC	<ul style="list-style-type: none"> • Revision
11	UG/8/T&S/MISC	Liver biopsy, LFT, Jaundice evaluation & Ascitic fluid Interpretation, anaphylaxis <ul style="list-style-type: none"> • Indications • Procedures • Contraindications • LFT- Different tests, • Ascitic fluid tapping- Indications & Procedure
12	UG/8/T&S/MISC	Haematology reports - analysis, Bone marrow report <ul style="list-style-type: none"> • Types of anemia • Acute lymphoblastic leukemia • Acute myloblastic leukemia • Chronic myeloid leukemia • Chronic lymphocitic leukemia • Multiple myeloma
13	UG/8/T&S/MISC	Shock <ul style="list-style-type: none"> • Definitions • Types of shock • Etiology • Management
14	UG/8/T&S/MISC	IV Fluids, ABG CVP <ul style="list-style-type: none"> • Types of IV fluids and indications • ABG- metabolic/ respiratory, acidosis, metabolic/ respiratory alkalosis • CVP- indication, procedures, contra indication
15	UG/8/T&S/MISC	CSF - Anatomy & Physiology, interpretation <ul style="list-style-type: none"> • Indication & contra indications of LP • Meningitis's Pyogenic, TB, Viral & SAH
16	UG/8/T&S/MISC	Uranalysis, RFT, Kidney biopsy <ul style="list-style-type: none"> • Albuninurea, glycosuria • Pus cells, RBC, culture • Kidney biopsy
17	UG/8/T&S/MISC	Electrical injury hyperpyrexia, heat exhaustion & hyperthermia <ul style="list-style-type: none"> • Temperatures regulation • Hyperthermia • Heart stroke- heat exhaustion • Electrical injury
18	UG/8/T&S/MISC	<ul style="list-style-type: none"> • Revision

Sr. No.	Code	9 th Semester
		Seminars
1	UG/9/S/ID	Malaria & Kalazar <ul style="list-style-type: none"> • Life cycle of malaria parasite & leishmaniasis • Clinical features of vivax, falcifarum malaria, kalazar • Complication of falcifarum malaria, & kalazar • Management of malaria & kalazar
2	UG/9/S/ID	HIV – I <ul style="list-style-type: none"> • Biology of HIV virus, Prevalance of HIV, acute HIV syndrome • Early & late magnification of HIV disease • Diagnosis of HIV & follow up
3	UG/9/S/ID	HIV – II <ul style="list-style-type: none"> • Opportunistic infections in HIV • Malignancy in HIV • Antiretroviral drugs, treatment strategy • Postexposure prophylaxis
4	UG/9/S/ID	Dengue, Chikungunya <ul style="list-style-type: none"> • Causative agents • Epidemiology • Pathogenesis • Clinical features • Complications • Investigations • Management
5	UG/9/S/ID	Leptospirosis ,plague <ul style="list-style-type: none"> • Causative agents • Epidemiology • Pathogenesis • Clinical features • Complications • Investigations • Management
6	UG/9/S/ID	Extrapulmonary tuberculosis <ul style="list-style-type: none"> • Clinical presentations • Investigations • Management
7	UG/9/T/MISC	PUO <ul style="list-style-type: none"> • Definition • Classification • Cause of PUO • Investigation
8	UG/9/T/MISC	Diabetes Mellitus – I <ul style="list-style-type: none"> • Etiology, theories • Genetic inheritance • Management of type I DM • Diabetic ketoacidosis
9	UG/9/T/MISC	Diabetes Mellitus – II <ul style="list-style-type: none"> • Insulin resistance, syndrome x • OHA/ insulin • Complications
10	UG/9/T/MISC	Acute coronary syndromes <ul style="list-style-type: none"> • Clinical features • Investigations • Management
11	UG/9/T/MISC	Respiratory Failure <ul style="list-style-type: none"> • Definition • Types of respiratory failure • Causes of respiratory failure • Management
12	UG/9/T/MISC	Valvular Heart Disease –I <ul style="list-style-type: none"> • Etiology of valvular heart disease • Clinical features of MS MR Investigations • Complications

13	UG/9/T/MISC	<p>Valvular Heart Disease II</p> <ul style="list-style-type: none"> • Etiology of valvular heart disease • Clinical features of AS AR TR • Investigations • Complications
14	UG/9/T/MISC	<p>CCF</p> <ul style="list-style-type: none"> • Definition of CCF • Type of failure • Clinical features • Management of CCF
15	UG/9/T/MISC	<p>Hypertension</p> <ul style="list-style-type: none"> • Definition , • JNC classification, • causes, • secondary causes • investigation • Management
16	UG/9/T/MISC	<ul style="list-style-type: none"> • Revision

Sr. No.	Code	9 th – Semester Lecture Programme
		Topic:- Ethics / Geriatrics Medicine, Life Support Ventilation
1	UG/9/L/MISC	<p>Sudden death, issues in organ transplant</p> <ul style="list-style-type: none"> • Sudden death; causes cardiac/noncardiac, use of defibrillators • Organ transplant; bioethical issues, types of transplant
2	UG/9/L/EGM	<p>Ethics in Medicine</p> <ul style="list-style-type: none"> • Consent • Medical negligence • Medical- consumer protection act • Ethics in medicine; definition, values in ethics, consent, confidentiality, medical research
3	UG/9/L/MISC	<p>Medico legal aspects, consumer protection act, medical insurance</p> <ul style="list-style-type: none"> • consumer protection act, medical insurance
4	UG/9/L/MISC	<p>Medical documentation, Death certificate & other certifications</p> <ul style="list-style-type: none"> • Doctors records. Electronic database • Death certificate; nature & medical importance
5	UG/9/L/EGM	<p>Geriatrics Medicine 1</p> <ul style="list-style-type: none"> • Introduction to Geriatric Medicine • Changing population structure • Changes in body due to aging • Assessment of Geriatric patient
6	UG/9/L/EGM	<p>Geriatrics Medicine 2</p> <ul style="list-style-type: none"> • Uncommon presentation of illness in geriatric age • Common Geriatric disorders • Causes of falls in elderly • Dementia, delirium, osteoporosis, osteomalacia • Incontinence of urine in elderly
7	UG/9/L/MISC	<p>Palliative care</p> <ul style="list-style-type: none"> • Concept of palliative care • Assessment of Pain & visual analogue scale • Psychological aspects of terminally ill • Management of Common Problems.
8	UG/9/L/MISC	<p>Alcohol related disorders</p> <ul style="list-style-type: none"> • Alcohol; signs & symptoms, medical problems , social problems, genetic factors, prevention & management
9	UG/9/L/MISC	<p>Jaundice</p> <ul style="list-style-type: none"> • Types of jaundice • Bilirubin metabolism • Investigations in a case of jaundice dice
10	UG/9/L/MISC	<p>Portal hypertension</p> <ul style="list-style-type: none"> • Defination • Causes & classification • Clinical features

		<ul style="list-style-type: none"> • Management
11	UG/9/L/MISC	<p>Upper GI Bleed</p> <ul style="list-style-type: none"> • Etiology, approach to diagnosis • General management • Management with special reference to peptic ulcer & variceal bleed
12	UG/9/L/MISC	<p>Biosafety precautions</p> <ul style="list-style-type: none"> • importance of biosafety precautions • Methods • Post exposure prophylaxis
13	UG/9/L/MISC	<p>Principles of Critical care Basic & advance life support</p> <ul style="list-style-type: none"> • Principals of Critical care • BLS; emergency medical services , training in basic CPR & ABC of life support • ALS; out of hospital/ in hospital; components ALS algorithms
14	UG/9/L/MISC	<p>Mechanical ventilation</p> <ul style="list-style-type: none"> • Indication types / modes / monitoring • Types of Ventilators • Weaning from ventilator
15	UG/9/L/MISC	<p>Fluid & electrolyte balance</p> <ul style="list-style-type: none"> • Hyponatramia & hypernatramia • Hypokalamia & hyperkalamia • SIADH
16	UG/9/L/MISC	<p>Dialysis (Peritoneal Hemodialysis)</p> <ul style="list-style-type: none"> • Indications • Methods • Complications
17	UG/9/L/MISC	<p>High Altitude medicine</p> <ul style="list-style-type: none"> • Problems Related to High Altitude Approach & Management.
18	UG/9/L/MISC	<ul style="list-style-type: none"> • Revision

Sr. No.	Code	9 th – Semester
		Lecture Cum Demonstration
1	UG/9/LD/MISC	<p>Alcohol related diseases</p> <ul style="list-style-type: none"> • Acute intoxication, alcohol abuse, misuse, dependence • Alcohol withdrawal • Medical consequences (neurological, hepatic, gastrointestinal, respiratory, cardiac etc) • Psychiatry and cerebral consequences
2	UG/9/LD/MISC	<p>Approach to anaphylaxis</p> <ul style="list-style-type: none"> • Clinical assesment • Causes • Differential diagnosis • Investigations • Management • Prescription of self injectable adrenaline
3	UG/9/LD/MISC	<p>Status epilepticus</p> <ul style="list-style-type: none"> • Definition • Diagnosis • Management • Investigations
4	UG/9/LD/MISC	<p>Vertigo ,dizziness, giddiness</p> <ul style="list-style-type: none"> • Definitions • Causes • History, examination. • BPPV, acute prolonged vertigo • Treatment
5	UG/9/LD/MISC	<p>Approach to headache</p> <ul style="list-style-type: none"> • General principles • Anatomy and physiology of headache • Clinical evaluation • Types • Causes • Management
6	UG/9/LD/MISC	<p>Approach to diarrhea</p> <ul style="list-style-type: none"> • Definition • Acute diarrhea- causes, pathological organisms, investigations, management

		<ul style="list-style-type: none"> • Chronic diarrhea- causes, pathological organisms, investigations, management • Clinical evaluation • Management
7	UG/9/LD/MISC	<p>Approach to chest pain</p> <ul style="list-style-type: none"> • Clinical evaluation • Causes (cardiac, respiratory, gastrointestinal, musculoskeletal etc) • Investigations • Management
8	UG/9/LD/MISC	<p>Disaster management –I</p> <ul style="list-style-type: none"> • Types (natural, environmental, complex, pandemic) • Disaster prevention • Disaster preparedness
9	UG/9/LD/MISC	<p>Disaster management-II</p> <ul style="list-style-type: none"> • Disaster relief. • Disaster recovery. • Use of resources • Triage
10	UG/9/LD/MISC	<p>Approach to dementia</p> <ul style="list-style-type: none"> • Etiology (vascular, degenerative, neoplastic, inflammatory, traumatic, toxic, inflammatory) • Clinical features • Investigations • Management • Alzheimers disease, lewy body dementia
11	UG/9/LD/MISC	<p>Sudden death syndromes</p> <ul style="list-style-type: none"> • causes cardiac/noncardiac • Prevention , early detection
12	UG/9/LD/MISC	<p>Medical diseases in pregnancy</p> <ul style="list-style-type: none"> • Hypertension • Diabetes mellitus in pregnancy • Pre eclampsia • Hyperthyroidism in pregnancy • Deep vein thrombosis.
13	UG/9/LD/MISC	<p>Travel medicine</p> <ul style="list-style-type: none"> • International travel and health • Disease information • Vaccines • Travel health risks • General precautions
14	UG/9/LD/MISC	<p>Adult immunization</p> <ul style="list-style-type: none"> • Mumps measles and rubella • Pneumococcal vaccines • Influenza • Tetanus and others. • Recent advances and newer vaccines.
15	UG/9/LD/MISC	<p>Skin manifestation in systemic diseases</p> <ul style="list-style-type: none"> • Various skin manifestations in infections and malignancies. • Skin problems in general medicine (vasculitis, tuberous sclerosis, neurofibromatosis etc) • Skin problems associated with (CVS,RS,CNS, Hepatic & GIT Diseases)
16	UG/9/LD/MISC	<p>Paraneoplastic syndromes</p> <ul style="list-style-type: none"> • Peripheral; neuropathy • Encephalomyelitis • Cerebellar degeneration • Lambert eaton syndrome
17	UG/9/LD/MISC	<p>Brain death</p> <ul style="list-style-type: none"> • Criteria for brain death • Tests for confirming brain death • Clinical evaluation
18	UG/9/LD/MISC	<p>Concept of Nano Medicine</p> <ul style="list-style-type: none"> • Introduction to nano technology • Use of nano technology in medicine
19	UG/9/LD/MISC	<ul style="list-style-type: none"> • Revision

Abbreviation for subject codes

CS04 Clinical Subject 04 (code for Medicine) ,UG-Under Graduate, LD-Lecture Demo, FL- Flip Lecture, T-Tutorial, TSP-Tutorial & Seminar Program, S-Seminars, LCD-Lecture Cum Demonstration ID-Infection Diseases, CVS-Cardiovascular System, GL- GIT / Liver, RS-Respiratory System, HR-Hematology & Rheumatology, NS-Nervous System, NG- Nephrology / General, Endo-Endocrinology, EGM-Ethics / Geriatrics Medicine, LSV-Life Support & Ventilation.

Training & Examination Schedule for 3rd to 9th term of Under Graduate students posted in Medicine Department

Term	Training Schedule	Examination Schedule
3 rd Term	History taking & General Examination.	History taking & General Examination.
4 th Term	All above mentioned in 3 rd Term + Examination of Cardio-Vascular System. Respiratory System & Abdominal System.	History taking + General Examination + Examination of Respiratory System, Abdominal System and Cardio-Vascular System.
5 th Term	All above mentioned in 4 th Term + Examination of Central Nervous System.	No Examination.
6 th Term	All Systems	History taking & Examination of all systems
7 th Term	All Systems	History taking & Examination of all systems+ Exercises in Problem Based Learning.
8 th Term	All Systems	History taking & Examination of all systems + Table Viva (ECG/X- ray/Drugs/Instruments).
9 th Term (Prelims)	All Systems	History taking & Examination of all systems+ Table Viva (ECG/X-ray/Drugs/Instruments).

- 75% attendance is mandatory for eligibility to appear in term and examination.
- Journals should be completed and duly signed by head of the unit before appearing for term end examination. **10% Marks Allotted to Journal for Each Term End Practical Exam.**

Methods of Internal Assessment: Theory, Practical & Viva (Medicine) Internal Assessment

CLINICAL

Term	Subject	Marks
III	Medicine	60 marks
IV	Medicine	60 marks
VI	Medicine	60 marks
VII	Medicine	60 marks
VII	Skin	20 marks
VIII	Medicine	60 marks
VIII	Psychiatry	20 marks
VIII	TB & Chest	20 marks
	Total	240 marks
		240/16 = 15 marks
IX	Preliminary Examination	120 marks
		120/8 = 15 marks
	Total Marks	15+15 = 30 marks

- Best 3 to be counted for internal assessment except prelim marks for medicine.
- **THEORY**

Term	Marks
VI	60 marks
VIII	60 marks
Total	120 / 8 = 15
IX Prelims	120 / 8 = 15
Total Marks	15 + 15 = 30

THEORY PAPERS:

Paper I: Contents: This paper shall have questions from Cardiovascular System, Respiratory System, including TB, Infectious & Tropical Diseases, Haematology, Nephrology, and Fluid & Electrolyte disorders.

Paper II: Contents: Nervous System, GIT, Hepatology, Pancreatic Disorders, Endocrine, Metabolic & Nutritional Disorders, Connective Tissue & Musculoskeletal Disorders, Poisoning & Environmental Diseases, Geriatrics, Skin & Psychiatry Disorders.

- Prelim exam pattern is same as university examination pattern.

University Examination (Medicine)

- Each paper shall have two sections.

(a) Medicine:

Theory- Two papers of 60 marks each-

120 marks

- **Paper I** - General Medicine (Cardiovascular System, Respiratory System, including TB, Infectious & Tropical Diseases, Haematology, Nephrology, and Fluid & Electrolyte disorders.)
- **Paper II**- General Medicine (Nervous System, GIT, Hepatology, Pancreatic Disorders, Endocrine, Metabolic & Nutritional Disorders, Connective Tissue & Musculoskeletal Disorders, Poisoning & Environmental Diseases, Geriatrics, Skin & Psychiatry Disorders including Psychiatry, Dermatology and S.T.D.)

(Shall contain one question on basic sciences and allied subjects)

- **Oral** (Viva) Interpretation of X-ray ECG, etc. - **20 marks**
- **Clinical** (Bed side) - **100 marks**
- **University theory** (paper- 1 and paper- 2) - **120 marks**
- **Internal assessment** (Theory-30; Practical-30) - **60 marks**
- **Total** - **300 marks**

• Marks Distribution Pattern Theory Paper- 1

Subject	Group	Duration	Question Paper Pattern	Marks
Medicine Paper- 1 (CVS,RS,TB, Infectious diseases, Hematology, Nephrology, and Fluid & Electrolyte disorders)	60 Marks	3. Hrs.	a) Sec-A-(30)	
			i. One line answer questions(Answer any 12 out of 14)	12 X 1 = 12
			ii. Long answer question(Answer any 2 out of 3)	2 X 9 = 18
			b) Sec-B-(30)	
i. Short answer questions(Answer any 6 out of 8)	6 X 5 = 30			
			Total 60	

• **Marks Distribution Pattern Theory Paper-2**

Subject	Group	Duration	Question Paper Pattern	Marks
Medicine Paper- 2 (Neurology, GIT including liver & pancreatic disorders, Endocrine, Metabolic & Nutritional Disorders, Connective Tissue & Musculoskeletal Disorders, Poisoning & Environmental Diseases, Geriatrics, Psychiatry, Dermatology and S.T.D)	60 Marks	3. Hrs.	a) Sec-A-(30)	
			i. One line answer questions Answer (any 12 out of 14)	12 X 1 = 12
			ii. Long answer question(Answer any 2 out of 3)	2 X 9 = 18
			b) Sec-B-(30)	
			i. Short answer questions Answer any 6 out of 8 (It should contain at least one short answer question on TB, Skin & STD and Psychiatry)	6 X 5 = 30
				Total = 60

University Practical Examination in Medicine

CLINICAL			
Long Case	Short case 1	Short case 2	TOTAL Clinical
50	25	25	100

VIVA		
VIVA-1	VIVA-2	TOTAL
10	10	20

CURRICULUM FOR GENERAL SURGERY

(1) GOAL

The broad goal of teaching of undergraduate students in Surgery is to produce graduates capable of delivering efficient first contact surgical care.

(2) OBJECTIVES:

2.1 Knowledge

At the end of the course the students shall be able to:

- a. Describe aetiology, pathophysiology, principles of diagnosis and management of common surgical problems including emergencies in adults and children.
- b. Define indications and methods for fluid and electrolyte replacement therapy including blood transfusion;
- c. Define asepsis, disinfection and sterilization and recommend judicious use of antibiotics;
- d. Describe common malignancies in the country and their management including prevention;
- e. Enumerate different types of anesthetic agents, their indications, mode of administration, contraindications and side effects.
- f. Diagnose common surgical conditions both acute and chronic, in adult and children

2.2 Skills

At the end of the course, the student should be able to:

- a. Plan various laboratory tests for surgical conditions and interpret the results;
- b. Identify and manage patients of haemorrhagic, septicaemic and other types of shock;
- c. Be able to maintain patient air-way and resuscitate;
 - i. A critically injured patient:
 - ii. Patient with cardio respiratory failure.
 - iii. Drowning case.

- d. Monitor patients of head, chest, spinal and abdominal injuries, both in adults and children;
- e. Provide primary care for a patient of burns;
- f. Acquire principles of operative surgery, including pre-operative, operative and postoperative care and monitoring.
- g. Treat open wounds including preventive measures against tetanus and gas gangrene;
- h. Diagnose neonatal and paediatric surgical emergencies and provide sound primary care before referring the patient to secondary / tertiary centres;
- i. Identify congenital anomalies and refer them for appropriate management.

He / she shall have observed/assisted performed the following :

- i. Incision and drainage of abscess
- ii. Debridement and suturing open wound
- iii. Venesection.
- iv. Excision of simple cyst and tumours
- v. Biopsy of surface malignancy
- vi. Catheterisation
- vii. Nasogastric incubation
- viii. Circumcision
- ix. Meatotomy
- x. Vasectomy
- xi. Peritoneal and pleural aspirations;
- xii. Diagnostic Proctoscopy
- xiii. Hydrocele operations
- xiv. Endotracheal intubation;
- xv. Tracheostomy
- xvi. Chest tube insertion.

(3) INTEGRATION:

The undergraduate teaching in surgery shall be integrated at various stages with different pre and para and other clinical departments.

SYLLABUS FOR MBBS COURSE IN GENERAL SURGERY

Semester	Lectures	Tutorials	Demonstration	Clinics
3 rd Sem	-	-	-	6 weeks
4 th Sem	1 (16 hours)	-	-	4 weeks
5 th Sem	-	-	-	-
6 th Sem	2 (32 hours)	2 (32 hours)	16 hours	4 weeks
7 th Sem	2 (32 hours)	-	-	4 weeks
8 th Sem	3 (48 hours)	2 (32 hours)	16 hours	4 weeks
9 th Sem	2 (32 hours)	2 (32 hours)	12 hours	4 weeks
	(160 hours)	(96 hours)	(44 hours)	26 weeks

Lectures- (List enclosed)

4 th Sem	General Surgery Part I
6 th Sem	General Surgery Part II + Head, Face, Neck + Breast + Endocrine + Neurosurgery + Plastic Surgery
7 th Sem	GIT Part I + Hepatobiliary + Cardiothoracic Surgery + Pediatric Surgery
8 th Sem	GIT Part II + GUT + Tropical Surgery
9 th Sem	Recent Advances + Revision Lectures

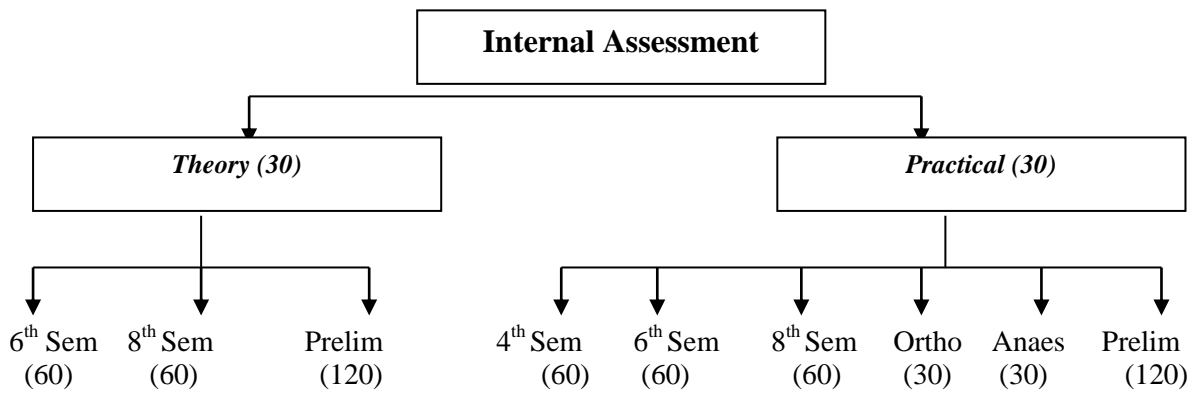
TUTORIALS –

6 th Sem	Operative Surgery + Instruments
8 th Sem	Surgical Pathology + X-Ray
9 th Sem	Revision

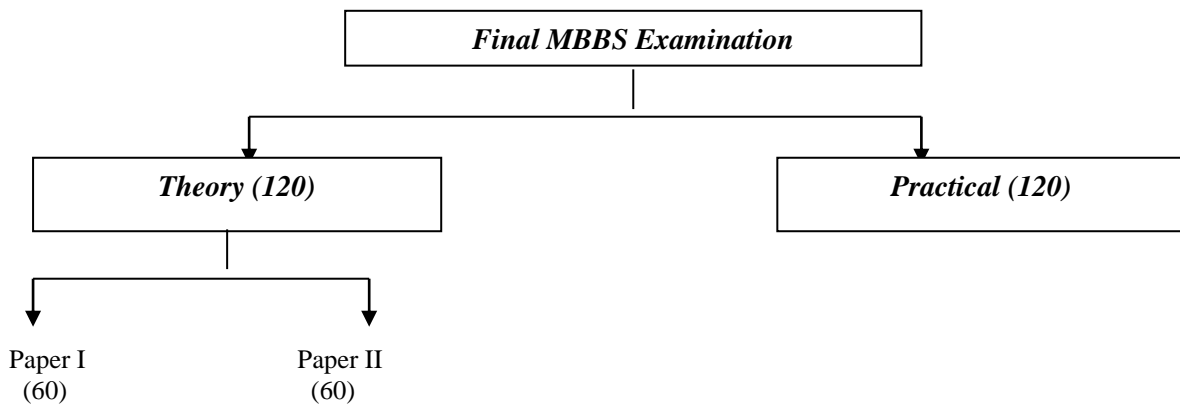
3RD SEMESTER CLINICAL POSTING – 4 WEEKS

- 2 Weeks - One Lecturer daily for 2 weeks
 - 4 Weeks - Ward Posting
- (Orientation programme Lecture – on lecture daily 12 days)

ASSESSMENT



- Marks of Internal Assessment will be sent to the University before the commencement of Theory examination.
- Passing in internal assessment (min 35%) will be prerequisite for appearing for final examination.
- Combined theory and practical marks will be considered for passing in Internal Assessment.



THEORY (120 MARKS)

**Paper I - 3 hours *
60 marks**

Section A (15)	Section B (25)	Section C (20)
<ul style="list-style-type: none"> • 30 MCQs (1/2 Mark each) • Single response type • (24 MCQs – Surgery + 6 MCQs – Ortho) 	<ul style="list-style-type: none"> • General Surgery • Head, Face & Neck • Breast • Endocrine • Trauma • 2 LAQs (8 marks each)= 16 • 3 SAQs (3 out of 4) (3 marks each) = 09 	<p style="text-align: center;">Orthopaedics</p> <ul style="list-style-type: none"> • 1 LAQs(8 marks) • 4 SAQs (4 out of 5) (3 marks each)= 12

*** Time for section A – 30 minutes**

Section B & Section C – 2 ½ hours

Section A will be given to candidates at the beginning of the examination.

After 30 minutes, Section A (Question paper + Answer Sheet) will be collected. Section B and Section C Paper will then be handed over to candidates.

**Paper II - 3 hours *
60 marks**

Section A (15)	Section B (25)	Section C (20)
<ul style="list-style-type: none"> • 30 MCQs • 1/2 Marks each • Single response type • (24 MCQs – GIT/GUT/Hepatobiliary /Spleen MCQs – Allied (Plastic/CVTS/Paed/Radio/Anesthesiology 	<ul style="list-style-type: none"> • GIT • Hepatobiliary • Spleen • 2 LAQs (8 marks each) = 16 • SAQs (3 out of 4) (3 marks each) = 09 	<ul style="list-style-type: none"> • GUT • Allied- (Plastic/CVTS/Paed/ Radio/Anesthesiology • 1 LAQs (8 marks) • 4 SAQs (4 out of 5) (3 marks each)= 12

*** Time for section A – 30 minutes**

Section B & Section C – 2 ½ hours

Section A will be given to candidates at the beginning of the examination.

After 30 minutes, Section A (Question paper + Answer Sheet) will be collected. Section B and Section C Paper will then be handed over to candidates.

PRACTICAL (120 MARKS)

Clinical (100)	Long Case (Surgery)	50 Marks
	Short Case I (Surgery)	25 Marks
	Short Case II (Orthopaedics)	25 Marks
• Time for Long Case	- 40 minutes	
• Time for short Case	- 20 minutes each	
Viva - (10 marks)	Viva I	- Surgical Pathology + Instruments + Tubes Catheters + Operative Surgery + Radiology
	Viva II (10 marks)	- Radiology + Orthopaedics

Clinical and Viva examinations will be carried by a pair of examiners.

2 Out of 6 practical examiners will be from Orthopedics (1 Internal + 1 External).

RESULT

Passing will be in three separate headings –

Exam	Total	Minimum marks for passing
Theory + Viva	140 (120 + 20)	70
Clinical	100	50
Internal Assessment	60	30
Total	300	150

4th Semester – Lecture Programme

Sr. No	Topic
1	Introduction / History of Surgery / Acute Infections – Leadership Qualities
2	Wound Healing
3	Haemostasis / Haemorrhage / Blood Transfusion
4	Chronic Infections
5	Shock
6	Burns
7	Fluid Electrolyte Balance / Disorders
8	Acid Base Balance / Disorders
9	Gas Gangrene
10	Neoplasia
11	Surgical Nutrition & Pre-operative Preparation & Patients
12	Nosocomial Infections
13	Tetanus
14	Hand Infections
15	Sterilization – including newer methods of sterilization
16	OT techniques / Preoperative and Postoperative Care

6th Semester – Lecture Programme

Sr. No	Topics
1	HIV & Surgeon
2	Benign Breast Diseases
3	Ca Breast (Two Lectures)
4	Diabetic Foot
5	Diseases of Veins (Two Lectures)
6	Neck Swellings (Two Lectures)
7	Diseases of Lymphatics
8	Disease of Arteries (Two Lectures)
9	Oral Malignancy
10	Thyroid – Anatomy/Physio/Investigations
11	Benign Disorders of Thyroid
12	Thyroid Malignancies
13	Cleft Lip & Cleft Palate
14	Peripheral Nerve Injuries
15	Hyperparathyroidism – Parathyroid Hyperplasia & Adenoma
16	Head Injury
17	Polytrauma (Two Lectures)
18	Skin Grafting
19	Jaw Tumours
20	Salivary Gland Tumours / Sialoadenitis
21	CNS Tumours
22	Adrenals Gland – Hyper / Hypofunction – Adrenal Tumors
23	Principles of Minimally Invasive Surgery
24	Principles of Radiotherapy
25	Maxillofacial Injuries
26	Congenital Disorders – Hydrocephalus, Spina Bifida

7th Semester – Lecture Programme

Sr. No	Topics
1	Oesophagus - Anatomy / Physiology / Investigations / Causes of Dysphagia
2	Liver –Anatomy / Physiology / Investigations
3	GERD
4	Liver Abscess
5	Oesophageal Motility Disorders
6	Liver Trauma
7	Carcinoma Oesophagus
8	Liver Tumours
9	Stomach – Anatomy / Physiology / CHPS
10	Hydatid cyst of Liver – Cytic diseases & Liver
11	Peptic Ulcer
12	Peptic ulcer – Complication & Management
13	Extra Hepatic Biliary Apparatus – Anatomy / Physiology / Investigations
14	Obstructive Jaundice
15	Carcinoma Stomach
16	Cholelithiasis & Choledocholithiasis
17	Upper GI Bleed- Aetiology and Principles of Management
18	Cholecystitis
19	Intestinal Tuberculosis
20	Carcinoma Gall Bladder & Choledochal cyst
21	Peritonitis – Aetiology, Principles of Management
22	Intraperitoneal Abscesses
23	Spleen – Anatomy / Splenomegaly / Splenectomy
24	Chest Injuries
25	Portal Hypertension
26	Cardiac Arrest / Resuscitation
27	Acute Pancreatitis
28	Principles of Surgery of Ischaemic Heart disease

29	Pseudocyst of Pancreases & Chronic Pancreatitis
30	Pancreatic Tumours
	Diagnostic & therapeutic endoscopy in GI & Hepato Pancreatic Biliary System
31	Congenital Heart Diseases
32	Revision

8th Semester – Lecture Programme

Sr. No	Topic
1	Anatomy of Anterior Abdominal wall & Diaphragm
1	Anatomy of Anterior Abdominal wall & Diaphragm
2	Incisional Hernia / Epigastric Hernia
3	Inguinal Hernia
4	Femoral Hernia, Umbilical Hernia & Other Hernias
5	Hirschsprung's Disease
6	Lower GI Bleed – Aetiology & Principles of management
7	Meckel's Diverticulum
8	Atresia – Oesophageal / Intestinal, T-O Fistula
9	Intestinal Obstruction In Neonates & Infants
10	Haemorrhoids / Fistula in Ano / Fissure in Ano
11	Biliary Atresia / Congenital Diaphragmatic Hernia
13	Acute Abdomen – D/D & Principles of management
14	Abdominal Tuberculosis – Aetiopathology & Principles of management
15	Acute Appendicitis
16	Inflammatory Bowel Disease
17	Phimosis / Paraphimosis & Cancer Penis
18	Surgical Consideration in Enteric Fever / Ascariasis
19	Filariasis / Madura Foot
20	Carcinoma Colon
21	Diverticular Disease / Colostomy
22	Skin Malignancies
23	Surgical Anatomy of Rectum & Anal Canal
24	Anorectal Anomalies
25	Rectal Prolapse / Anorectal Abscesses
26	Principles of Organ Transplantation
27	Intestinal Obstruction in Adults
28	Adrenal Tumours
29	Surgical Anatomy, Embryology and Developmental Anomalies of GUT
30	Symptoms and Investigations of urinary tract
31	Urinary Tract Infection
32	Pathophysiology of urinary tract obstruction
33	PUJ Obstruction
34	Urolithiasis
35	Renal Tuberculosis
36	Renal Tumours
37	Carcinoma Urinary Bladder
38	Ectopia Vesicae / Posterior Urethral Valves / Hypospadias
39	Carcinoma Returns & Anal Canal
40	BEP Benign Prostatic Hyperplasia
41	Carcinoma Prostate
42	Undescended Testis / Torsion Testis
43	Testicular Tumours
44	Hydrocoele / Varicocele
45	Urodynamic Studies / Neurogenic Bladder
46	Retention of Urine – Aetiology & Principles of management
47	Acute Renal Failure
48	Renal Transplant
49	GUT Trauma
50	Stricture Urethra

9th Semester - Lecture Programme

Sr. No	Topic
1	LASER in Surgery
2	Staplers in Surgery
3	Universal Safety Precautions
4	Revision Lectures

6th Semester – Tutorial Programme

Sr. No	Topic
1	Instruments - I
2	Incision and Drainage / Debridement / CLW suturing
3	Instruments – II
4	Venesection / Circumcision
5	Instruments – III
6	Cyst excision / Biopsies
7	Instruments – IV
8	FNAC / Pleural Tap/ Ascitic Tap
9	Instruments – V
10	Intercostal Drainage
11	Instruments – VI
12	Tracheostomy
13	Foley's catheter/ Nelaton's catheter
14	Suprapubic cystostomy
15	Ryles tube / Infant feeding tube
16	Preoperative care
17	Simple Rubber catheter / Flatus tube
18	Postoperative care
19	Dressing Trolley
20	Surgeries for Hernia
21	Bandages
22	Surgeries for Hydrocoele
23	I/V Set, Intracath, Scalp-Vein, 3 way
24	Resuscitation
25	Blood Transfusion
26	Sutures & Needles – I
27	Use of Drains
28	Sutures & Needles - II
29	Sterilization
30	Arterial disorders
31	Acute Infections
32	Venous disorders
33	Chronic Infections

8th Semester – Tutorial Programme

Sr. No	Topic
1	Radiology – I (GIT)
2	Radiology – II (GUT)
3	Radiology – III (Miscell)
4	Radiology – IV (GUT)
5	Short Procedures - I
6	Instruments – I (Urology)
7	Short Procedures – II
8	Instruments – II (Urology)

9	Instruments – III
10	Short Procedures – III (Urology)
11	Instruments – IV
12	Short Procedures – IV (Urology)
13	Short Procedures – V
14	Tube & Catheters – I (Urology)
15	Short Procedures – VI
16	Tube & Catheters – II (Urology)
17	Tube & Catheters – III
18	Surgical Pathology I (GUT)
19	Tube & Catheters – IV
20	Surgical Pathology II (GUT)
21	Surgical Pathology III (GIT)
22	Retention of Urine
23	Surgical Pathology IV (GIT)
24	Genitourinary Trauma
25	Surgical Pathology V (GIT)
26	Principles of Urinary Diversion
27	Surgical Pathology VI (Miscell)
28	Urolithiasis
29	Resuscitation
30	Upper GI Bleed
31	Lower GI Bleed
32	Scans in Urology
33	Portal Hypertension
34	Endoscopy in Urology
35	Obstructive Jaundice
36	Acute & Chronic Infections

9th Semester – Tutorial Programme

Sr. No	Topics
1	Revisions

Examination Theory: 120 marks

SURGERY PAPER I

Total marks: 60

Duration: 3 hours

Section A: 38 marks

- | | |
|----------------------------------------------------|---------------|
| Q 1. One Line Answer Questions (8 out of 10) | 8x1= 8 marks |
| Q 2. Structured Long Answer Questions (2 out of 3) | 2x9= 18 marks |
| Q 3. Short Answer Question (3 out of 5) | 3x4= 12 marks |

Section B: 22 marks (ORTHOPAEDICS)

- | | |
|----------------------------------------------------|--------------|
| Q 4. One Line Answer Questions (5 out of 7) | 5x1= 5 marks |
| Q 2. Structured Long Answer Questions (1 out of 2) | 1x9= 9 marks |
| Q 3. Short Answer Question (2 out of 3) | 2x4= 8marks |

Total 60 Marks

Surgery Paper II

Total marks: 60

Duration: 3 hours

Section A: 30 marks

Q 1. One Line Answer Questions (12 out of 14)

12x1= 12 marks

Q 2. Structured Long Answer Questions (2 out of 3)

2x9= 18 marks

Section B: 30 marks

Q 3. Short Answer Question (6 out of 8)

6x5= 30 marks

Total

60 Marks

Practicals- 120 marks

Clinical:

100 marks

- 1 Long Case – 50 marks
- 1 Short Case (Surgery) – 25 marks
- 1 Short Case (Orthopaedics)-25 marks

Viva:

20 marks

- Table I – Operative Surgery, Instruments, Tubes Catheters (5 marks)
- Table II – Surgical Pathology (5 marks)
- Table III – Radiology (5 marks)
- Table VI – Orthopaedics (5 marks)

SYLLABUS OF OBSTERICS AND GYNAECOLOGY

1. Goals

The main aim of the post graduate courses in the subject of OBSTERICS AND GYNAECOLOGY is to make the student well-versed with the knowledge of -

- 1.1 Anatomy and physiology of female genital tract.
- 1.2 Conception & physiology of pregnancy
- 1.3 Contraception, Family planning & demography.
- 1.4 Gynecological conditions & Operative gynaecology
- 1.5 Gynecological Endocrinology.
- 1.6 Infertility and recent advances & ART, IVF ET
- 1.7 To train the student, to be able to diagnose & manage the diseases of female genital tract.
 - 1.7.1 To give sufficient exposure about all routine & emergency OBSTERICS AND GYNAECOLOGY operative procedures.
 - 1.7.2 To train them in family planning procedures like MTP, tubectomy so as to enable them to actively participate in National family welfare programs.

OBJECTIVES

2. KNOWLEDGE :

At the end of tenure of 3 years DEGREE course, the student should be able to -

- 2.1 Know the Anatomy, Physiology & Pathophysiology of reproductive system and its common condition.
- 2.2 To diagnose pregnancy & manage Antepartum, Intrapartum & Postpartum condition including emergencies.
- 2.3 To undertake the effective measures & to reduce maternal perinatal morbidity and mortality.
- 2.4 To understand the knowledge about contraception, MTP, sterilization & their complications.
- 2.5 To know the proper pharmacology of drugs used during pregnancy and lactation & drugs like hormones, antibiotics, chemotherapeutic agents used in Gynecological practice.
- 2.6 To identify and manage gynecological conditions & emergencies.
- 2.7 To have detailed knowledge about adolescent and geriatric Gynecological problems and their management.

3. SKILLS :

At the end of 3 years P.G. DEGREE curriculum the candidate shall be able to make the student well-versed with the knowledge of -

- 3.1 To diagnose pregnancy and manage ANC in normal & high risk pregnancies.
- 3.2 To conduct normal and instrumental deliveries

as well as caesarian sections.

- 3.3 To manage the complications of labour, instrumental delivery.
- 3.4 To perform at least 25 MTPs under supervision and 25 independently as well as to perform 25 tubectomies under supervision and 25 independently.
- 3.5 To screen and diagnose female genital tract malignancies & to manage them.
- 3.6 To diagnose and manage female reproductive tract benign conditions and RTI infections including HIV.
- 3.7 To manage infertile couple investigations, diagnosis and treatment.

4. INTEGRATED TEACHING :

- 4.1 The candidate should have adequate knowledge of conditions related to Gynecological urology, Neonatology, Neonatal resuscitation.
- 4.2 To get skill and knowledge regarding radio-diagnosis and Ultrasonography & HSG, Pelvimetry, laboratory diagnostic techniques.
- 4.3 To have the knowledge of immunology, virology, and bacteriology related to OB-GYN specialty.
- 4.4 To have basic knowledge about endocrine conditions related to obstetrics & gynecology.
- 4.5 To have knowledge about medical & surgical conditions in pregnancy.
- 4.6 To have knowledge about oncopathology, hematology.& Histopathology.

5. GENERAL GUIDELINES OF TRAINING COURSES:

- 5.1 To train students to diagnose and manage disease of female genital tract.
- 5.2 To diagnose pregnancy and give antenatal, intrapartum and postpartum care and treat related emergencies.
- 5.3 To train them in National family welfare programmes viz; MTP, Tubectomies, IUCD insertions and contraceptive advice.
- 5.4 To train them to conduct normal labours, episiotomies and manage IIIrd stage of labour.
- 5.5 To train them in major & minor obstetric procedures.
- 5.6 To conduct high risk clinic and diagnose high risk pregnancy.
- 5.7 To have full knowledge of pharmacology of drugs safe in pregnancy and lactation.
- 5.8 To diagnose & manage obstetric emergencies.

- 5.9 To have full knowledge regarding diagnostic and lab. Investigations.
- 5.10 To diagnose and treat infections of female genital tract
- 5.11 To undergo training in screening and diagnosing female genital tract malignancies
- 5.12 To train student in major & minor Gynecological procedure.
- 5.13 To train them to conduct abnormal labours and instrumental deliveries like forceps and vacuum.
- 5.14 To conduct 25 MTPs under supervision & 25 independently. Also perform Tubectomies under supervision and independently.
- 5.15 To perform caesarian section under supervision and independently.
- 5.16 To have knowledge about Neonatology, urology and Sonography, for which the student will be posted for 4 weeks in each department by rotation. To conduct specialised OPDs like infertility OPD and colposcopic clinics.
- 5.17 To perform major Gynecological operations like abdominal ad vaginal hysterectomies under supervision and independently.
- 5.18 To independently manage obstetric emergencies.
- 5.19 To assist surgeries like wertheim's hysterectomy, debulking surgeries and sling operations.
- 5.20 To assist basic endoscopic operations like diagnostic hysteroscopy and laparoscopy.
- 5.21 The student should complete & submit the assigned dissertation topic and its write six months before appearing for the examination.
- 5.22 The degree and diploma candidate should also actively participate in departmental research works & outreach activities.

1) OBSTETRIC :

- 1.1 Applied anatomy of female genital tract – Knowledge of fetal skull and maternal pelvis. Development of genital tract. Physiology of menstruation.
- 1.2 Physiology of ovulation / conception / implantation -
- 1.3 Early development of human embryo. Fetal physiology, fetal circulation and fetal malformation.
- 1.4 Amniotic fluid – Formation & Function
- 1.5 Structure, Function and anomalies of Placenta.
- 1.6 Physiological changes during pregnancy and maternal adaptation to pregnancy Diagnosis

of pregnancy.

- 1.7 Antenatal care.
- 1.8 Normal Labour – Physiology, Mechanism, clinical course and management, partography, pain relief in labour- Oanaesthesia and analgesia in labour, endocrinology of labour.
- 1.9 Normal puerperium and Breast – Feeding
- 1.10 Complication in early pregnancy.
 - 1.10.1 Hyperemesis gravidarum
 - 1.10.2 Abortion
 - 1.10.3 Ectopic pregnancy
 - 1.10.4 Gestational trophoblastic disease
- 1.11 Obstetrical complications during pregnancy
 - 1.11.1 APH – Accidental haemorrhage
 - 1.11.2 Placenta praevia
 - 1.11.3 Poly hydramnios / Oligohydramnios
 - 1.11.4 Multifoetal pregnancy
 - 1.11.5 Medical disorders in pregnancy
 - 1.11.6 Anaemia
 - 1.11.7 Heart diseases
 - 1.11.8 Hypertensive disorder – PIH and Eclampsia
 - 1.11.9 Diabetes
 - 1.11.10 Jaundice
 - 1.11.11 Pulmonary diseases in pregnancy
- 1.12 Infections in pregnancy
 - 1.12.1 Urinary tract infections
 - 1.12.2 Sexually transmitted infections including HIV
 - 1.12.3 TORCH infections
- 1.13 Gynecological and surgical conditions in pregnancy. Fibroid with pregnancy, ovarian tumours, acute abdomen, genital prolapse.
- 1.14 High risk pregnancy
 - 1.14.1 Pre-term labour
 - 1.14.2 Post term pregnancy
 - 1.14.3 IUGR
 - 1.14.4 IUFD
 - 1.14.5 Pregnancy wastages Rh incompatibility
 - 1.14.6 Post caesarean pregnancy
- 1.15 Induction and augmentation of labour & knowledge about partogram.
- 1.16 Abnormal position & presentation
 - 1.16.1 Occipitio posterior
 - 1.16.2 Breech
 - 1.16.3 Transverse lie
 - 1.16.4 Face & Brow
 - 1.16.5 Compound
 - 1.16.6 Cord Presentation and Prolapse
- 1.17 Abnormal labour
 - 1.17.1 Abnormal uterine contraction
 - 1.17.2 CPD
 - 1.17.3 Obstructed labour
 - 1.17.4 Uterine rupture

2) GYNECOLOGY:

- 2.1 Development of genital tract, congenital anomalies of uterus and clinical significance, chromosomal abnormalities inter sex.
- 2.2 Physiology of Menstruation Ovarian Steroid genesis Adrenal in Gynaecology Thyroid in Gynaecology Hyper Prolactinemia Hirsutism
- 2.3 Menstrual abnormalities – Primary Amenorrhoea Dysmenorrhoea PMS
- 2.4 Abnormal uterine Bleeding DUB
- 2.5 Puberty and its disorder -
- 2.6 Adolescent Gynecological problems
- 2.7 Infertility – Male Infertility female Tubal micro surgery PCOD ART IVF-ET
- 2.8 Infection of genital tract Acute PID Chr PID Genital TB
- 2.9 Leucorrhoea
- 2.10 Pruritus vulvae
- 2.11 Chr Pelvic Pain Cervicitis
- 2.12 Sexually transmitted infections including HIV infection
- 2.13 Benign tumours of the genital tract. Fibroid Uterus Ovarian Tumours Benign Vulval Lesions
- 2.14 Malignant Lesions of CaVulva Ca Vagina Ca Cx Ca Uterus Ca Fallopian tube Ca Ovary
- 2.15 Other Gynecological disorders
- 2.16 Adenomyosis endometriosis
- 2.17 Genital prolapse Nulliparous prolapse Sling surgery Vaginal hysterectomy
- 2.18 Genital tract displacement, Urinary disorders in Gynecology SUI Urge incontinence VVF
- 2.19 Perineal tears Genital Fistulae, RVF
- 2.20 Radiotherapy & Chemotherapy in Gynecology
- 2.21 Drugs & Hormones in Gynecology Hormones in Gynecology
- 2.22 Ultrasonography, Radiology & Endoscopy in Gynecological diagnosis
- 2.26 Pre & Post-operative care in Gynecology
- 2.27 Menopause & HRT

3) FAMILY PLANNING:

- 3.1 Demography & Population Dynamics
- 3.2 Contraception – Temporary methods Barrier methods Oral Pills IUCD Newer –IUCD
- 3.3 Permanent methods TL Lap TL Vasectomy
- 3.4 Newer contraceptives
- 3.5 MTP Act & Procedures of MTP in first trimester.

Procedures of MTP in second trimester
Medico legal aspects in Gynaecology
Medical records keeping PNDT Act

CURRICULUM FOR ORTHOPEDICS

1. GOAL :

The student shall be able to :

1. Take relevant points in the history, Clinical examination to diagnose fractures and deformities.
2. Deliver first aid measures for common fractures and sprains
3. Use techniques of splinting, plaster, immobilization
4. Diagnose congenital anomalies, skeletal deformity and metabolic bone diseases, infections of bone and joint, joint arthritis,

2. SKILLS

At the end of the course, the student should be able to:

1. Detect sprains and deliver first aid measures for common fractures and sprains and manage uncomplicated fractures of clavicle, Colles's, forearm, phalanges etc.
2. Techniques of splinting, plaster, immobilization etc.
3. Management of common bone infections, learn indications for sequestration, amputations and corrective measures for bone deformities.
4. Aspect of rehabilitation for Polio, Cerebral Palsy and Amputation.

3. APPLICATION

Be able to perform certain orthopedic skills, provide sound advice of skeletal and related conditions at primary or secondary health care level.

4. INTEGRATION

Integration with anatomy, surgery, pathology, radiology and Forensic Medicine be done

5th Semester

1. Students must be able to take relevant points in the history
2. Clinical examination to diagnose fractures and deformities.
3. Evaluations done by post term completion examinations

6th Semester

1. Students must know the basic physiology of fracture healing, types of fractures and complication of fractures.
2. Basic principles of plaster techniques and complications.
3. Lectures on injuries of upper limb.

7th Semester

1. Lectures on injuries of lower extremities.
2. Clinically, Student must be able to examine & diagnose common diseases of upper limb.

8th Semester

1. Students are taught about injuries of the pelvis and spine
2. Common congenital anomalies
3. Common arthritic conditions, neoplastic & neurological conditions like poliomyelitis, cerebral palsy etc.
4. Theoretical knowledge regarding chronic & acute infection of bone & joints
5. During their clinical posting they are taught to examine various orthopedic conditions of spine.

9th Semester

1. Tutorial & Lectures include revision of all orthopaedic conditions & diseases.
2. In Clinical posting, they are trained to examine various orthopaedic conditions involving bones & joints by taking history, clinical examination & relevant investigations
3. Evaluation done by post-term completion examination.

3. Integration :

Lectures for 6, 7, 8, 9 semesters Revision lectures for 9 semester Tutorials for 9 semester Bed side for clinics for 5, 6, 7,8, 8 semester followed by term end exam.

4. Learning Methods :

Lectures, Tutorials bedside clinics and lecture cum demonstrations.

Distribution of Teaching hours

- Lectures – 50 hours
- Tutorials and revision – 50 hours
- Clinical postings in Orthopaedics

Total clinical Posting of 10 weeks of 180 hours

5th Semester - 4 weeks

6th Semester - 4 weeks 9th Semester - 2 weeks

Course contents and suggested lecture program of Orthopaedics (Total 100 hours)

This is suggested programme and can vary at institute Total 100 hours of teaching has to be done in Orthopaedics including Tutorials Details of syllabus in given separately below after distribution as per semester

- 6th Semester Lectures 1 to 16
- 7th Semester Lectures 17 to 32
- 8th Semester Lectures 33 to 48
- 9th Semester Revision Lectures 49 to 60
- 8th Semester Tutorial 61 to 81
- 9th semester Tutorial 82 to 100

5.

6.

7.

8. **Syllabus :**

Topic : General Orthopaedics Lectures

1. Introduction and scope of Orthopaedics Traumatology and Orthopaedic Diseases. Idea about Scheme of Examination.
2. Definition and Classification of Fracture and Dislocation Signs, Symptoms and diagnosis of sprain, contusion fracture and dislocation.
3. First aid measures in Poly-trauma patient, spinal cord injury patient and knowledge about various splints.

PDD

Principles of Management of sprain Fracture and Dislocation with emphasis on various aspects of closed reduction, immobilization including internal fixation and rehabilitation.

6, 7, 8 Complications of fracture and its management with specific reference to malunion Delayed union, Non union, Myosistis Ossificans, Sudeck's dystrophy, Volkman's ischaemia, Avascular Necrosis, Fat embolism, secondary Osteoarthritis and injury to Muscles, Tendon, Nerve and Bpkd vessels

9. Plaster technique, plaster complications and plaster disease

10. Fracture Healing in cortical and cancellous bones and factors affecting fracture healing.

Topic: Orthopaedic Traumatology

11. Fracture clavicle, scapula, neck humerus and shaft humours.
12. Supracondylar fracture humerus with complications
13. Fracture Forearm bones, Monteggia and Galeassi fracture dislocations, fracture olecranon head and neck radius.
14. Fractures scaphoid, Metacarpals and phalanges
15. Colles fracture and complications.
16. Dislocation (Acute and Recurrent) of shoulder and elbow
17. Fracture of Vertebrae with complications
18. Fracture of Pelvis with complications
19. Fracture shaft femur and fractures around knee
20. Fracture neck femur and trochanteric fracture.
21. Meniscus and ligaments injury at knee Fracture Tibia- fibula, fracture of tarsals, metatarsals and phalanges.
22. Fracture dislocation around ankle.
23. Dislocation of Hip, knee, ankle, tarsals and small bones in foot

Topic : Orthopaedic Diseases

25, 26 Congenital skeletal anomalies with emphasis on congenital Talipes Equino Varus (CTEV)

27. Congenital dislocation of hip (CDH), Osteogenesis Imperfecta spina Bifida and Torticollis
28. Osteochondritis - Various types PDDYPU 192 MBBS Syllabus
29. Post Polio Residual Palsy with stress on

preventive and rehabilitation aspect.

30. Acute Osteomyelitis.
31. Chronic Osteomyelitis
32. Pyogenic arthritis of Hip, knee
33. 33, 34 Osteo-articular Tuberculosis with special reference to tuberculosis with special reference to Tuberculosis of Hip, knee and elbow:
34. Tuberculosis spine and paraplegia
35. Fungal infections and leprosy in Orthopaedics
36. Cerebral palsy, Diagnosis and rehabilitation
37. Rheumatoid arthritis
38. Degenerative arthritis
39. Nerve injuries and principles of management
35. Amputation and Disarticulation - Indications methods and complications.
36. Metabolic bone disease: Rickets, Osteomalacia and Osteoporosis.
- 43, 44 Tumours of bones and its classification, Benign : osteochondroma, Giant cell tumour Unicameral Bone cyst, Aneurysmal cyst, Aneurysmal cyst.
- 45, 46 Malignant – Osteogenic sarcoma, Ewing's tumour, Fibrosarcoma, Chondrosarcoma, Multiple Myeloma, Secondaries from Primary Carcinoma (Metastatic tumours)
37. Back ache
38. Frozen shoulder, Tennis Elbow, Dequervain's disease, Dupuytren's Contracture, Osgood – Schlatter's disease, planter fasciitis.

Practical and Lecture cum Demonstration Classes, in MBBS in Orthopaedics

Once a week class for two hours in 8th / 9th semester Topics of Demonstrations

39. Plaster technique and splint applications.
40. Traction, application, orthopaedic appliances demonstration, Demonstration of Physiotherapy equipments.
41. Specimens of sequestrum and Tumours, Madura foot etc.
42. Common instruments and Implants
- 5 to 7 Common X-Ray of traumatology, bony infection, joint infection and tuberculosis, Malunited Colle's fracture, forearm or Supracondylar humerus fracture.
- PDDYPU 193 MBBS Syllabus
- 8 to 10 Chronic osteomyelitis case, knee effusion case, Non-union case, bony tumour case

Seminar Topics :

11. Osteomyelitis
12. Tuberculosis
13. Bone tumours
14. First aid and Acute Trauma Life Saving (ATLS) measures.

Tutorials Topics

1. Supracondylar fracture Humerus
2. Colle's fracture
3. Fracture neck femur
4. Spine examination, Pott's spine and paraplegia
5. CTEV

6. Shoulder, Elbow and wrist examination
7. Hip examination
8. Knee, ankle foot examination
9. Nerve examination and nerve injuries

6. Lectures, Tutorials (Total Number, Topics) In Each Semester :-

6th Semester Lectures

Topic	Lesson Plan
1) Basic of fractures Polytrauma	a) Introduction b) Local examination c) Classification d)Diagnosis a) Definition b) management
2) Principles of fracture management. Stages of fracture healding	a) Conservative b) Operative a) Cortical bonehealing b) Cancellous bone healing
3) Complications of fractures	a) Immediate b) Early c) Late
4) Injuries to nerves, tendons muscles ligaments	Injuries to nerves , tendons ,muscles ligaments
5) Plaster technique, plaster complications and plaster diseases	Plaster technique ,plaster complications and plaster disease
6) Fractures of carpels, metacarpels, phalanges	a)classification treatment
7) Fracture of both bones forearm Monteggia & galleazzi fracture Diseases	a)signs symptoms b) treatment
8) Injuries around the elbow	a) Dislocations elbow b) Fracture olecrenon a) Classification b) Signs and symptoms a)Treatment b) Fracture radial head a) Classification b) Signs and symptoms c) Treatment
9) Fractures of the distel humerus	a) Supra condylar fractures of the humerus a) Classification b) Signs and symptoms c) Closed treatment d) Operative treatment e) Complications b) Condylar fractures
10) Fractures of clavical and Acromioclavicular joint	a) Closed treatment b) Pperative treatment
11) Fractures of proximal humerus and shaft	a)Classification b) Signs and symptoms c)Treatment
12) Dislocation Shoulder	a)Classification b) Signs and symptoms c)Treatment
13) Fractures of the foot	Fracture talus and calcaneum a) Classification b) Signs and symptoms c) Treatment Metatarsal and phalanx fracture
14) Ankle Fractures	a) Classification b) Signs and symptoms c) Radiological features d) treatment
15) Fractures of the tibial shaft and fibula Fractures of the proximal tibia	a) classification b) signs and symptoms c) treatment a) classification b) signs and symptoms c) treatment
16) Fractures of patella	a)classification b)signs and symptoms c)treatment

7th Semester Lectures

Topic
17) Fracture olecranon a) Classification b) Signs and symptoms c) Treatment
18) Fracture radial head a) Classification b) Signs and symptoms c) treatment
19) Dislocations elbow
20) Supracondylar fractures of the humerus a) Classification b) Signs and symptoms c) Closed treatment d) Operative treatment
21) Fractures of the clavicle a) Closed treatment b) Operative treatment
22) Fractures proximal humerus and shaft a) Classification b) Sign and symptoms c) treatment
23) Dislocation shoulder a) classification b) signs and symptoms c) treatment
24) Injuries of the acromioclavicular joint
25) Fractures talus and calcaneum a) classification b) signs and symptoms c) treatment
26) Metatarsal and phalanx fractures
27) Ankle fractures a) classification b) signs and symptoms c) radiological features d) treatment
28) Fractures of the tibial shaft and fibula a) classification b) signs and treatment c) treatment
29) Fractures of patella a) classification b) signs and symptoms c) treatment
30) Fractures of the proximal tibia a) classification b) signs and symptoms c) treatment
31) Supracondylar fractures of femur a) classification b) signs and treatment c) treatment
32) Fractures of the femoral shaft a) classification b) signs and symptoms c) treatment

8th Semester Lectures

Topic	Lesson Plan
33) Supracondylar Fractures of the Femur. Fractures of the femoral shaft.	1) Classification 2) Signs and symptoms 3) Treatment a) Classification b) Signs and symptoms c) Treatment
34) Inter Trochanteric fracture. Sub Trochanteric Fracture . Fracture Neck Femur.	a) Classification b) Signs and symptoms c) Radiological features d) Treatment a) Classification b) Signs and symptoms c) Radiological features d) Treatment a) Classification b) Signs and symptoms c) Radiological features d) Treatment
35) Dislocation of hip joint	a) Classification b) Signs and symptoms c) Radiological features d) Treatment
36) Acetabular fracture fracture Pelvis	Acetabular fracture Fracture Pelvis
37) Injuries to the spine Fracture s Pelvis	Injuries to Spine Fractures and complications
38) Introduction of peripheral nerve injury Brachial Plexus injury	Introduction of peripheral Nerve injury Brachial Plexus Injury
39) Peripheral nerve injury cont...	a) Ulnar nerve Median nerve Radial nerve b) Lateral popliteal nerve Sciatic nerve
40) Amputation.	a) Definition Types and level b) Complications Rehabilitation
41) Osteomyelitis	a) Definition Types b) Clinical and radiological features c) treatment
42) Septic arthritis	a) Clinical Features Investigations b) Treatment
43) Tuberculosis of joint	a) Hip joint Knee joint Shoulder joint Treatment
44) Tuberculosis of spine	a) Clinical Features b) Investigations c) Treatment
45) Regional examination of	a) History
foot and and ankle	b) General examination c) Inspection d) Palpation
46) Regional examination of knee	a) History b) General examination c) Inspection d) Palpation
47) Regional examination of hip	a) History b) General examination c) Inspection d) Palpation
48) Revision	Revision

9th Semester Revision Lectures

Topic	Lesson Plan
49) Fractures around wrist & hand	1) Fracture of Phalanx & metacarpal 2) Bennett's Fracture Dislocation, Rolan Fracture, Kaplan dislocation, Fracture Scaphoid, dislocation of lunate 3) Colles Fracture, smith fracture, barton Fracture dislocation
50) Complication of fracture dislocation end radius	1) Carpel tunnel Syndrome, 2) Sudeck's osteodyystrophy
51) Fractures of fracture dislocation end radius	3) Galeazzi Fracture Dislocation 4) Monteggia fracture Dislocation 5) Supracondylar fracture Humers 6) Lateral condylar fracture 7) Olecranon Fracture 8) Radial head Fracture 9) Dislocation of elbow
52) Complication of Supracondylar fracture of humerus	1) Cubitus varus 2) Myositis ossification 3) Volkmann's ischaemic contracture 4) Acromio clavicular joint dislocation
53) Fractures around shoulder joint	1) Proximal humerus Dislocation Of Shoulder 2) Fracture Of clavicle 3) Acromio clavicular joint dislocation
54) Fractures around Hip	1) Dislocation of Hip Fracture Neck Femur
55) Fracture Of Spine	1) Fracture of Cervical Spine 2) Fracture of Dorsolumbar spine
56) Case presentation	Tumors of Bones
57) Fractures of femur around knee	1) Fracture femur 2) Fracture of surfaces around knee
58) Fractures of Tibia	Fractures of Tibia
59) Fractures around ankle & foot	Bimalleolar fracture, ankle dislocation Fracture & Dislocation of foot
60) Revision	Revision

8th Semester Tutorial

Topic
61) First aid and acute trauma Life saving (ATLS) measures (Seminar)
62) Case taking general
63) Tuberculosis (Seminar)
64) Tuberculosis (Seminar)
65) X-ray & disease of Lower limb
66) Bone tumours (Seminar)
67) Examination – implants
68) Case taking general
69) Case taking diseases
70) X-rays & disease of Lower limb
71) X-ray of tumors
72) University examination pattern
73) Osteomyelitis (Seminar)
74) X-rays & disease of upper limb
75) X-rays & Disease of spine and pelvis
76) Examination – specimen
77) Examination – orthosis
78) Case taking trauma
79) X-ray & disease of upper limb
80) X-ray & disease of spine and pelvis
81) Examination - specimen

9th Semester Tutorial

Topic	Lesson Plan
82) Introduction	Introduction
83) University examination pattern	University Examination Pattern
84) Case taking general	Case taking general
85) Case taking trauma	Case taking Trauma
86) Case taking diseases	Case taking disease
87) X-rays & disease of Lower limb	X-rays & disease of Upper Limb
88) X-rays & disease of Lower limb	X-rays & disease of Lower Limb
89) X-rays & disease of spine and pelvis	X-rays & disease of spine and Pelvis
90) X-rays of tumors	X-rays of tumors
91) Examination specimen	Examination-specimen
92) Examination - implants	Examination-implants
93) Reconstructive surgeries in polio & CP	Reconstructive surgeries in polio & CP
94) Orthotics-Lower limb	Orthotics-Lower limb
95) Orthotics-Upper limb	Orthotics-Upper limb
96) Role of MRI in Orthopaedics	Role of MRI in Orthopaedics
97) Role of C.T. in Orthopaedics	Role of C.T. in Orthopaedics
98) Back pain & its M/M	Back pain & its M/M
99) Vascular disorders (AVN, Perthe's disease)	Vascular disorders (AVN, Perthe's disease)
100) Splints commonly used in Orthopaedics	Splints commonly used in Orthopaedics

7. Evaluation methods

7.1 Internal assessment : Total **100 Marks** (Theory **50 Marks** + Practical **50 Marks**)

7.2 Internal Assessment in Theory **50 Marks**

7.3 Internal Assessment in Practical **50 Marks**

8. Pattern of final Examination (Surgery Paper –I Section - C)

Long Question 1 x 8 = 8 Marks Short notes 4 x 3 = Marks

9. Books Recommended

9.1 Text books;

- Maheshwari
- Ebnesar
- Surgery Das

9.2 Reference Books;

- Campbell operative orthopaedics
- Rock wood & green Trauma
- Tureks Orthopaedics
- Macray Clinical examination.

SYLLABUS OF DERMATOLOGY AND SEXUALLY TRANSMITTED DISEASES

1. GOAL

The aim of teaching the undergraduate student in Dermatology, S.T.D. and Leprology is to impart such knowledge and skills that may enable him to diagnose and treat common ailments and to refer rare diseases or complication/unusual manifestations of common diseases, to the specialist.

2. OBJECTIVES

a) KNOWLEDGE :

At the end of the course of Dermato-S.T.D. and Leprology, the student Shall be able to :

1. Demonstrate sound knowledge of common diseases, their clinical manifestations, including emergent situations and of investigative procedures to confirm their diagnosis;
2. Demonstrate comprehensive knowledge of various modes of therapy used in treatment of dermatological diseases;
3. Describe the mode of action of commonly used drugs, their doses, side effects / toxicity, indications and contra-indications and interactions;
4. Describe commonly used modes of management including the medical and surgical procedures available for the treatment of various diseases and to offer a comprehensive plan of management for a given disorder.

b) SKILLS

The student should be able to

1. Interview the patient, elicit relevant and correct information and describe the history in a chronological order.
2. Conduct clinical examination, elicit and interpret physical findings and diagnose common disorders and emergencies;
3. Perform simple, routine investigative and office procedures required for making the bed-side diagnosis, especially the examination of scrapings for fungus, preparation of slit smears and staining for AFB for leprosy patients and for STD cases;
4. Take a skin biopsy for diagnostic purposes;
5. Manage common diseases recognizing the need for referral for specialized care, in case of inappropriateness of therapeutic response;

c) INTEGRATION

The broad goal of effective teaching can be obtained through integration with departments of Medicine, Surgery, Microbiology, Pathology, Pharmacology and Preventive & Social Medicine.

Lesson plan schedule for 6th & 8th semester Tutorial / lectures.

Sr. No.	Lect. No.	Topic
01	01	Structure & Function of skin : introduction/General features, Epidermis; Its layers and cells, Hair; Morphology of the follicle, Nail : Physiology and structural components, Eccrine sweat glands, Apocrine glands, Sebaceous glands and Functions of skin.
02	02	Bacterial diseases I : Predisposing factors, Type of Pyodermas, Infections of Hair follicles, Erythrasma. Toxin Mediated-Bullous impetigo. SSSS, Toxic shock syndrome.
03	03	Fungal infection : Dermatomycoses: Pityriasis versicolor: Pathogenesis, Clinical types, Lab Diagnosis, Treatment and course.
04	04	Candidiasis : Organisms, Predisposing factors, Clinical features, Lab Diagnosis, Treatment
05	05	Viral diseases I : Herpes Simplex- Herpes Zoster:Definition, Clinical features, plications, Prophylaxis and Treatment
06	06	Viral diseases II : Molluscum: Warts: Organism, Transmission, Clinical features, Complications, Treatment.
07	07	Papulosquamous Disorders : Psoriasis- Epidemiology and Pathogenesis, Clinical features, Variants, Treatment.
08	08	Lichen Planus : Pityriasis Rosea: Erythroderma: Definition, Types, Etiology, Clinical features, Management
09	09	Vesiculo-Bullous Disorders : Types and mechanism of bullae formation. Pemphigus Vulgaris: Definition and Classification, Rx
10	10	Bullous Pemphigoid : Etiopathogenesis, Clinical manifestations, Diagnosis, Treatment, Prognosis.
11	11	Acne Vulgaris : Definition, Causative factors, Pathogenesis, Clinical Features, Acne form eruptions, Treatment.

12	12	Alopecia Areata: Definition, Cause, Course, Clinical Features, Treatment
13	13	Vitiligo: Definition, Cause, Clinical Features, Differential Diagnosis, Treatment.
14	14	STDs I: Anatomy of genital tract: Male and Female. Gonorrhoea: Clinical Features in males and females, Investigations, Treatment, Complications
15	15	STDs II: Syphilis: Definition, Etiology, Acquired syphilis, Congenital syphilis, Diagnosis, Treatment, Prozone Phenomenon, Jarisch Herxheimer reaction.
16	16	Chancroid: LGV: Granuloma inguinal: Definition, Etiology, Clinical Features, Diagnosis, D/D of inguinal bubo, Inguinal syndrome, genital syndrome, Urethral syndrome, Treatment, Course and Prognosis, Syndromic Management of STDs
17	17	H.I.V.: Structure of virus Transmission, Basic Biology, Classification of HIV associated diseases. Natural course, Diagnosis,
18	18	Prevention, Treatment, National AIDS control programme
19	19	Eczemas: Definition, classification, management
20	20	Leprosy 1 : Definition, Epidemiology, Pathogenesis, Classification, Clinical features, Reactions in Leprosy, Types of reactions, Management of reactions.
21	21	Leprosy 2: Complications of Leprosy – Deformities in leprosy, Grades of deformities, Preventive measures, Diagnosis, Differential diagnosis, Treatment, Strategies of Leprosy Prevention, N.L.E.P., Modified National Leprosy Eradication Programme.
22	22	Diagnostic Procedures : Slit skin smear KOH mount Punch biopsies
23	23	Collagen Vascular Disorders : Systemic Lupus Erythematosus Systemic Sclerosis
24	24	Photodermatitis : Definition, causes, pathogenesis, clinical presentation, treatment

- Total 6 weeks of clinical posting of which 2 weeks in 3rd semester & 4 weeks in 5th semester is held.
- Internal assessment Examination: Examination is conducted after end of clinical posting of 20 marks each. The higher mark in any one of the examination is considered for internal assessment.
- Book recommended : A text book of Dermatology, Venerology & Leprosy by – Dr. Udaya Khopkar

MENTORSHIP PROGRAMME

Mentors for II Year MBBS 2019-20

Sr. No	Name of the Faculty	Department	Roll No	Mobile No.
1	Dr. (Col) Harsh Kumar	Pathology	001 to 005	9423012653
2	Dr. Chandanwale S. S.	Pathology	006 to 010	9890144517
3	Dr. Archana C. Buch	Pathology	011 to 015	9890946890
4	Dr. Pagaro Pradhan M.	Pathology	016 to 020	9371002160
5	Dr. Sunita Bamanikar	Pathology	021 to 025	9765452288
6	Dr. Arpana Dharwadkar	Pathology	026 to 031	9423222540
7	Dr. Shruti Vimal	Pathology	032 to 036	9823611291
8	Dr. Rupali Bavikar	Pathology	037 to 041	8149367249
9	Dr. Tushar Kambale	Pathology	042 to 046	9970042126
10	Dr. M. B. Iqbal	Pathology	047 to 051	9730388872
11	Dr. Vidya Vishwanathan	Pathology	052 to 056	9822046668
12	Dr. Komal Sawaimul	Pathology	057 to 061	9370441582
13	Dr. Sushma P. Kulkarni	Pathology	062 to 066	9921300707
14	Dr. Yogesh Tayade	Pathology	067 to 071	8421453910
15	Dr. Shubhangi Y Tayade	Pathology	072 to 076	8308837988
16	Dr. Yamini Ingale	Pathology	077 to 081	9503563275
17	Dr. Indranil Dey	Pathology	082 to 086	7875923702
18	Dr. Abhinav B. Shetty	Pathology	087 to 091	9579253853
19	Dr. Deshpande Anjali H.	Pathology	092 to 096	9822919570
20	Dr. Wrunda C. Raut	Pathology	097 to 101	9850778522
21	Dr. Nagarkar A.J.	Pathology	102 to 106	9764908870
22	Dr. S. V. Dange	Pharmacology	107 to 111	9422031544
23	Dr. Sarita Mulkalwar	Pharmacology	112 to 116	9422309690
24	Dr. Seema Bhalerao	Pharmacology	117 to 121	9422316307
25	Dr. Anita A. Barde	Pharmacology	122 to 126	9422309690
26	Dr. Teja Deshpande	Pharmacology	127 to 132	9823209269
27	Dr. Rane B.T.	Pharmacology	133 to 137	9226263300
28	Dr. Harshavardhan S. Bhide	Pharmacology	138 to 142	9689676435
29	Dr. Sanjay A. Dabhade	Pharmacology	143 to 147	9823529505
30	Dr. Dakshayani P. Pandit	Microbiology	148 to 152	9765988829
31	Dr. Nageswari R. Gandham	Microbiology	152 to 157	9890136476
32	Dr. Kalpana M. Angadi	Microbiology	158 to 163	9850504630
33	Dr. Savita V. Jadhav	Microbiology	164 to 169	8237674618
34	Dr. Chanda R. Vyawahare	Microbiology	170 to 176	9420076924
35	Dr. Neetu Gupta	Microbiology	177 to 183	9921871497
36	Dr. Sameena Khan	Microbiology	184 to 190	9599679335
37	Dr. Swarupa Hatolkar	Microbiology	191 to 197	8805028912
38	Dr. Nikunja Das	Microbiology	197 to 204	9881923603
39	Dr. Rajashri Patil	Microbiology	205 to 211	8446747235
40	Dr. Shahzad Beg Mirza	Microbiology	212 to 218	7507372372
41	Dr. Anjali Deshmukh	Microbiology	219 to 225	9372047554
42	Dr. Ashwinikumar B. Sapate	FMT	226 to 232	9225632392
43	Dr. Madhusudan Petkar	FMT	233 to 239	9527404224
44	Dr. Sanjay Gaiwale	FMT	240 to 247	7666304130
45	Dr. Rahul M. Band	FMT	248 to 254	7776059778

ADMINISTRATIVE AND ACADEMIC HEADS

Sr. No	Name	Designation	Contact No	Email ID
1	Dr. J. S. Bhawalkar	Dean	9766545431	dean.medical@dpu.edu.in
2	Dr. P. Vatsalawaswamy	Director Academics	9850116519	p.vatsalawaswamy@dpu.edu.in
3	Mr. U. S. Shende	Registrar	9833326464	registrar.medical@dpu.edu.in
4	Dr. Neelam Prasad	Student Section	9850556821	ugsection.medical@dpu.edu.in
5	Mrs. S. A. Kakade	Account Section	9175358990	accounts.medical@dpu.edu.in
6	Mrs. D. V. Shinde	Assistant Registrar (Hostel Accounts)	9881431472	deepti.shinde@dpu.edu.in
7	Mr. S. V. Sonje	Hostel(Boys)	9226539196	swapnil.sonje@dpu.edu.in
8	Mrs. S .Deshpande	Hostel(Girls)	8530208875	sangitadeshpande1234@gmail.com

HEADS OF DEPARTMENTS

Sr. No	Name	Designation	Contact No	Email ID
1	Dr. Charusheela R. Gore	Pathology	9922994733	charusheela.gore@dpu.edu.in
2	Dr. Abhijeet V. Tilak	Pharmacology	9226145484	av.tilak@dpu.edu.in
3	Dr. Rabindra N. Mishra	Microbiology	9404226337	rabindra.mishra@dpu.edu.in
4	Dr. A. L. Ghangale	FMT	9423129179	ajay.ghangale@dpu.edu.in
5	Dr. Amitav Banerjee	PSM	9372434017	amitav.banerjee@dpu.edu.in
6	Dr. G. D. Mahajan	ENT	9850038510	g.mahajan@dpu.edu.in
7	Dr. Renu Magdum	Ophthalmology	9850907639	renu.magdum@dpu.edu.in
8	Dr. Shubhangi Kanitkar	General Medicine	9422027161	shubhangi.kanitkar@dpu.edu.in
9	Dr. Shahaji Chavan	General Surgery	9822057750	shahaji.chavan@dpu.edu.in
10	Dr. Hemant Deshpande	OBGY	9422033660	hg.deshpande@dpu.edu.in
11	Dr. S. R. Agarkhedkar	Paediatrics	9822030122	sr.agarkhedkar@dpu.edu.in
12	Dr. Sanjay S. Deo	Orthopedics	9822322801	sanjay.deo@dpu.edu.in
13	Dr. Daniel Saldanha	Psychiatry	9373337606	daniel.saldanha@dpu.edu.in
14	Dr. Mahendra singh Deora	Dermatology	9404732246	mahendra.deora@dpu.edu.in
15	Dr. Rajesh S. Kuber	Radio-Diagnosis	9823081508	rajesh.kuber@dpu.edu.in
16	Dr. Smita Joshi	Anaesthesiology	9822053792	smita.joshi@dpu.edu.in
17	Dr. Varsha Shinde	Emergency Medicine	9420339861	varsha.shinde@dpu.edu.in



Undertaking for observing Code of Conduct

I have read, clarified and understood the regulations mentioned in the prospectus and information available on the website of www.dpu.edu.in I fully subscribe to the concerns, vision & mission of, and the processes at the institute. I shall abide by the rules & regulations of the institute and the Vidyapeeth.

I know that I have to take part in all other non-academic activities irrespective of my religious faith and beliefs. Having understood the importance of these, I promise that I shall do it to the best of my ability.

In solemn assurance and acceptance after clarification and explanation of the above, I hereby affix my signature jointly along with my parent/guardian understanding that this is my own code of conduct to have a fruitful and memorable association with the institute and the Dr. D. Y. Patil Vidyapeeth, Pune. I am aware of the consequences if I violate any of the rules of the institute. I will accept the decision of the institute in case of any indiscipline on my part including termination from institute.

Parent's /Guardian's Signature: _____ Candidate's Signature: _____

Parent's/ Guardian's Name: _____ Candidate's Name: _____

Relation: _____

Date: _____

Place: _____



Robotic Surgery



DPU

**Dr. D. Y. Patil Vidyapeeth,
Pune**

(Deemed to be University)

(Re-accredited by NAAC with a CGPA of 3.62 on a four-point scale at A Grade)
20th rank in Medical Category and 46th rank in University Category in India (NIRF-2019)
(Declared as Category-I University by UGC Under Graded Autonomy Regulations, 2018)
(An ISO 9001:2015 Certified University)

**Dr. D. Y. Patil Medical College, Hospital
& Research Centre, Pimpri, Pune**

Dr. D. Y. Patil Vidyapeeth Campus, Sant Tukaram Nagar, Pimpri, Pune 411018.

Phone: 020278050001 27805100 Email: info.medical@dpu.edu.in

www.medical.dpu.edu.in