

Lesson Plan 2024-25

ANATOMY AND PHYSIOLOGY – II

Dmlt-2nd Semester

<p style="text-align: center;">1st Sessional Exam 2024</p> <p>UNIT I Nervous system</p> <p>1.1 Central nervous system (brain and spinal cord) 1.2 Peripheral nervous system (cranial and spinal nerves) 1.3 The sense organs (eye, ear, tongue and nose); structure and functions</p> <p>UNIT II Circulatory system</p> <p>1.1 Composition and functions of blood 1.2 Anatomy and physiology of Heart 1.3 Circulation of blood, Cardiac Cycle and Conducting System of Heart 1.4 The blood pressure 1.5 Arteries and veins 1.6 Lymph and lymphatic system</p>	<p style="text-align: center;">Upto-14-03-2024</p>
<p style="text-align: center;">2nd Sessional Exam 2024</p> <p>UNIT III Endocrine system Description of each endocrine gland its secretions and their effect on the body</p> <p>UNIT IV Excretory System</p> <p>1.1 Organs of excretion (kidneys, ureter, bladder) 1.2 Formation of urine and its composition 1.3 Structure of nephron</p>	<p style="text-align: center;">Upto-24-04-2024</p>
<p style="text-align: center;">3rd Sessional Exam 2024</p> <p>UNIT V Reproductive System</p> <p>1.1 Male and female reproductive system 1.2 The ovarian cycle and ovulation 1.3 Fertilization</p>	<p style="text-align: center;">Upto-25-05-2024</p>

BACTERIOLOGY

<p style="text-align: center;">1st Sessional Exam 2024</p> <p>UNIT 1 Bacteriology 1.1 General characteristics of bacteria-morphology, staining, culture, biochemical</p> <p>1.2 Characteristics, antibiotics related to Gram Positive bacteria and their distribution: Gram Positive</p> <p>1.3 Staphylococci 1.4 Strep to cocci and pneumococci 1.5 Enterobacteriaceae-(Ecoli, Salmonella, Shigella)</p> <p>UNIT II Characteristics, antibiotics related to Gram Negative bacteria and their distribution:-</p> <p>2.1 Pseudomonas 2.2 Proteus 2.3 Vibrio Cholerae 2.4 Neisseria 2.5 Treponema Pallidum 2.6 Mycobacterium tuberculosis and leprae</p>	<p style="text-align: center;">Upto-14-03-2024</p>
<p style="text-align: center;">2nd Sessional Exam 2024</p> <p>UNIT III Bacterial pathogenicity 3.1 Introduction, pathogenicity & infection. 3.2 Sources of infection 3.3 Mode of spread of infection 3.4 Types of infection</p> <p>UNIT IV Nosocomial Infection 4.1 Introduction 4.2 Common types and source of nosocomial infection 4.3 Control of nosocomial infections</p>	<p style="text-align: center;">Upto-24-04-2024</p>
<p style="text-align: center;">3rd Sessional Exam 2024</p> <p>UNIT V Laboratory diagnosis of infectious diseases 5.1 Septicaemia and bacteraemia 5.2 Respiratory tract infections (Throat Swab and Sputum sample) 5.3 Wound infections 5.4 Urinary tract infections 5.5 Enteric fever 5.6 Intestinal infection 5.7 Meningitis</p>	<p style="text-align: center;">Upto-25-05-2024</p>

APPLIED HAEMATOLOGY

<p style="text-align: center;">1st Sessional Exam 2024</p> <p>UNIT I Haemoglobinometry 1.1 Formation of hemoglobin, function and its degradation 1.2 Types of hemoglobin 1.3 Various methods of estimation with specific reference to cyanmethaemoglobin method</p> <p>UNIT II Haemocytometry 2.1 Various counting chambers 2.2 Methods of counting of RBC, WBC and platelets, their calculation and reference values. 2.3 Errors involved in haemocytometry and means to minimize them</p>	<p style="text-align: center;">Upto-14-03-2024</p>
<p style="text-align: center;">2nd Sessional Exam 2024</p> <p>UNIT III Differential leukocyte counting (DLC) 3.1 Preparation and staining of blood film 3.2 Performance of DLC 3.3 Normal values and significance of DLC</p> <p>3.4 Blood cell morphology in health and disease (Peripheral blood film)</p> <p>UNIT IV Quality Assurance in hematology 4.1 Internal & External Quality Assurance 4.2 Define accuracy, precision& Standard Deviation</p>	<p style="text-align: center;">Upto-24-04-2024</p>
<p style="text-align: center;">3rd Sessional Exam 2024</p> <p>UNIT V Automation in hematology 5.1 Various types of Blood cell counter. 5.2 Principle and operation of the automated blood cell counters.</p>	<p style="text-align: center;">Upto-25-05-2024</p>

CLINICAL BIOCHEMISTRY

<p style="text-align: center;">1st Sessional Exam 2024</p> <p>UNIT I Introduction to biochemistry 1.1 Definition and Importance of biochemistry 1.2 Volume tricapparatus and their calibration Blood fractions 1.3 Separation of Serum 1.4 Separation of Plasma 1.5 Different protein precipitating reagents, Preparation of proteinfreefiltrate(PFF)</p> <p>UNIT II Collection and preservation of clinical specimens for bio-chemical analysis of 1.1 Blood 1.2.Urine 1.3.Stool 2.5 Other Body Fluids</p>	<p>Upto-14-03-2024</p>
<p style="text-align: center;">2nd Sessional Exam 2024</p> <p>UNIT III Blood glucose estimation, screening test and glucose tolerance test (GTT) 3.1 Principle and methods of estimation 3.2 Reference values 3.3 Renal threshold</p> <p>UNIT IV Clinical importance of blood sugars/GTT 4.1 Blood urea 4.2 Formation and excretion of urea 4.3 Principle and procedures of different methods of urea estimation 4.3 Reference values 4.5 Clinical Importance</p>	<p>Upto-24-04-2024</p>
<p style="text-align: center;">3rd Sessional Exam 2024</p> <p>UNIT V Serum proteins 1.1 Introduction 1.2 Different methods of estimation including principles and procedures 1.3 Reference values 1.4 Clinical importance</p> <p>Uric Acid 1.5 Introduction, principles and procedures of various stimation methods 1.6 Reference values 1.7 Clinical Importance</p>	<p>Upto-25-05-2024</p>

FUNDAMENTALS OF IT

<p style="text-align: center;">1st Sessional Exam 2024</p> <p>UNIT I Basics of Computer Brief history of development of computers, Definition of Computer, Block diagram of a Computer, Hardware, Software, Booting: Cold and Hot Booting, Interaction between the CPU and Memory with Input/Output devices, Function of CPU and major functional parts of CPU. Memory, Bit, Nibble, Byte, KB, MB, GB, TB, PB, Functions of memory, Use of storage devices in a Computer, List types of memory used in a Computer, Importance of cache memory, CPU speed and CPU word length)</p> <p>UNIT II Basic Internet Skills Understanding browser, Introduction to WWW, efficient use of search engines, awareness about Digital India portals (state and national portals) and college portals. Advantages of Email, Various email service providers, Creation of email id, sending and receiving emails, attaching documents with email and drive. Effective use of Gmail, G-Drive, Google Calendar, Google Sites, Google Sheets, Online mode of communication using Google Meet & WebEx</p>	<p style="text-align: center;">Upto-14-03-2024</p>
<p style="text-align: center;">2nd Sessional Exam 2024</p> <p>Unit III Basic Logic building Introduction to Programming, Steps involved in problem solving, Definition of Algorithm, Definition of Flowchart, Steps involved in algorithm development, differentiate algorithm and flowchart, symbols used in flowcharts, algorithms for simple problems, flowcharts for simple problems, Practice logic building using flowchart/algorithms</p> <p>Unit IV Office Tools Office Tools like LibreOffice/Open Office/MsOffice. Open Office Writer – Typesetting Text and Basic Formatting, Inserting Images, Hyperlinks, Bookmarks, Tables and Table Properties in Writer Introducing LibreOffice/Open Office Calc, Working with Cells, Sheets, data, tables, using formulae and functions, using charts and graphics. OpenOffice Impress – Creating and Viewing Presentations, Inserting Pictures and Tables, Slide Master and Slide Design, Custom Animation</p>	<p style="text-align: center;">Upto-24-04-2024</p>
<p style="text-align: center;">3rd Sessional Exam 2024</p> <p>Unit V Use of Social Media Introduction to Digital Marketing – Why Digital Marketing, Characteristics of Digital Marketing, Tools for Digital Marketing, , Effective use of Social Media like LinkedIn, Google+, Facebook, Twitter, etc.: Features of Social media, Advantages and Disadvantages of Social Media. 1.7 Clinical Importance</p>	<p style="text-align: center;">Upto-25-05-2024</p>

ENVIRONMENTAL STUDIES

<p>1st Sessional Exam 2024</p> <p>UNIT I Introduction 1.1 Basics of ecology, eco system- concept, and sustainable development, Sources, advantages, disadvantages of renewable and nonrenewable energy. 1.2 Rain water harvesting 1.3 Deforestation – its effects & control measures</p> <p>UNIT II Air and Noise Pollution 2.1 Air Pollution: Source of air pollution. Effect of air pollution on human health, economy, Air pollution control methods. 2.2 Noise Pollution: Source of noise pollution, Unit of noise, Effect of noise pollution, Acceptable noise level, Different method of minimizing noise pollution</p>	<p>Upto-14-03-2024</p>
<p>2nd Sessional Exam 2024</p> <p>UNIT III Water and Soil Pollution 3.1 Water Pollution: Impurities in water, Cause of water pollution, Source of water pollution. Effect of water pollution on human health, Concept of DO, BOD, COD. Prevention of water pollution- Water treatment processes, Sewage treatment. Water quality standard. 3.2 Soil Pollution :Sources of soil pollution, Effects and Control of soil pollution, Types of Solid waste- House hold, Industrial, Agricultural, Biomedical, Disposal of solid waste, Solid waste management E-waste, E – waste management</p> <p>UNIT IV Impact of Energy Usage on Environment Global Warming, Green House Effect, Depletion of Ozone Layer, Acid Rain. Eco-friendly Material, Recycling of Material, Concept of Green Buildings, Concept of Carbon Credit & Carbon footprint.</p>	<p>Upto-24-04-2024</p>
<p>3rd Sessional Exam 2024</p> <p>UNIT V Disaster Management A. Different Types of Disaster: Natural Disaster: such as Flood, Cyclone, Earthquakes and Landslides etc. Man-made Disaster: such as Fire, Industrial Pollution, Nuclear Disaster, Biological Disasters, Accidents (Air, Sea Rail & Road), Structural failures(Building and Bridge), War & Terrorism etc. B.Disaster Preparedness: Disaster Preparedness Plan Prediction, Early Warnings and Safety Measures of Disaster Psychological response and Management (Trauma, Stress, Rumour and Panic).</p>	<p>Upto-25-05-2024</p>

Lesson Plan 2024-25

ENGLISH AND COMMUNICATION SKILLS - II

Dmlt-4th Semester

<p style="text-align: center;">1st Sessional Exam 2024</p> <p>UNIT I Reading</p> <p>1.1 All The World's A Stage – W. Shakespeare 1.2 Life Sketch of Dr. Abdul Kalam 1.3 The Portrait of a Lady - Khushwant Singh 1.4 The Doctor's Word by R K Narayan 1.5 Speech by Dr Kiran Bedi at IIM Indore 2007 Leadership Concepts</p> <p>1.6 The Bet - by Anton Chekov</p> <p>UNIT II Effective Communication Skills</p> <p>2.1 Modern means of Communication (Video Conferencing, e- mail, Teleconferencing) 2.2 Effective Communication Skills: 7 C's of Communication 2.3 Non-verbal Communication – Significance, Types and Techniques for Effective Communication 2.4 Barriers and Effectiveness in Listening Skills 2.5 Barriers and Effectiveness in Speaking Skills</p>	<p style="text-align: center;">Upto-14-03-2024</p>
<p style="text-align: center;">2nd Sessional Exam 2024</p> <p>UNIT III Professional Writing</p> <p>3.1 Correspondence: Enquiry letters, placing orders, complaint letters 3.2 Report Writing 3.3 Memos 3.4 Circulars 3.5 Press Release 3.6 Inspection Notes and tips for Note-taking 3.7 Corrigendum writing 3.8 Cover Letter 3.9 Drawing inferences</p> <p>UNIT IV Grammar and Vocabulary</p> <p>4.1 Prepositions 4.2 Conjunctions 4.3 Punctuation 4.4 Idioms and Phrases 4.5 Pairs of words (Words commonly misused and confused) 4.6 Translation of Administrative and Technical Terms in Hindi or Mother</p>	<p style="text-align: center;">Upto-24-04-2024</p>

3rd Sessional Exam 2024

UNIT V

Employability Skills

5.1 Presentation Skills: How to prepare and deliver a good presentation

5.2 Telephone Etiquettes

5.3 Importance of developing employable and soft skills

**Upto-25-05-
2024**

CLINICAL HAEMATOLOGY -II

<p style="text-align: center;">1st Sessional Exam 2024</p> <p>UNIT I Haemostasis</p> <p>1.1 Introduction to normal haemostasis. 1.2 Theories of blood coagulation. 1.3 Platelets and their role in haemostasis including count. 1.4 Bleeding disorders and related diseases. 1.5 Principles, clinical importance, reference values and methods of: prothrombin time, prothrombin time index (PTI) International normalized ratio (INR), Activated Partial Thromboplastin time (APTT), Thrombin Time (TT), bleeding time (BT), Hess test, clotting time (CT), and clot retraction test (CRT).</p> <p>UNIT II Bone – marrow</p> <p>2.1 Composition and function of bone-marrow. 2.2 Aspiration of bone-marrow by various methods. 2.3 Preparation, staining and examination of bone-marrow smears for myelogram including M.E. Ratio. 2.4 Iron staining (Perls' reaction). 2.5 Significance of bone-marrow examination</p>	<p style="text-align: center;">Upto-14-03-2024</p>
<p style="text-align: center;">2nd Sessional Exam 2024</p> <p>UNIT III Leukemia</p> <p>3.1 Definition of leukemias. 3.2 (FAB) Classification. 3.3 Laboratory diagnosis of various leukemias.</p> <p>UNIT IV LE Cell Phenomenon</p> <p>4.1 Phenomenon of LE cell, its differentiation from tart cell. 4.2 Demonstration of LE cell by various methods. 4.3 Clinical significance.</p>	<p style="text-align: center;">Upto-24-04-2024</p>
<p style="text-align: center;">3rd Sessional Exam 2024</p> <p>UNIT V Biological Body Fluids</p> <p>5.1 Semen Analysis in detail. 5.2 Cell counts of various biological fluids</p>	<p style="text-align: center;">Upto-25-05-2024</p>

IMMUNOLOGY AND MYCOLOGY

<p style="text-align: center;">1st Sessional Exam 2024</p> <p>UNIT I 1.1 Introduction to Mycology 1.2 Characteristics and classification of medically important fungi</p> <p>UNIT II 2.1 Collection, processing of sample for fungal infection in Skin, Nail and Hair - KOH preparation - LCB (Lactophenol cotton blue) - India ink 2.2 Fungal Culture media SDA (Sabouraud's dextrose agar) with and without antibiotics</p>	<p style="text-align: center;">Upto-14-03-2024</p>
<p style="text-align: center;">2nd Sessional Exam 2024</p> <p>UNIT III 3.1 Fungal Cultivation Medically important fungi - Candida, Dermatophytes 3.2 Laboratory Contaminants - Penicillium, Rhizopus, Mucor, Aspergillus</p> <p>UNIT IV 4.1 Antigen-Antibody Reactions 4.2 Principle and applications of agglutination, precipitation and flocculation reactions.</p>	<p style="text-align: center;">Upto-24-04-2024</p>
<p style="text-align: center;">3rd Sessional Exam 2024</p> <p>UNIT V 5.1 Principle, techniques and application of ELISA (direct and indirect) 5.2 Principle, techniques and interpretation of i) Widal - Tube method/ Titre slide method ii) Anti streptolysin O iii) C-reactive protein iv) VDRL/RPR v) Rheumatoid factor (RF)</p>	<p style="text-align: center;">Upto-25-05-2024</p>

ANALYTICAL CLINICAL BIOCHEMISTRY

1st Sessional Exam 2024	
UNIT I Urine Analysis 1.1 Normal composition of urine 1.2 Qualitative analysis of proteins, sugar, ketone bodies, bilirubin and blood. 1.3 Detailed discussion on glycosuria and albuminuria 1.4 Clinical significance of urine analysis UNIT II Renal Function Tests (Renal clearance Tests) 2.1 Urea clearance Test 2.2 Creatinine clearance test 2.3 Clinical significance of Renal Function Test (RFT)	Upto-14-03-2024
2nd Sessional Exam 2024	
UNIT III Stool Chemistry 3.1 Physical characteristics and chemical composition of stool 3.2 Detection of occult blood and excess fat in stool 3.3 Significance of presence of blood and excess fat in stool UNIT IV Electrophoresis and Chromatography 4.1 Principle and Theory of Electrophoresis 4.2 Types of Electrophoresis 4.3 Clinical significance / applications of Electrophoresis 4.4 Principle and Theory of Chromatography 4.5 Types of Chromatography 4.6 Clinical significance / applications of Chromatography	Upto-24-04-2024
3rd Sessional Exam 2024	
UNIT V Thyroid function tests and Automation in Biochemistry 5.1 Clinical Significance of T ₃ , T ₄ and TSH 5.2 Anti-Thyroid Peroxidase (TPO) Test 5.3 Free Thyroid Profile Tests (Free T ₃ , T ₄ and TSH Test) 5.4 Definition and introduction of auto analyzers in clinical biochemistry 5.5 Classification and types of Auto analyzers	Upto-25-05-2024

IMMUNOPATHOLOGY AND CYTOLOGY

<p style="text-align: center;">1st Sessional Exam 2024</p> <p>UNIT I Special stains</p> <p>1.1 Principle, significance and interpretation of different types of stains - PAS (Periodic Acid Schiff's Reagent) - Silver impregnation stain – Reticulin fibre - Ziehl Neelson's – for AFB and Leprae - Masson's trichrome stain - Oil Red O – fat - Gram's stain – Gram +ve and Gram –ve</p> <p>1.2 Definition of Decalcification 1.3 Process of decalcification 1.4 Various types of decalcifying methods, Their mechanism, advantage, disadvantage and applications 1.5 Assessment of decalcification</p> <p>UNIT II Handling of fresh histological tissues (Frozen Section)</p> <p>2.1 Reception and processing of frozen tissue 2.2 Freezing microtome and cryostat 2.3 Advantages and dis-advantages of freezing microtome and cryostat 2.4 Working, care, maintenance of freezing microtome and cryostat 2.5 Frozen section cutting</p> <p>2.6 Staining - Rapid H&E - Fat stain 2.7 Mounting of frozen section</p>	<p style="text-align: center;">Upto-14-03-2024</p>
<p style="text-align: center;">2nd Sessional Exam 2024</p> <p>UNIT III Museum Techniques</p> <p>3.1 Introduction to museum with emphasis on importance of museum 3.2 Reception, fixation and processing of various museum specimens</p> <p>3.3 Cataloguing of museum specimen 3.4 Introduction to autopsy technique 3.5 Care and maintenance of autopsy area, autopsy instruments, 3.6 handling of dead bodies and various use of autopsy</p> <p>UNIT IV Aspiration Cytology</p> <p>4.1 Principle of FNAC (Fine Needle Aspiration Cytology) 4.2 Procedure of FNAC 4.3 Indications of FNAC 4.4 Uses of FNAC</p>	<p style="text-align: center;">Upto-24-04-2024</p>
<p style="text-align: center;">3rd Sessional Exam 2024</p> <p>UNIT V Cytological Special Stains</p> <p>5.1 Principle, Technique & Interpretation of PAS (Periodic Acid Schiff's reagent Stain) 5.3 Free Thyroid Profile Tests (Free T₃, T₄ and TSH Test)</p>	<p style="text-align: center;">Upto-25-05-2024</p>

Principle, Technique & Interpretation of Zeihl Neelson's (ZN) Stain (AFB)

5.3 Advancements in Cytology, Automation in Cytology, Use of Cytospin

5.4 Harmonal Assessment , Importance of HCG

5.5 Use of Harmonal Assessment (Pregnancy Test)

MEDICAL LABORATORY MANAGEMENT

<p style="text-align: center;">1st Sessional Exam 2024</p> <p>UNIT I Introduction and importance of Medical Laboratory Management, layout of clinical laboratory, Facility in clinical Laboratory. Role of Medical Laboratory in total health care.</p> <p>UNIT II Material management in clinical Laboratory (procurement, financial resources, importing, inventory, inspection, storage). Quality Assurance (Analytical control, Internal and external quality assurance in clinical laboratories important terms; precision, accuracy, standard deviation as per national standards)</p>	<p style="text-align: center;">Upto-14-03-2024</p>
<p style="text-align: center;">2nd Sessional Exam 2024</p> <p>UNIT III Safety Precautions Safety measures in clinical laboratories .Disposal of Biomedical waste. First Aid in Clinical Laboratory: (Acid burn/Alkali burn, Accidental trauma, Gas/Toxic inhalation). Laboratory Equipment - Care and Maintenance.</p> <p>UNIT IV Introduction to Laboratory Accreditation and its importance. Introduction and importance of Medical Ethics and Code of Conduct Ethics and code of conduct - legal aspects – confidentiality malpractice/ negligence, law suits, consumer protection and insurance for professional health hazards</p>	<p style="text-align: center;">Upto-24-04-2024</p>
<p style="text-align: center;">3rd Sessional Exam 2024</p> <p>UNIT V Role of Computer in Lab services Storage and retrieval of laboratory data manually and with help of computer software and QR Code)</p>	<p style="text-align: center;">Upto-25-05-2024</p>

ENTREPRENEURSHIP DEVELOPMENT AND MANAGEMENT

<p>1st Sessional Exam 2024</p> <p>UNIT I Entrepreneurship: Concept and definitions, classification and types of entrepreneurs, entrepreneurial competencies, Traits / Qualities of entrepreneurs, manager v/s entrepreneur, role of Entrepreneur, barriers in entrepreneurship, Sole proprietorship and partnership forms of business organisations, small business vs startup, critical components for establishing a start-up, Leadership: Definition and Need, Manager Vs leader, Types of leadership</p> <p>UNIT II Definition of MSME (micro, small and medium enterprises), significant provisions of MSME Act, importance of feasibility studies, technical, marketing and finance related problems faced by new enterprises, major labor issues in MSMEs and its related laws, Obtaining financial assistance through various government schemes like Prime Minister Employment Generation Program (PMEGP) Pradhan Mantri Mudra Yogna (PMMY) , Make in India, Start up India,</p>	<p>Upto-14-03-2024</p>
<p>2nd Sessional Exam 2024</p> <p>UNIT III NATURE AND FUNCTIONS OF MANAGEMENT: Definition, Nature of Management, Management as a Process, Management as Science and Art, Management Functions, Management and Administration, Managerial Skills, Levels of Management; Leadership. PLANNING AND DECISION MAKING: Planning and Forecasting - Meaning and definition, Features, Steps in Planning Process, Approaches, Principles, Importance, Advantages and Disadvantages of Planning, Types of Plans, Types of Planning, Management by Objective. Decision Making-Meaning, Characteristics.</p> <p>UNIT IV ORGANISING AND ORGANISATION STRUCTURE: Organising Process - Meaning and Definition, Characteristics Process, Need and Importance, Principles, Span of Management, Organisational Chart - Types, Contents, Uses, Limitations, Factors Affecting Organisational Chart. STAFFING: Meaning, Nature, Importance, Staffing process. Manpower Planning, Recruitment, Selection, Orientation and Placement, Training, Remuneration. CONTROLLING AND CO-ORDINATION Controlling - Meaning, Features, Importance, Control Process, Characteristics of an effective control system, Types of Control. Co-ordination - characteristics, essentials</p>	<p>Upto-24-04-2024</p>
<p>3rd Sessional Exam 2024</p> <p>UNIT V Market Survey and Opportunity Identification, Scanning of business environment, Assessment of demand and supply in potential areas of growth, Project report Preparation, Detailed project report including technical, economic and market feasibility, Common errors in project report preparations, Exercises on preparation of project report</p>	<p>Upto-25-05-2024</p>