



TAGORE MEDICAL COLLEGE & HOSPITAL

Rathinamangalam, Melakkottaiyur Post, Chennai - 600127.
Phone : 044-30101111, Fax : 044-222 5555, Email: tagoremch@gmail.com



(Affiliated to the Tamil Nadu Dr.MGR Medical University & Recognized by the Ministry of Health & Family welfare. Govt. of India New Delhi)

PROGRAM: MBBS

REGULATIONS: 2017-2018

PROGRAM OUTCOMES (POs)

Upon completion of the MBBS program the graduate should be able to

PO1: Demonstrate knowledge of normal and the abnormalities of the human structure, function and development from a molecular, cellular, biologic, clinical, behavioral and social perspective.

PO2: Demonstrate effective clinical problem solving, judgment and ability to interpret and integrate available data to address patient problems, generate differential diagnoses and develop individualized management plans that include preventive, promotive and therapeutic goals.

PO3: Apply clinical skills in diagnosis and management of common ailments of the individual and the society through history taking, physical/clinical examinations and other relevant investigations and discharge responsibilities as an efficient member of the health care team at diverse clinical settings.

PO4: Demonstrate knowledge of different therapeutic modalities, prescribe and safely administer appropriate therapies including nutritional interventions, pharmacotherapy based on the principles of rational drug therapy, scientific validity, evidence and cost effectiveness in disease prevention and cure, pain alleviation, health promotion, rehabilitation and palliation.

PO5: Recognize and function effectively, responsibly and appropriately as a as a health care team member/leader in an inter-professional health care team respecting diversity of roles, responsibilities and competencies of other professionals

PO6: Identify and advocate disease prevention, health promotion and health care quality improvement through prevention and early recognition of life style diseases and cancer, in collaboration with other members of the health care team.

PO7: Demonstrate aptitude to communicate effectively, empathetically and respectfully with patients in a language that the patient understands and in a manner that will improve patient


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satisfaction, beliefs, trust and there by promote the health care outcomes.

PO8: Demonstrate skill to pursue basic, clinical and translational research in recent advances of medicine as it applies to the care of the patient and an attitude for life-long learning.

PO9: Demonstrate knowledge of national and regional health care policies, frameworks, health economics and systems that influence health promotion, health care delivery, disease prevention, effectiveness, responsiveness, quality and patient safety.

PO10: Demonstrate knowledge of medico-legal, societal, ethical and humanitarian principles that influence health care and imply the same while discharging the professional responsibilities

PO11: Demonstrate professionalism in practice settings through personal integrity, sense of responsibility, dependability and ability to discharge ethical practice in profession.

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COURSE OUTCOMES (COs)

1. HUMAN ANATOMY

Upon completion of the course, the undergraduate must be able to:

CO1: Explain the gross and microscopic structure and development of human body and comprehend the normal regulation and integration of the functions of the organs and systems on basis of the structure and genetic pattern.

CO2: Describe the identifying features of the microscopic structure and correlate elementary ultra-structure of various organs and tissues

CO3: Describe the clinical correlation of the organs and structures involved and interpret the anatomical basis of the disease presentations as a prerequisite for understanding the altered state in various disease processes

CO4: Identify and locate all the structures of the body and mark the topography of the living anatomy and identify the organs and tissues under the microscope

CO5: Describe the clinical applications of some common clinical procedures like intramuscular, and intravenous injection, lumbar puncture, kidney biopsy etc.

CO6: Describe the principles of imaging techniques like Ultrasound, Computerized Tomography, plain and contrast X-rays etc. and their applications in the diagnosis of disease states

CO7: Participate willingly in acknowledging cadaver as the first teacher and assist in dissection of the human cadaver

2. PHYSIOLOGY

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Upon completion of the course, the undergraduates must be able to:

CO1: Describe the normal functioning of the organs and organ systems of the body and their interactions, physiological responses for the maintenance of homeostasis and adaptations to changes in internal and external environment.

CO2: Explain the age-related physiological changes in the organ functions that reflect on normal growth and development

CO3: Describe the physiological principles underlying pathogenesis of disease.

CO4: Diagnose conditions from clinical symptoms and signs and interpret results of the laboratory tests including serum electrolytes, pH, osmolarity and blood gases, pulmonary function tests, renal function tests and cardiac function tests

CO5: Interpret the investigative data provided in case scenarios dealing with common disorders of hematological, musculoskeletal, alimentary, endocrine, reproductive, renal, cardiovascular, respiratory, and neurological systems.

CO6: Perform tests and calculation of hematological indices, ventilatory function using spirometer and peak flow meter, measure blood pressure, record ECG and clinical examination of the organ systems.

CO7: Correlate disease manifestations with derangements of physiological mechanisms and the rationale of treatment.

3. BIOCHEMISTRY

Upon completion of the course, the learner must be able to:

CO1: Describe the molecular and functional organization of cell and cellular components

CO2: Describe the biochemical and molecular processes involved in health and disease and the mechanisms involved in maintenance of body fluid and pH homeostasis.

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CO3: Describe the regulatory pathways of metabolism of macromolecules and their clinical importance

CO4: Explain the importance of nutrition in health and disease, digestion and assimilation of macronutrients

CO5: Explain the biochemical basis of environmental health hazards, inherited diseases, metabolic disorders and carcinogenesis

CO6: Describe the fundamental aspects of enzymology and clinical implications of alterations in regulation of enzymatic activity.

CO7: Describe the biochemical basis and rationale of clinical laboratory tests, and demonstrate ability to interpret these in the clinical context

4. PHARMACOLOGY

Upon completion of the course, the undergraduates must be able to:

CO1: Delineate the essential and commonly used drugs and explain the pharmacologic basis of therapeutics

CO2: Explain the general principles of actions and effects of various drugs and their kinetics, antidotes and drugs used in common poisoning

CO3: Select and prescribe medicines on based on clinical conditions and the pharmacological properties, efficacy, safety, suitability and cost of medicines for common clinical conditions of national importance

CO4: Select and prescribe drugs in special situations such as pregnancy, lactation, geriatric and pediatric population and for mass therapy under National health programs

CO5: Explain the significance of pharmacovigilance, essential medicine concept and sources of drug information.

CO6: Describe the ethics and modalities in new drug development in clinical practice and animal ethics including evidence-based medicine and practice-oriented research.

CO7: Counsel patients regarding appropriate use of prescribed drugs and drug delivery

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systems.

5. PATHOLOGY

CO1: Describe the mechanisms of cell degeneration, cell death and repair

CO2: Describe the mechanisms and patterns of inflammatory response to tissue injury and their role in pathophysiology of diseases

CO3: Comprehend the causes, evolution and mechanisms of diseases, alterations in gross and cellular morphology of organs in disease states

CO4: Correlate the natural history, structural and functional changes with the clinical manifestations of diseases, their diagnosis and therapy.

CO5: Correlate normal and altered morphology (gross and microscopic) of different organ systems in common diseases

CO6: Perform simple bed-side tests on blood, urine and other biological fluid samples and interpret the results

6. MICROBIOLOGY

Upon completion of the course, the undergraduates must be able to:

CO1: List the pathogenic microorganisms (bacteria, viruses, parasites, fungi) and describe the role of microbial agents in health and disease

CO2: Explain the immunological mechanisms in health and disease

CO3: Describe the Morphology, classification of bacteria and the virulence mechanisms

CO4: Correlate the natural history, mechanisms and clinical manifestations of infectious diseases as they relate to the properties of microbial agents,

CO5: Demonstrate the basis of choice of laboratory diagnostic tests and their interpretation, antimicrobial therapy, control and prevention of infectious diseases.

CO6: Identify the microorganisms from clinical materials by suitable laboratory methods and

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interpret the findings

7. FORENSIC MEDICINE AND TOXICOLOGY

Upon completion of the course, the learner must be able to:

CO1: Delineate the existent law and legal procedures as a Registered Medical Practitioner in cases of Homicide, Assault, Sexual offences, Alcoholic intoxication, Drug dependence and other cases requiring medical opinion.

CO2: Explain the medico-legal responsibilities of physicians in primary, secondary and tertiary care settings

CO3: Describe the rational approach to the investigation of crime, based on scientific and legal principles

CO4: Diagnose and manage medical and legal issues in cases of poisoning /overdose

CO5: Describe the codes of conduct and medical ethics and demonstrate an understanding of the medico-legal framework of medical practice and medical negligence

CO6: Perform appropriate medico legal examination, documentation and report preparation in all Medico legal cases.

CO7: Collect, preserve and dispatch specimens and relevant evidence materials to the concerned centers in medico legal cases.

CO8: Perform the medico legal autopsy under supervision and issue all medical and medico legal certificates.

8. OPHTHALMOLOGY

Upon completion of the course, the learner must be able to:

CO1: Outline the eye diseases that are prevalent in the community and delineate the ophthalmic manifestations of systemic diseases.

CO2: Recognize, diagnose and treat common eye problems and identify indications for referral.

CO3: Identify visual impairment and blindness in the community and actively contribute to the implementation of National programmes for Prevention and Control of Blindness.

CO4: Demonstrate the procedure, indications, contraindications of ocular bandaging techniques, methods of ocular surface Staining and its applications, and procedures for dry eye evaluation.

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CO5: Illustrate all components of visual acuity like distant vision, near vision, color vision, field of vision in cataract patients, precautions and procedure of epilation, foreign body removal using cotton swabs under topical anesthesia.

CO6: Demonstrate understanding of the awareness about Eye Donation in view of community health perspective.

CO7: Communicate effectively to counsel and educate patients for cataract surgery

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9. OTORHINOLARYNGOLOGY

Upon completion of the course, the learner must be able to:

CO1: Describe the surgical anatomy of the external, middle and inner ear, nose and throat (ENT)

CO2: Describe the common Otorhinolaryngological (ENT) emergencies and diseases

CO3: Identify, diagnose and manage common ENT problems in a patient care setting,

CO4: Identify emergency ENT conditions calling for urgent or early surgical intervention and refer at the optimum time to the appropriate centers.

CO5: Perform simple ENT procedures as applicable in the patient care setting.

CO6: Identify hearing impairment and refer to the appropriate hearing impairment rehabilitation programme.

CO7: Prescribe relevant investigative procedures for common ENT conditions and interpret their results

CO8: Prescribe rationally the drugs commonly used keeping in mind their adverse reactions

10. COMMUNITY MEDICINE

Upon completion of the course, the learner must be able to:

CO1: Explain the concept of health and disease, interventions to promote health and prevent diseases as envisioned in National and State Health Programmes.

CO2: Explain the physical, social, psychological, economic and environmental determinants of health and disease

CO3: Comprehend the principles of demography, population dynamics and disease burden in National and global context, health economics and hospital management.

CO4: Explain the epidemiological methods and their applications in identifying the incidence and prevalence of communicable and non-communicable diseases in a community or hospital setting.

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CO5: Describe and actively contribute to the National Health Programs with special emphasis on maternal and child health

CO6: Identify, investigate, report, plan and manage community health problems including malnutrition and emergencies

CO7: Describe the health information systems and the implementation of health administration and health education in the community.

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11. GENERAL MEDICINE

Upon completion of the course, the student must demonstrate ability to do the following:

- CO1: Describe the pathophysiological basis, epidemiological profile, signs and symptoms, investigational procedures and management of diseases
- CO2: Perform history interview and examine an adult patient and make appropriate clinical diagnosis, order and interpret laboratory tests.
- CO3: Initiate appropriate cost-effective treatment based on an understanding of the rational drug prescribing, medical interventions required and preventive measures
- CO4: Execute follow up of patients with medical problems and refer whenever required
- CO5: Communicate effectively, educate and counsel the patient and the family
- CO6: Manage common medical emergencies and refer when required
- CO7: Perform common medical procedures safely independently taking patient safety issues into consideration.
- CO8: Keep abreast of newer developments in medicine.

12. GENERAL SURGERY

Upon completion of the course, the student must be able to:

- CO1: Describe the structural and functional basis, principles of diagnosis and management of common surgical problems in adults and children
- CO2: Apply the principles of asepsis, sterilization, disinfection, rational use of prophylaxis, therapeutic utilities of antibiotics and universal precautions in surgical practice
- CO3: Select, calculate and administer appropriately intravenous fluids, electrolytes, blood and blood products based on the clinical condition,
- CO5: Describe the common malignancies in India and their prevention, early detection and therapy
- CO5: Perform common diagnostic and surgical procedures at the primary care level,
- CO6: Differentiate between acute and chronic conditions in surgical patients, identify, resuscitate, stabilize and provide basic & advanced life support to patients following trauma
- CO7: Administer informed consent and counsel patient prior to surgical procedures
- CO8: Demonstrate commitment to advancement of quality and patient safety in surgical Practice

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13. OBSTETRICS AND GYNAECOLOGY

Upon completion of the course, the student must demonstrate ability to:

CO1: Describe common obstetric & gynecological problems and the preventive measures for Gynecological infections

CO2: Elicit a gynecological history, perform appropriate physical and pelvic examinations and PAP smear, diagnose and manage common reproductive tract infections in the primary care setting

CO3: Describe the normal physiological changes in pregnancy and postpartum and the normal mechanism of labor

CO4: Conduct normal deliveries, using safe delivery practices in the primary and secondary care settings and perform early neonatal resuscitation

CO5: Diagnose complications of labour, institute primary care, identify high-risk pregnancies and refer in a timely manner

CO6: State the indications, techniques & complications of surgeries like Caesarean section, Laparotomy, Abdominal & Vaginal hysterectomy and Medical Termination of Pregnancy

CO7: Prescribe drugs safely and appropriately in pregnancy and lactation

CO8: Provide peri-conceptual counseling and antenatal care, postnatal care, including education in breast-feeding

CO9: Counsel and support couples in the correct choice of contraception

CO10: Apply medico-legal principles and ethics pertaining to Obstetrics and Gynecological procedures like tubectomy, MTP, Pre-conception and Prenatal Diagnostic Techniques, and maintain the confidentiality of the patient

CO11: Identify the health needs of women & adolescents and carry out professional obligations in alignment with ongoing National programmes

CO12: Interpret test results of laboratory and radiological investigations as they apply to the care of the obstetric patient,

14. PEDIATRICS

Upon completion of the course, the student must demonstrate ability to:

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CO1: Describe, assess and promote optimal growth, development and nutrition of children and adolescents and identify deviations from normal.

CO2: Recognize and provide emergency and routine ambulatory and First Level Referral Unit care for neonates, infants, children and adolescents and refer as may be appropriate,

CO3: Diagnose and appropriately treat common pediatric and neonatal illnesses.


CO4: Perform procedures as indicated for children of all ages in the primary care setting,

CO5: Identify children with special needs and refer appropriately

CO6: Define, identify and classify high risk neonate, Neonatal resuscitation, Gestational age assessment and Care of the normal newborn.

CO7: Promote health and prevent diseases in children and participate in National Programmes related to child health and in conformation with the Integrated Management of Neonatal and Childhood Illnesses (IMNCI)Strategy

CO8: Delineate the immunization schedule (IAP/NIP) and explain about the individual vaccines


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PROGRAM: MBBS

2019 -2020 CBME REGULATIONS

PROGRAM OUTCOMES

The MBBS graduate, upon completion of the program, should be:

PO1: A clinician who demonstrates knowledge of normal and the abnormalities of the human structure, function and development from a molecular, cellular, biologic, clinical, behavioral and social perspective.

PO2: A clinician who applies clinical skills in diagnosis and management of common ailments of the individual and the society through history taking, physical/clinical examinations and other relevant investigations and discharge responsibilities as an efficient member of the health care team at diverse clinical settings towards achieving preventive, promotive and therapeutic goals.

PO3: A clinician who demonstrates knowledge of different therapeutic modalities, prescribe and safely administer appropriate therapies including nutritional interventions, pharmacotherapy based on the principles of rational drug therapy, scientific validity, evidence and cost effectiveness in disease prevention and cure, pain alleviation, health promotion, rehabilitation and palliation.

PO4: A communicator who demonstrate ability to communicate effectively, empathetically and respectfully with patients in a language that the patient understands and in a manner that will improve patient satisfaction, beliefs, trust and there by promote the health care outcomes.

PO5: A team leader who recognize and function effectively, responsibly and appropriately as a as a health care team member/leader in an inter-professional health care team respecting diversity of roles, responsibilities and competencies of other professionals

PO6: A professional who identify and advocate disease prevention, health promotion and health care quality improvement through prevention and early recognition of life style diseases and cancer, in collaboration with other members of the health care team.


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PO7: A professional who demonstrate knowledge of medico-legal, societal, ethical and humanitarian principles that influence health care and imply the same while discharging the professional responsibilities

PO8: A professional who demonstrate professionalism in practice settings through personal integrity, sense of responsibility, dependability and ability to discharge ethical practice in profession.

PO9: A life-long learner who demonstrate ability to pursue basic, clinical and translational research in recent advances of medicine as it applies to the care of the patient and an attitude for life-long learning.


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COURSE OUTCOMES

1. HUMAN ANATOMY

Upon completion of the course, the student must be able to:

CO1: Comprehend the normal structure of human body, normal regulation and integration of the functions of the organs and systems on basis of the structure and genetic pattern, and the alterations in the disease states.

CO2: Describe the microscopic structure of various tissues and organs as a prerequisite to correlate and identify the changes occur in disease or tumor

CO3: Describe the concept of basic principles of embryology and the stages of development of different organs and the systems and the possibilities of congenital anomalies.

CO4: Define teratogens and explain their effects in the development of mutations

CO5: Describe the modes of genetic inheritance and their role in development of congenital anomalies

CO6: Identify and locate all the structures of the body and mark the topography of the living anatomy and identify the organs and tissues under the microscope

CO7: Demonstrate some procedures in cadaver and in skill lab

CO8: Differentiate the plain and contrast x rays and identify and demonstrate the structures in X rays

CO9: Participate actively in dutiful handling the cadavers and biomedical waste management

2. PHYSIOLOGY

Upon completion of the course, the undergraduates must be able to:

CO1: Describe the normal functioning of the organs and organ systems of the body and their interactions, physiological responses for the maintenance of homeostasis and adaptations to changes in internal and external environment.

CO2: Explain the age-related physiological changes in the organ functions that reflect on normal growth and development

CO3: Describe the physiological principles underlying pathogenesis of disease.

CO4: Describe how the organ systems interact to yield integrated physiological


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responses to challenges such as exercise, fasting and ascent to high altitude.

CO5: Diagnose conditions from clinical symptoms and signs and interpret results of the laboratory tests including serum electrolytes, pH, osmolarity and blood gases, pulmonary function tests, renal function tests and cardiac function tests

CO6: Interpret the investigative data provided in case scenarios dealing with common disorders of hematological, musculoskeletal, alimentary, endocrine, reproductive, renal, cardiovascular, respiratory, and neurological systems.

CO7: Perform, analyze and report on hematological indices, ventilatory function using spirometer and peak flow meter, measure blood pressure, record ECG and clinical examination of the organ systems.

CO8: Correlate disease manifestations with derangements of physiological mechanisms and the rationale of treatment.

3. BIOCHEMISTRY

Upon completion of the course, the learner must be able to:

CO1: Describe the biochemical and molecular processes involved in health and disease and the mechanisms involved in maintenance of body fluid and pH homeostasis.

CO2: Describe the molecular and functional organization of cell and cellular components

CO3: Describe the regulatory pathways of metabolism of macromolecules and their clinical importance

CO4: Explain the importance of nutrition in health and disease, digestion and assimilation of macronutrients

CO5: Explain the biochemical basis of environmental health hazards, inherited diseases, metabolic disorders and carcinogenesis

CO6: Describe the fundamental aspects of enzymology and clinical implications of alterations in regulation of enzymatic activity.

CO7: Describe the biochemical basis and rationale of clinical laboratory tests, and demonstrate ability to correlate these in the clinical context

CO8: Enumerate few tumor markers and describe the diagnostic and prognostic relevance of few markers.

CO9: Demonstrate the estimation of biochemical tests and interpret the results against normal


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4. PHARMACOLOGY

Upon completion of the course, the undergraduates must be able to:

CO1: Describe and apply pharmacological principles to explain the mechanism/s of the effects of drugs used in diagnosis, prevention and treatment of diseases of all systems of human body.

CO2: Explain the general principles of actions and effects of various drugs and their kinetics, antidotes and drugs used in common poisoning

CO3: Describe mechanisms of drug-drug interactions and their clinical importance.

CO4: Interpret an adverse drug reaction and report an adverse drug reaction.

CO5: Select and prescribe medicines on based on clinical conditions and the pharmacological properties, efficacy, safety, suitability and cost of medicines for common clinical conditions of national importance

CO6: Select and prescribe drugs in special situations such as pregnancy, lactation, geriatric and pediatric population and for mass therapy under National health programs

CO7: Explain the significance of pharmacovigilance, essential medicine concept and sources of drug information.

CO8: Describe the ethics and modalities of new drug development in clinical practice and in animal ethics including evidence-based medicine and practice-oriented research.

CO9: Counsel Patients regarding appropriate use of prescribed drugs and drug delivery systems

5. MICROBIOLOGY

Upon completion of the course, the undergraduates must be able to:

CO1: Describe the application of microbiology in a variety of clinical settings to solve diagnostic and therapeutic problems along with preventive measures.

CO2: List the pathogenic microorganisms (bacteria, viruses, parasites, fungi) and describe the role of microbial agents in health and disease

CO3: Describe the Morphology, classification of bacteria and the virulence mechanisms interpret the results of various serological diagnostic methods.

CO4: Correlate the natural history, mechanisms and clinical manifestations of infectious diseases as they relate to the properties of microbial agents,


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CO5: Demonstrate the basis of choice of laboratory diagnostic tests and their interpretation, antimicrobial therapy, control and prevention of infectious diseases.

CO6: Identify the microorganisms from clinical materials by performing suitable laboratory methods and interpret the findings

CO7: Describe various infection control policies & procedures such as hand hygiene, appropriate biomedical waste management, usage of personnel protective equipment's, prevention and management of needle stick injury

CO8: Demonstrate effective communication skills required for the practice of clinical microbiology.

6. PATHOLOGY

Upon completion of the course, the undergraduates must be able to:

CO1: Describe the mechanisms of disease including the etiology, local or systemic responses to disease, consequences of disease, and cellular events involved in disease and adaptive changes essential for understanding disease processes in organ system

CO2: Describe the characteristics of benign and malignant neoplasms, epidemiologic and environmental factors that influence neoplastic change, molecular basis of neoplasia and host defense.

CO3: Describe the basics of immunology, cellular injury, acute and chronic inflammation, autoimmunity, allergic reactions, and susceptibility to infection; impact of these changes in organ function and the role of therapeutic intervention in mitigating these effects.

CO4: Correlate the natural history, structural and functional changes with the clinical manifestations of diseases, their diagnosis and therapy.

CO5: Correlate normal and altered morphology (gross and microscopic) of different organ systems in common diseases

CO6: Perform simple bed-side tests on blood, urine and other biological fluid samples and interpret the results

CO7: Draw a rational scheme of investigations aimed at diagnosing and managing the cases of common disorders.

7. FORENSIC MEDICINE & TOXICOLOGY:

Upon completion of the course, the undergraduates must be able to:



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CO1: Demonstrate knowledge of court & law enforcing agencies, existent law and legal procedures as a Registered Medical Practitioner in cases of Homicide, Assault, Sexual offences, Alcoholic intoxication, Drug dependence and other cases requiring medical opinion.

CO2: Demonstrate knowledge of observation, analysis, interpretation of post mortem findings in various types of deaths and writing of post mortem reports.

CO3: Diagnose and manage medical and legal issues in cases of poisoning /overdose

CO4: Describe the codes of conduct and medical ethics and demonstrate an understanding of the medico-legal framework of medical practice and medical negligence

CO5: Perform appropriate medico legal examination, documentation and report preparation in all Medico legal cases.

CO6: Collect, preserve and dispatch specimens and relevant evidence materials to the concerned centers in medico legal cases.

CO7: Perform the medicolegal autopsy under supervision and issue all medical and medicolegal certificates.

CO8: Demonstrate attitude for effective communication and professional skill to handle ethical and medical negligence issues.

8.OPHTHALMOLOGY

Upon completion of the course, the undergraduates must be able to:

CO1: Explain the anatomy and the physiology of the sense of vision and the correlation between embryology, anatomy with vision and diseases.

CO2: Delineate the eye diseases that are prevalent in the community and the ophthalmic manifestations of systemic diseases.

CO3: Recognize, diagnose and treat common eye problems and identify indications for referral.

CO4: Identify visual impairment and blindness in the community and actively contribute to the implementation of National programmes for Prevention and Control of Blindness.

CO5: Explain the various treatment modalities and surgical options for the various disorders of the eye.


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CO6: Demonstrate the procedure, indications, contraindications of ocular bandaging techniques, methods of ocular surface Staining and its applications, and procedures for dry eye evaluation.

CO7: Illustrate all components of visual acuity like distant vision, near vision, colour vision, field of vision in cataract patients, precautions and procedure of epilation, foreign body removal using cotton swabs under topical anesthesia.

CO8: Demonstrate understanding of the awareness about Eye Donation in view of community health perspective.

9. OTORHINOLARYNGOLOGY

Upon completion of the course, the undergraduates must be able to:

CO1: Describe the anatomy of the external, middle and inner ear, nose and throat (ENT)

CO2: Describe the common Otorhinolaryngological (ENT) emergencies and diseases

CO3: Identify, diagnose and manage common ENT problems in a patient care setting,

CO4: Identify emergency ENT conditions calling for urgent or early surgical intervention and refer at the optimum time to the appropriate centers.

CO5: Perform simple ENT procedures as applicable in the patient care setting.

CO6: Prescribe relevant investigative procedures for common ENT conditions and interpret their results

CO7: Identify hearing impairment and refer to the appropriate hearing impairment rehabilitation programme.

CO8: Prescribe rationally the drugs commonly used keeping in mind their adverse reactions

10. COMMUNITY MEDICINE

Upon completion of the course, the undergraduates must be able to:

CO1: Describe the importance of Public Health, Community Medicine, clinical and disease-oriented approach, preventive approach.

CO2: Explain the concept of health and disease, interventions to promote health and prevent diseases as envisioned in National and State Health Programs.

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CO3: Explain the physical, social, psychological, economic and environmental determinants of health and disease

CO4: Comprehend the principles of demography, population dynamics and disease burden in National and global context, health economics and hospital management.

CO5: Explain the epidemiological and biostatistical methods and their applications in identifying the incidence and prevalence of communicable and non-communicable diseases in a community or hospital setting.

CO6: Describe and actively contribute to the National Health Programs with special emphasis on maternal and child health

CO7: Identify, investigate, report, plan and manage community health problems including malnutrition and emergencies

CO8: Describe the health information systems and the implementation of health administration and health education in the community.

CO9: Conduct community surveys for assessment of health & morbidity profile, epidemiological determinants, assessment of health needs, disease surveillance, evaluation of health programs and community diagnosis.

11. GENERALMEDICINE

Upon completion of the course, the student must demonstrate ability to do the following:

CO1: Describe the pathophysiological basis, epidemiological profile, signs and symptoms, investigational procedures and management of diseases

CO2: Apply the acquired knowledge of art of practicing internal medicine backed by scientific knowledge including basic sciences and skills

CO3: Describe the knowledge of preventive and environmental issues including principles of preventive health care, immunization and occupation environmental medicine and bioterrorism.

CO4: Explain about clinical pharmacology, Genetics, Immunology, cardiovascular system, Respiratory system, nephrology, GIT, Diseases of liver and Gall bladder, Hematological diseases, Oncology, Metabolic diseases, Nutritional diseases, Infections diseases, Endocrine abnormalities and Dermatological diseases.


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CO5: Elicit a detailed clinical history, perform a thorough physical, clinical examination of all the systems and analyze and interpret the biochemical investigations.

CO6: Initiate appropriate cost-effective treatment based on an understanding of the rational drug prescribing, medical interventions required and preventive measures

CO7: Execute follow up of patients with medical problems and refer whenever required

CO8: Communicate effectively, educate and counsel the patient and the family

CO9: Manage common medical emergencies and refer when required

CO10: Perform common medical procedures safely independently taking patient safety issues into consideration.

CO11: Demonstrate continuous interest to keep updated of newer developments in medicine.

12. GENERAL SURGERY

Upon completion of the course, the student must be able to:

CO1: Describe the structural and functional basis, principles of diagnosis and management of common surgical problems in adults and children

CO2: Describe the common malignancies in India and their prevention, early detection and therapy

CO3: Apply the principles of asepsis, sterilization, disinfection, rational use of prophylaxis, therapeutic utilities of antibiotics and universal precautions in surgical practice

CO4: Select, calculate and administer appropriately intravenous fluids, electrolytes, blood and blood products based on the clinical condition,

CO5: Perform common diagnostic and surgical procedures at the primary care level,

CO6: Differentiate between acute and chronic conditions in surgical patients, identify, resuscitate, stabilize and provide basic & advanced life support to patients following trauma

CO7: Administer informed consent and counsel patients prior to surgical procedures

CO8: Demonstrate commitment to advancement of quality and patient safety in surgical Practice

13. PAEDIATRICS

Upon completion of the course, the student must demonstrate ability to:

CO1: Describe, assess and promote optimal growth, development and nutrition of children and


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adolescents and identify deviations from normal.

CO2: Identify and provide emergency and routine ambulatory and First Level Referral Unit care for neonates, infants, children and adolescents and refer as may be appropriate,

CO3: Diagnose and appropriately treat common pediatric and neonatal illnesses.

CO4: Perform procedures as indicated for children of all ages in the primary care setting,

CO5: Identify children with special needs and refer appropriately

CO6: Define, identify and classify high risk neonate, Neonatal resuscitation, Gestational age assessment and Care of the normal new born.

CO7: Promote health and prevent diseases in children and participate in National Programmes related to child health and in conformation with the Integrated Management of Neonatal and Childhood Illnesses (IMNCI) Strategy

CO8: Describe about causes and strategies for prevention and reducing under-five mortality.

CO9: Delineate the immunization schedule (IAP/NIP) and explain about the individual vaccines

14.OBSTETRICS AND GYNAECOLOGY

Upon completion of the course, the student must demonstrate ability to:

CO1: Outline the anatomy, physiology and pathophysiology of the reproductive system and the common conditions affecting it.

CO2: Describe common obstetric & gynecological problems and the preventive measures for Gynecological infections

CO3: Elicit a gynecologic history, perform appropriate physical and pelvic examinations and PAP smear, diagnose and manage common reproductive tract infections in the primary care setting

CO4: Describe the normal physiological changes in pregnancy and postpartum and the normal mechanism of labour

CO5: Conduct normal deliveries, using safe delivery practices in the primary and secondary care settings and perform early neonatal resuscitation

CO6: Diagnose complications of labour, institute primary care, identify high-risk pregnancies and refer in a timely manner

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CO7: State the indications, techniques & complications of surgeries like Caesarean section, Laparotomy, Abdominal & Vaginal hysterectomy and Medical Termination of Pregnancy

CO8: Prescribe drugs safely and appropriately in pregnancy and lactation

CO9: Provide peri-conceptional counseling and antenatal care, postnatal care, including education on breast-feeding

CO10: Counsel and support couples in the correct choice of contraception

CO11: Apply medico-legal principles and ethics pertaining to Obstetrics and Gynecological procedures like tubectomy, MTP, Pre-conception and Prenatal Diagnostic Techniques, and maintain the confidentiality of the patient

CO12: Identify the health needs of women & adolescents and carry out professional obligations in alignment with ongoing National programmes

CO13: Interpret test results of laboratory and radiological investigations as they apply to the care of the obstetric patient,

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