



Curriculum MBBS

4th Year

(2019-20)

**National University of Medical Sciences
Pakistan**

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Guidelines: MBBS Year IV Curriculum

1. Preamble.

- a. The curriculum meets the standards of Pakistan Medical and Dental Council and Higher Education Commission of Pakistan so that our students, on completion of program have required competencies as defined worldwide for a graduate doctor. NUMS curriculum, revised 2018, is based on SPICES model of educational strategies. It is student centered, problem based, integrated, community oriented and systematic. Our curriculum is evolved taking into consideration traditional, experiential, behavioral, and constructivist perspectives of curricula.
- b. The curriculum framework, for MBBS year IV has been developed by the faculty of constituent/affiliated colleges in collaboration with Academic Directorate of NUMS.
- c. There are three blocks in an academic year. The duration of Block I is 12 weeks and rest of the two are of 10 weeks each.

2. Vision of MBBS Program

NUMS strive to inspire nationally and internationally by pursuing excellence in medical education, research and patient care to meet the evolving healthcare needs of the nation and the region through Professionalism, Excellence and Teamwork.

3. Mission Statement

Our mission is to:

- a) Create and nurture a diverse community of the best people as key members of the medical community, whether in clinical practice, medical education, research or as leaders of the health-care system, serving both the uniformed and the nation at large.
- b) Produce socially accountable competent doctors who will make a significant contribution to the health of the community through evidence-based healthcare.
- c) Attract best faculty who can contribute to the quality of medical education and research.

4. Resources

- a. **Faculty:** To be filled in by the institute
- b. **Facilities:** To be filled in by the institute (Lecture hall, labs, SGD rooms)

5. Administration for Course

To be filled in by the institute

6. Administrative structure: Support staff. To be filled in by the institute

7. Communication: How Students are informed about their sessions e.g. via notice board

8. Internal Assessment

During each block, the students are continually formatively assessed. The weightage of internal assessment is 10 % in 4th professional MBBS Examination. There are three internal blocks and one pre -annual examination. The scores of each end block assessment and pre-annual examination is used for the calculation of internal assessment.

9. Annual Professional Examination.

The University will take 4th professional Examination as per PM&DC guidelines at the end of the academic year. Annual Theory & Practical Examination will be of 300 marks each in Special Pathology, Community Medicine and 200 marks for ENT and Ophthalmology. The pass score will be 50% in theory and practical separately. The detail marks distribution of 4th year is given below: -

10. Contact Hours and marks allocation in year IV MBBS

S No	Subjects	Contact Hours	Total Marks	Clinical Rotation
Examining				
1	Special Pathology	260	300	
2	Community Medicine	250	300	
3	ENT	100	200	08 Week
4	Ophthalmology	100	200	08 Week
Non examining (Clinical)*				
4	Medicine & Allied	275		08 Week
5	Surgery & Allied	275		08 Week
6	Gynaecology & Obstetrics	100		
7	Paediatrics	50		
Total		1410		

*For clinical subjects contact hours may be covered by following teaching strategies:

- LGIS
- SGD
- 08 week clinical rotation (**mandatory**)

11. Evaluation of the Course

To be filled in by the institute

Mechanism of taking feedback from student and faculty to each other.

After taking test, how the key formed by faculty is discussed with the students.

How end of block evaluation is carried out.

SECTION-I

SPECIAL PATHOLOGY

1. Overview

All major subjects of Special Pathology, Hematology and Chemical Pathology would be covered in the form of lectures, CBL's and CPC's in three blocks. Total contact hours are 260 hours

2. Educational Strategies

- a. Lectures
- b. Small group discussion
- c. Lab practical
- d. Skill lab
- e. Case based learnings
- f. Tutorials

3. Assessments

- a. There will be two end block exams taken at the end of block I& II. The syllabus for end block examination will be announced by the department at least 02 weeks prior to examination. End block exam will be conducted by the Pathology Department. Assessment tools to be decided by respective faculty. Schedule and date will be announced by the examination branch of respective institute.
- b. Pre annual exam will be taken for both theory and practical after completion of the curriculum at the end of block III. Pre-annual examination will be from whole syllabus. Table of specification for Pre annual exam is similar to annual exam. Schedule for Pre-annual exam (Theory and Practical) will be announced by the examination branch of respective institute
- c. Marks of End block and Pre annual exams will contribute to internal assessment
- d. Schedule for annual examination (Theory and Practical) will be announced by NUMS. Practical examination will be conducted by Pathology department while theory part will be conducted by the examination Dte, NUMS.

SPECIAL PATHOLOGY - BLOCK I

CODE: Y4B1

DURATION: 12 WEEKS

By the end of Block I, the students will be able to:

S No	Theme	Learning Outcomes	Course Content	% Weightage
1	Cardiovascular system	Correlate the morphology & pathogenesis of cardiac and blood vessel diseases with their etiology & complications	<ul style="list-style-type: none"> • Atherosclerosis • Hypertensive Vascular Disease • Aneurysm • Vasculitides • Ischemic Heart Disease • Cardiac Failure • Hypertensive Heart Disease • Rheumatic Fever And Rheumatic Heart Disease • Congenital Heart Disease • Cardiomyopathies • Pericardial Diseases • Tumors of CVS 	35%
		Justify the importance of various biochemical markers in diagnosis of cardiovascular disorders	<ul style="list-style-type: none"> • Cardiac markers/enzymes • Lipid & Lipoproteins 	
2	Respiratory System	Correlate the morphology & pathogenesis of respiratory disorders with their etiology & complications	<ul style="list-style-type: none"> • ARDS • COPD • Asthma & Bronchiectasis • Interstitial Lung Diseases • Pulmonary Vascular Disorders • Pneumonias • Granulomatous Diseases • Lung Cancer • Pleura • Pleural Effusion & Pneumo-thorax 	30%
		Justify the importance of various biochemical markers in diagnosis of metabolic and endocrine disorders	Acid base disorders	
3	Oral cavity and Gastrointestinal tract	Analyze the Non neoplastic and neoplastic lesions of salivary glands & oral cavity based on their etiology and pathogenesis, morphology & complications	<ul style="list-style-type: none"> • Inflammatory, neoplastic and non-neoplastic lesions of salivary glands • Tumor and Precancerous conditions of Oral cavity 	35%

		Correlate the morphology (Microscopic and macroscopic) of gastrointestinal disorders* to their etiology and pathogenesis *Esophagus, Stomach, Small intestine and large intestine	<ul style="list-style-type: none">• Motor disorders of esophagus, varices, esophagitis & Barrett’s esophagus• Tumors of Esophagus• Gastritis & Peptic ulcer Disease• Tumors of Stomach• Malabsorption & celiac disease• Inflammatory Bowel Disease• Enter colitis• Acute appendicitis• Malignant lesions of small & large intestine	
	Hepatobiliary system and Pancreas	Correlate the morphology (Microscopic and macroscopic) of Hepatobiliary and pancreatic disorders to their etiology and pathogenesis	Hepatobiliary tract <ul style="list-style-type: none">• Cirrhosis• Acute & Chronic hepatitis• Drug induced & toxic Liver Injury• Metabolic Liver disease• Cholestatic diseases• Tumors of Liver• Gall bladder diseases Pancreas <ul style="list-style-type: none">• Congenital anomalies Pancreatitis• Neoplastic disorders of exocrine function of pancreas	
		Justify the importance of various biochemical markers in diagnosis of hepatic and pancreatic disorders	<ul style="list-style-type: none">• Liver function tests• Diagnosis of acute and chronic Hepatitis• Diagnosis of Acute Pancreatitis	
		Total		
	End Block Assessment	End Block Assessment to be taken by concerned institute itself Assessment tools: MCQs & SAQs/SEQs		

PATHOLOGY - BLOCK I

CODE: Y4-B1

DURATION: 12 WEEKS

LEARNING OUTCOMES	List of Practicals
Establish diagnosis by correlating findings of given slides with given scenarios	Atherosclerosis
	Rheumatic carditis and Myocardial infarction
	Pulmonary tuberculosis and Bronchiectasis
	Lobar Pneumonia and Broncho Pneumonia
	Chronic Bronchitis and Bronchogenic carcinoma
	Chronic gastritis, Peptic ulcer
	Carcinoma stomach, Ulcerative colitis, Crohn's disease, TB intestines
	Cirrhosis, CA liver, Chronic Viral Hepatitis, Ch. Cholecystitis
	Rectal Polyps and Colorectal carcinoma
	Acute appendicitis, Typhoid, Malabsorption

PATHOLOGY - BLOCK II

CODE: Y4B2

DURATION: 10 WEEKS

By the end of Block II, the students will be able to:

S No	Theme	Learning Outcomes	Course Content	% Weightage
1.	Urinary System	Correlate the morphology (Microscopic and macroscopic) of urinary disorders to their etiology and pathogenesis	<ul style="list-style-type: none"> Glomerular Diseases Tubulo Interstitial Diseases Vascular disorders Congenital & developmental anomalies Cystic diseases of kidney Obstructive Uropathy Neoplasms of kidney Congenital anomalies of ureter and urinary bladder Neoplastic disorders of ureters and urinary bladder 	25%
		Justify the importance of various biochemical markers in diagnosis of renal disorders	<ul style="list-style-type: none"> Fluid and electrolyte disorders Renal Function tests Proteinuria and nephrotic/ nephritic syndrome 	
2.	Male genital system	Correlate the morphology (Microscopic and macroscopic) of male genital disorders to their etiology and pathogenesis	<ul style="list-style-type: none"> Congenital anomalies of penis Congenital anomalies of testis Testicular tumors Prostatic hyperplasia and carcinoma Inflammatory disorders 	15 %
		Justify the importance of biochemical markers in diagnosis of prostatic cancer	<ul style="list-style-type: none"> PSA 	
3.	Female genital system	Correlate the morphology (Microscopic and macroscopic) of female genital tract disorders to their etiology and pathogenesis	<ul style="list-style-type: none"> Vulva Vagina Cervix Endometrium & Myometrium Fallopian tubes Ovaries Gestational and placental disorders Infertility 	25%
4.	Diseases of Breast	Correlate the morphology (Microscopic and macroscopic) of	<ul style="list-style-type: none"> Benign epithelial lesions Carcinoma breast Stromal Tumors 	10%

		Breast pathology to their etiology and pathogenesis		
		Justify the importance of biochemical markers in diagnosis of breast cancer	Breast tumor markers	
5.	The Skin	Correlate the morphology (Microscopic and macroscopic) of epidermal and dermal disorders to their etiology and pathogenesis	<ul style="list-style-type: none">Disorders of Pigmentation & MelanocytesBenign Epithelial tumorsPre malignant & malignant epidermal tumorsTumors of the dermisChronic inflammatory dermatosisBlistering diseasesDisorders of Epidermal appendages	10%
6.	Bones, Joints and Soft Tissue	Correlate the morphology (Microscopic and macroscopic) of bone, joints and soft tissue disorders to their etiology and pathogenesis	<ul style="list-style-type: none">Defects in metabolic pathways of Bone developmentAcquired disorders of bone & cartilageFractures of BoneOsteomyelitisBone tumors & tumor like lesionsJointsSoft TissuesTumors of Adipose tissueFibrous tumorsSkeletal muscle tumorsSmooth muscle tumorsTumors of uncertain origin	15%
		Justify the importance of biochemical markers in diagnosis of certain metabolic disorders	<ul style="list-style-type: none">Uric acid and Gout	
Total				100
	End Block Assessment	End Block Assessment to be taken by concerned institute itself Assessment tools: MCQs & SAQs/SEQs		

PATHOLOGY - BLOCK II

CODE: Y4-B2

DURATION : 10 WEEKS

S No	Learning Outcomes	List of Practicals
1	Establish diagnosis by correlating findings of given slides with given scenarios	Chronic pyelonephritis, renal stones, Wilm's tumor Renal cell carcinoma Transitional cell carcinoma- Bladder
		Benign prostatic hyperplasia Prostate carcinoma Seminoma Testis
		Leiomyoma Cystadenoma (Serous and Mucinous) CA Cervix, Endometrial Carcinoma Mature Cystic Teratoma, Ovarian Tumors, Endometriosis
		Fibroadenoma Invasive ductal carcinoma breast Fibrocystic disease

PATHOLOGY - BLOCK III

CODE:Y4B3

DURATION: 10 WEEKS

By the end of Block III, the students will be able to:

S No	Theme	Learning Outcomes	Course Content	% Weightage
1.	The Endocrine System	Correlate the microscopic structure and physiology of endocrine gland disorders with their etiology and pathogenesis	<ul style="list-style-type: none"> • Pituitary Gland • Thyroid gland • Parathyroid gland • Pancreas (endocrine part) • Adrenal gland • Adrenal cortex • Adrenal medulla • Diabetes Mellitus 	25%
		Justify the importance of various biochemical markers in diagnosis of different endocrine disorders	<ul style="list-style-type: none"> • Pituitary Function test • Thyroid function test • Adrenal function test • Parathyroid gland disorders • Biochemical diagnosis of infertility 	
2.	Central Nervous & Peripheral nervous system (Neuromuscular junction, skeletal muscle disorders and special sense of vision)	Correlate the morphology (Microscopic and macroscopic) of central and peripheral nervous system disorders* to their etiology and pathogenesis * Neuromuscular junction, skeletal muscle disorders and special sense of vision	<ul style="list-style-type: none"> • Disease of Neuromuscular junction • Diseases of Skeletal muscle • Peripheral nerve sheath tumors • Malformations and developmental disorders • Traumatic injury • Cerebro vascular disease • Infections • Prion diseases • Demyelinating Diseases • Neuro degenerative diseases • CNS tumors • Retinal neoplasms 	20%
Haematology				
3.	Diseases of Lymph nodes, Spleen & thymus	<ul style="list-style-type: none"> • Differentiate between Hodgkin's and non-Hodgkin's lymphoma on the basis of etiology, morphology & pathogenesis 	<ul style="list-style-type: none"> • Hodgkin's lymphoma • Non-Hodgkin's lymphoma • Diseases of Thymus • Multiple Myeloma 	10%

		<ul style="list-style-type: none"> Compare various types of thymomas on the basis of their morphology 		
		Justify the importance of biochemical markers in diagnosis of various hematological disorders	Plasma Proteins	
4.	Red blood cells and bleeding disorders	<ul style="list-style-type: none"> Interpret the lab reports of patient with Red cell & coagulation disorders based on pathophysiology of disease Analyze the hazards of blood transfusion Appraise the rejection reactions associated with bone marrow transplantation 	<ul style="list-style-type: none"> Anemias Autoimmune, hemolytic anemia Hemolytic anemia (HS, G6PD, SCD) Thalassemia syndromes Coagulation disorders (hemophilia, VWD) Blood transfusion, RH incompatibility Bone marrow transplantation Transplantation rejection 	15%
5.	Diseases of White blood cells	<ul style="list-style-type: none"> Interpret the lab reports of patient with white cell disorders based on pathophysiology of disease 	<ul style="list-style-type: none"> Non-neoplastic white cells disorders (infections, inflammation) Overview and classification of neoplastic proliferation of WBCs 	15%
6.	Diseases of Platelets	<ul style="list-style-type: none"> Interpret the lab reports of patient with platelets disorders based on pathophysiology of disease 	<ul style="list-style-type: none"> Bleeding diathesis platelet disorders DIC, Thrombotic Thrombocytopenic purpura, HUS Myeloproliferative disorders Myelodysplastic syndrome 	15%
Total				100
	End Block Assessment	End Block Assessment to be taken by concerned institute itself Assessment tools: MCQs & SAQs/SEQs		

PATHOLOGY - BLOCK III

CODE: Y4-B3

DURATION : 10 WEEKS

S No	Learning Outcomes	List of Practicals
1	Establish diagnosis by correlating findings of given slides with given scenarios	Multinodular goiter
		Follicular Adenoma
		Papillary Carcinoma thyroid
		Spectrophotometer
		Pleomorphic adenoma Salivary Gland
		Giant cell tumor, Osteosarcoma
		Leishman Stain
		Reticulocyte count
		RBCs disorders
		WBCs disorders
		Blood grouping
		Multiple Myeloma
		Hodgkin's lymphoma and Non-Hodgkin's lymphoma
		Tuberculous lymphadenitis

SECTION - II

COMMUNITY MEDICINE

1. Vision

We promote health of communities through excellence in leadership, education and research for developing a responsive and sustainable health care.

2. Mission

To prevent disease and injury, promote wellness; protect communities and environment for ensuring self-reliance and sustainable behavior change.

3. Overview

All major topics will be covered in the form of lectures, CBL's and CPC's in three blocks. Total contact hours are 250 Hours

4. Learning Strategies.

- a. Interactive lectures
- b. Practicals
- c. Case based learning
- d. Small group discussions
- e. Visits
- f. Tutorials

5. Assessment

- a. There will be two end block exams taken at the end of block I & II. The syllabus for end block examination will be announced by the department at least 02 weeks prior to examination. End block exam will be conducted by the respective Department. Assessment tools to be decided by respective faculty. Schedule and date will be announced by the examination branch of respective institute.
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- c. Marks of End block and Pre annual exams will contribute to internal assessment
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BLOCK-I					
Statistical Applications in Health and Disease					
Code Y4B1					
Duration 12 weeks					
At the end of contact session, learner should be able to:					
S No	Theme	Learning Outcomes		Course Content	%
		Knowledge	Skills		
1	Medical Ethics	Relate ethical issues and dilemmas with medical teaching and service delivery in a given scenario	<ul style="list-style-type: none"> • Maintain confidentiality • Practice non-maleficence • Maintain Doctor-patient relationship/autonomy 	<ul style="list-style-type: none"> • Importance of Medical Ethics • Principles of Medical Ethics • Violations to Medical Ethics in Pakistan • How to overcome these violations 	3
2	General epidemiology	Describe different research designs used to collect, analyze and interpret results from epidemiological studies	<ul style="list-style-type: none"> • Application of concepts & aims of Epidemiology to clinical medicine this is not a skill • Calculation and interpretation epidemiological rates and ratios for morbidity/mortality? 	<ul style="list-style-type: none"> • Aims of Epidemiology and their application to clinical medicine • Predicting disease patterns according to concepts of epidemiological transition and polarization • Calculation and interpretation of epidemiological rates and ratios for morbidity/mortality, fertility and migration statistics • Classification of different study designs in epidemiology. Calculating, analyzing and interpreting their 	25

				<p>results. Merits & demerits of studies and differentiate them</p> <ul style="list-style-type: none"> • Types of Bias and the techniques for its minimization in different study designs • Association and causation 	
3	Biostatistics	<ul style="list-style-type: none"> • Identify various types of data. • Differentiate measures of central tendency and dispersion. • Interpret the normal distribution curve, skewed distribution, bi and poly-modal distribution & Standard Normal Curve • Classify and explain various sampling techniques • Differentiate between null and alternate hypothesis, recall steps of its testing and indicate probable errors • Interpret p-value 	<ul style="list-style-type: none"> • Conceptualize, plan & present a supervised student research project • Use relevant statistical program and computer for data entry and analysis • Conduct health situation survey/house-hold survey • Demonstrate the sampling technique is this a psychomotor skill? 	<ul style="list-style-type: none"> • Data, its various types and its classification, presentation, analysis and interpretation • Central tendency and dispersion of data set • Various distributions of data • Sampling and its various techniques • Normal distribution curve, skewed distribution, Standard Normal Curve • Statistical analysis (concept and application) • Null and alternate hypothesis, and recalling steps of its testing and indicate probable errors • Sample size • p-value 	25
4	Concept of Health and Disease	<ul style="list-style-type: none"> • Define health and summarize its determinants and indicators. • Choose the most sensitive indicators by citing different examples 		<ul style="list-style-type: none"> • Definition of health, • Dimensions and determinants of health • Spectrum of health. • Indicators of Health. • Responsibility for health. • Concept disease causation (all theories 	7

		<ul style="list-style-type: none"> • Illustrate and describe theories of disease causation • Relate the concept of natural history of disease and iceberg phenomena and relate it with • Differentiate between disease control, elimination & eradication • Interpret levels of prevention and intervention measures, with applied examples. 		<p>including ecological triad, (agent, host & environmental factors).</p> <ul style="list-style-type: none"> • Spectrum of disease. • Iceberg phenomenon. • Natural history of disease. • Levels of prevention. 	
5	Research methodology	<ul style="list-style-type: none"> • Apply basic biostatistics and epidemiological techniques to research community health projects • Draw conclusions from data • Prepare and present research report • Develop tool for data collection • Estimating the sample size • Apply ethical principles to resolve issues of service delivery in a given research • Formulate the research hypothesis/ research Question/ research objectives • Write references according to Vancouver style 	<ul style="list-style-type: none"> • Formulate a research hypothesis • Collect Sample from field • Enter data on SPSS and Excel • Run analysis on SPSS • Search the literature • Practice Ethics in general and specifically in conducting human Research, including informed consent and basic human right for accepting or declining to participate in research 	<ul style="list-style-type: none"> • Selection of research question according to WHO criteria. • How to write Title and Introduction, conduct literature review, compose study objective and select appropriate research methods including study variables and analysis plan. • Data entry and analysis using SPSS package. • Drafting a research article according to standardized scientific method. • Ethics in research 	5

6	Infectious disease epidemiology (General)	<ul style="list-style-type: none"> • Interpret various terms used to describe infectious diseases and relate levels of prevention and intervention measures, with applied examples. • Identify and interpret various types of epidemics from the focus of disease spread and control • Illustrate graphically and relate the natural history and progression of an epidemic type to stages of prevention • Comprehend the objectives & logic in steps of investigating an epidemic • Assess the level of care at primary, secondary and tertiary level as applied in real life setting. • Recommend disease control measures 	<ul style="list-style-type: none"> • Communicate effectively regarding preventive measures <p>Identify and suggest various methods of sterilization and disinfection in given situations.</p>	<ul style="list-style-type: none"> • Infection, Contamination, Infestation, Pollution, Infectious disease, Contagious disease, Communicable disease, Host, Immune and Susceptible persons, Sporadic, Endemic, Epidemic, Pandemic, Exotic, Epizootic, Enzootic, Zoonosis, Nosocomial infection, opportunistic infection, iatrogenic (physician-induced) infections, Surveillance, Eradication, Elimination • Reservoir and source of infection, escape of organism, modes of transmission, entry into the body, susceptible host. • Carrier state and its types (Incubatory, convalescent, healthy) • Incubation period, latent period and generation time. • Epidemic and its types, investigation of an outbreak or an epidemic • Sterilization & disinfection Sterilization and disinfection methods and recommendations on identifying gaps 	13
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7	Screening	<ul style="list-style-type: none"> • Comprehend Concept and importance of screening • Describe qualities of a good screening test • Apply knowledge for making smart choices • Discover relationship between screening and prevalence of disease • Comprehend effects of changing sensitivity and specificity on usefulness of screening • Understand and calculate accuracy of a screening test • Identify and correlate favorable characteristics of a disease that make screening useful and relevant for the disease • Identify different misinterpretations/ errors in the screening programmes • Comprehend ethical concerns in carrying out screening programmes 		<ul style="list-style-type: none"> • Concept and importance of screening • Qualities of a good screening test • Relationship between screening and prevalence of disease • Effects of changing sensitivity and specificity on usefulness of screening • Accuracy of a screening test • Favorable characteristics of a disease that make screening useful and relevant for the disease • Different misinterpretations/ errors in the screening programmes • Comprehend ethical concerns in carrying out screening programmes 	7
8	Primary Health Care, Leadership, SDGs International health	<ul style="list-style-type: none"> • Comprehend the changing concept of health • Categorize health problems based on criteria of 	Assess the adequacy of level of healthcare at a given facility	<ul style="list-style-type: none"> • Development of Public Health in Pakistan. • "Health for All", background, concepts and progress 	13

	(partners in health),	<p>susceptibility to control</p> <ul style="list-style-type: none"> • Explain the concept of 'Health for All,' Principles of Primary Health care and relate its components/elements • Describe the Sustainable Development Goals (SDGs) and relate to national programs and developmental outcomes • Describe the concept of leadership and identify the role of leadership in PHC • Differentiate between comprehensive and selective PHC • Describe current comprehensive and selective primary healthcare programs and apply principles of leadership to identify gaps and recommend reforms • Identify and describe gaps in implementation of PHC 		<ul style="list-style-type: none"> • "Primary Health Care": Concepts and progress. • Leadership in health • Sustainable Development Goals (SDGs 2030) • Rural and Urban Health 	
9	HMIS	<ul style="list-style-type: none"> • Identify existing sources of statistical data in Pakistan, Census and its types • Comprehend different stages of planning such as: situational analysis, establishment of objectives and goals, assessment of 	<ul style="list-style-type: none"> • Collect relevant data • Learn to manage data as part of health information system (HMIS) • Evaluate adequacy of Health System (THQ) using checklist 	<ul style="list-style-type: none"> • Characteristics elements, components, and uses of HMIS • Reason for failure of HMIS in Pakistan • Suggestions to improve HMIS in Pakistan 	2

		<p>resources, fixing priorities, outlining, programming and implementation, monitoring and evaluation</p> <ul style="list-style-type: none"> • Interpret questionnaire for service assessment/ health benefits • Comprehend the rationale of devolution of power and the problems of health care system in Pakistan • Identify current gaps post 18th Amendment and role of tertiary-care facilities in delivering healthcare at all levels 	<ul style="list-style-type: none"> • Communicate effectively the themes of various international days to individuals in hospitals and communities • Prepare and disseminate health information related to specific recognized dates of public health importance • Plan a seminar/symposium, invite interdisciplinary guest-speakers for specific days of public health importance 		
	End Block Assessment	End Block Assessment to be taken by concerned institute itself			100
		Assessment tools: MCQs & SAQs/SEQs			

Schedule of Visits

Visits in Block I
Visit to Basic health unit
Visit to rehabilitation Center

COMMUNITY MEDICINE - BLOCK II

(Infections and Behavioral Modification)

CODE: Y4B2

Duration: 10 weeks

At the end of this block, student will be able to:

S No	Theme	Learning Outcomes		Course Content	%
		Knowledge	Skills		
1	Emerging & re-emerging infections/Hospital acquired infections/ Hospital waste management	<ul style="list-style-type: none"> Differentiate between emerging and re-emerging disease Identify the causes and control of this emergence Acquaintance with nosocomial infections, factors causing it and control measures Comprehend the role of Hospital waste management in infectious disease control and select appropriate method. 	Communicate effectively regarding preventive measures		10
2	Personal hygiene, Unsafe injections	<ul style="list-style-type: none"> Comprehend the concept of personal hygiene. Define unsafe injections practices and suggest relevant control measures 	Educate community regarding unsafe injections practices and related hazards		5
3	Travel medicine	<ul style="list-style-type: none"> Interpret the common health problems of travelers Advise the travelers to prevent the travel related problems 			1.5

4	General Immunology	<ul style="list-style-type: none"> Define and explain immunology & its components Describe pre-requisites of vaccination including cold chain, hazards, contra-indications & precautions Justify the use of different types of vaccines in different scenarios Define EPI and explain its component vaccines Plan a vaccination schedule according to given scenario applying current protocols/evidence-based 	<ul style="list-style-type: none"> Follow the protocol for cold chain maintenance for different vaccines Keep records for vaccination protocol Administer polio vaccine Check BCG scar Advise mothers for vaccination in different situations 	<ul style="list-style-type: none"> Immunizing agents EPI schedule Herd immunity Cold chain Adverse effects following immunization and its investigation 	5
5	Communicable diseases including Parasitology & Entomology	<ul style="list-style-type: none"> Comprehend modes of disease transmission, interaction of agent host and environment in the pre & pathogenesis phases Relate the natural history of disease in regards to incubation period, lab diagnosis and preventive measures Suggest strategies for disease control and prevention for every specific disease and in different situations 	<ul style="list-style-type: none"> Motivate people at risk for adopting primary preventive measures Advise about preventive measures to control spread of infections Practice personal protective measures when at risk Prepare, administer and transfer the skills for homemade/prepared ORS according to protocol Evaluate degree of dehydration on the 	<ul style="list-style-type: none"> (Droplet, Gastrointestinal, Zoonotic, Arthropod borne, Zoonotic, Contact infections) Reproductive tract infections, guideline for management of STIs. Parasitology Entomology 	45

		<ul style="list-style-type: none"> • Compare and contrast the clinical presentations of specific diseases • Relate occupations with various diseases • Manage cases and determine need to refer • Classify arthropods of medical importance and relate their role in disease transmission • Recommend control measures for arthropods • Relate environment with specific vector breeding • Define and differentiate between terms used in medical Parasitology • Explain mode of transmission and recommend prevention and control measures for parasites of medical importance 	<p>basis of history and clinical examination using algorithm/standards</p>		
6	Social and behavioral sciences	<ul style="list-style-type: none"> • Relate sociology, social sciences, epidemiology and clinical sciences • Relate the social evils of the society such as prostitution, delinquency, religious differences and food adulteration with individual and public health 	<ul style="list-style-type: none"> • Conduct interview in any setting, using the correct technique. • Practice ethical communication methods 	<ul style="list-style-type: none"> • Definition & concepts in Sociology • Scope of Psychology (28 behavior, emotions, attitudes, learning, habits, personality, intelligence) • Social psychology (family, community, hospital sociology, social organization) • Social problems (prostitution, delinquency, dowry system, drug addiction) 	6

		<ul style="list-style-type: none"> • Relate the social structure of a hospital with doctor-patient & doctor-nurse relationship • Recommend solutions based on the application of bio-psycho-social model and theories of social behavior to prevent/decrease social deviances and evils 		<ul style="list-style-type: none"> • Community services • Economics • Juvenile delinquency. 	
7	Mental health	<ul style="list-style-type: none"> • Define and categorize mental health • Recognize characteristics of a mentally healthy person and warning signals of poor mental health • Identify common mental health problems (as pertains to symptomatic psycho-social aspects) of public health importance in Pakistan and relate their risk factors/causes • Recommend preventive measures against mental health problems according to given scenario • Enlist WHO criteria and recommendations to improve mental health in countries 	<ul style="list-style-type: none"> • Communicate effectively and ethically with individuals regarding mental health issues • Identify clinically the warning signs and symptoms of mental health ; refer at appropriate time to relevant health professional(s) 	<ul style="list-style-type: none"> • Concept of mental health • Characteristics of mentally healthy persons. • Warning signals of poor mental health. • Common mental health problems, their causes, prevention and control. 	1.5

8	Drug Addiction, Smoking	<ul style="list-style-type: none"> • Define and comprehend magnitude of drug abuse in Pakistan • Relate factors and populations associated with high risk for drug abuse • Differentiate the symptoms of different drug-related addictions • Describe first-aid measures for different drug-related emergency health situations in a given scenario • Apply three levels of prevention to decrease drug abuse in the country • Comprehend magnitude of tobacco smoking globally as well as in Pakistan • Describe hazards associated with tobacco smoking • Recommend measures to control tobacco smoking in the country at all levels • Formulate behavior modification plan for patient(s) to quit smoking in hospital settings 	<ul style="list-style-type: none"> • Communicate effectively with individuals having addictions • Educate and motivate individuals at-risk how to avoid and modify risk behaviors and seek professional help • Educate parents on the sign and symptoms of drug abuse/addiction and when to seek professional help • Educate and motivate individuals at risk to avoid and modify risk behaviors and seek professional help to quit smoking • Educate parents on signs and symptoms of smoking addiction and when to seek professional help 	<ul style="list-style-type: none"> • Concept regarding attitudes, health and illness behavior. • Drug abuse, addiction, dependence and their signs/symptoms, effects of toxicity • Smoking: causes, risk factors, health impact • Control of drug use and smoking according to three levels of prevention 	6
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9	Health Education	<ul style="list-style-type: none"> • Define health education and describe its phases • Choose suitable method of health education for certain audiences • Recognize scope, stages approaches, principles and functions of health education • Identify and overcome barriers of health education and outline an ideal communication process for a given situation • Compose a health education message in given situation • Prepare a plan for health education intervention programs for different types of audience in a given scenario 	<ul style="list-style-type: none"> • Educate various groups effectively • Use Role play as an educational and interventional tool • Advise paramedics and other auxiliary healthcare staff about infection control • To participate in health awareness campaigns pertaining to nationally and internationally recognized days for global public health and population issues 	<ul style="list-style-type: none"> • Concept, aims and objectives of health education • Approaches used in public health. • Contents, principles and stages of health education. • Communication methods, barriers, skills and channel of communication in health education. • Planning, organizing and evaluating a health education programme. 	20
	End Block Assessment	End Block Assessment to be taken by concerned institute itself Assessment tools: MCQs & SAQs/SEQs			100

Schedule of Visits

Visits in Block II
Visit to a factory
Visit to Waste Management center

COMMUNITY MEDICINE - BLOCK III

Environment and Health Planning

CODE: Y4B3

Duration: 10 weeks

At the end of this block, student will be able to:

S No	Theme	Learning Outcomes		Course Content	%
		Knowledge	Skills		
1	Demography, Family Planning	<ul style="list-style-type: none"> • Relate fertility and population growth to epidemiological and demographic principles • Interpret pyramids of different countries, correlate demographic structure with population change and predict demographic trends • Relate population forces to the delivery of different services • Select Family planning methods according to the situations • Extrapolate the need for population control • Interpret/distinguish Demographic, fertility and epidemiological transition • Explain Demographic trap • Calculate demographic equation and indicators 	<ul style="list-style-type: none"> • Motivate women & men (inclusive approach) regarding family planning approach and methods • Communicate effectively • Counsel patients on various contraceptive tools and methods 	<ul style="list-style-type: none"> • Demographic principles and demographic processes. • Basic demographic equation, arithmetic and geometric progression methods • Population dynamics (mortality, fertility, migrations) • Sex ratio, dependency ratio. • Determinants of fertility, fertility related statistics, fertility trends. • Population pyramid and its interpretation. • Demographic transition, demographic trap and its public health importance. • Demographic and social implications of high population growth. • Census and its types • Social mobilization. • Urbanization. • Family planning 	10

		<ul style="list-style-type: none"> • Outline strategies in health & social sectors applying multi-disciplinary approach and demographic principles 			
2	MCH (Reproductive Health, Preventive Pediatrics, Geriatrics)	<ul style="list-style-type: none"> • Define and comprehend the rationale of Reproductive health. • Infer the logic behind application of different preventive measures in various phases of life to improve the Maternal Health • Appreciate the relationship between the Maternal Health status and the outcome of pregnancy • Determine the factors that contribute to increase MMR • Develop interventions to control MMR • Define infant mortality • Determine the factors which predispose to high infant mortality • Formulate interventions to prevent infant mortality in different situations • Recognize and compute different indicators which can be used for maternal and child health care and services • Describe the advantages and disadvantages of different types of feeding practices 	<ul style="list-style-type: none"> • Create awareness among women regarding antenatal visits and postnatal follow-up • Perform antenatal checkups of women. • Educate the mothers about technique of breast feeding and to advice to Tuberculous mother about lactation • Educate mothers about the steps of weaning • Educate mothers regarding EPI • Prepare home-made ORS • Advise pregnant women on Nutritional and immunization needs • Counsel women who give bottle feeding to their children • Weigh the baby and measure the height of children • Assess degree of dehydration • Motivate women to vaccinate their babies on national immunization days 	<ul style="list-style-type: none"> • Safe motherhood and its pillars, antenatal, intra-natal care, post-natal care, family planning and emergency obstetric care. • MCH problems, delivering MCH services, indicators of MCH care • Maternal mortality causes and prevention. • Infant care, neonatal examination of infants at risk, growth and development (growth chart), feeding of infant (breast and artificial). • Common causes of morbidity and mortality, their prevention and control. • Child care and under five clinics, Health promotion strategies. • Common ailments, home accidents, child mortality and prevention. • Strategic approaches of integrated management of childhood illness (IMCI) • Adolescent health. • Reproductive tract cancers of men & women. Adolescent health. 	18

		<ul style="list-style-type: none"> • Determine the conditions of concern prevailing in the mother during breast feeding • Define geriatrics, describe problems and diseases of the old age • Identify risk behavior in old age people • Suggest preventive measures at different levels of prevention and in different scenarios • Formulate and suggest preventive measures for cancers of reproductive tract in individuals and populations at-risk 	<ul style="list-style-type: none"> • Plot and interpret growth chart • Educate Traditional Birth Attendant for clean and safe delivery at First Level Care Facility <p>Educate the individuals how to cope with different problems and diseases of old age</p>		
3	School and Dental Health Service	<ul style="list-style-type: none"> • Define School health Services and recall objectives of school health • Identify the duties of school medical officer, functions of SHS and role of teacher • Identify and interrelate the common health problems of school children • Identify the deficient health services and physical environment in schools using standardized checklist <p>Interpret the components of school health</p>	<ul style="list-style-type: none"> • Provide First aid • Diagnose, treat & refer common ailments in school environment • Motivate students for maintaining healthful lifestyle • Inspect school and advise relevant modification(s) • Educate school children for healthful behaviour 	<ul style="list-style-type: none"> • Common health problems of school children including physically challenged • Role of teachers and role of doctors in maintenance of health. • Procedures for determining health status of school age children. • Handicapped children. • Healthful school environment and hostels. 	3
5	Current Health Programs in Pakistan:	<ul style="list-style-type: none"> • Interpret the concepts of international days celebrations 		<ul style="list-style-type: none"> • Expanded Programmes on immunization (EPI). • Prime Minister Programme for 	3

				<p>Prevention and Control of Hepatitis</p> <ul style="list-style-type: none"> • Rollback- Malaria Programme • National Programme for Family Planning and Primary Health Care. “The lady workers Programme” • Enhanced HIV/AIDS Control Programme. • National Tuberculosis Control Programme • Improvement of Nutrition through Primary Health Care and nutritional education and public awareness. • National Programme for prevention and control of Avian and Pandemic influenza. • Maternal Neonatal and Child Health care Programme (MNCH). • National Programme for Prevention and Control of Blindness 	
6	Partners in Health	list various health agencies and describe composition and relate functions of different International Health agencies WHO, USAID, UNICEF, UNFPA to national and international care		<ul style="list-style-type: none"> • The public and private sector • Non-governmental Organizations and International agencies. • Community Mobilization. • Concept of leadership. 	2
7	Health System in Pakistan, Health planning and management	<ul style="list-style-type: none"> • Define health care and health care system 		<ul style="list-style-type: none"> • various levels of health care • National health vision 	3

		<ul style="list-style-type: none"> • Distinguish various levels of health care • Identify deficiencies in different health-care facilities • Differentiate different sectors of health system and functioning • Describe and relate the referral mechanism to various levels of health care facility • Describe medical team • Identify the causes of failure of adequate health-care delivery in Pakistan and give recommendations for improvement based on scenario 		<ul style="list-style-type: none"> • The District Health System, in the context of devolution. 	
8	Environmental Health	<ul style="list-style-type: none"> • Relate the bio-psycho-social model with different types of environment • Relate the current environmental indicators to legislative guidelines and apply them for sustainable protection of environment in national, regional and global perspectives. • Outline modifications for specific environments to prevent and control 	<p>Educate individuals/communities on preventive environmental measures to maintain good health</p> <ul style="list-style-type: none"> • Calculate the amount of chlorine required to disinfect water • Calculate the amount of disinfectants for different reservoirs • Collect water samples from different sources • Practice through role play on how to prevent or reduce undue harmful environmental exposure to themselves, patients 	<ul style="list-style-type: none"> • Air: composition of air and causes of air pollution, methods for air purification, diseases caused by impurities in air and their prevention. • Water: sources of water, daily water requirement. Water pollution its causes and prevention, purification of water. • Water quality standards, diseases due to polluted water. • Waste disposal: contents, hazards and safety measures for solid and liquid; domestic, industrial and hospital waste. 	15

		<p>diseases</p> <ul style="list-style-type: none"> • Relate role of environment to hospital infections • Relate physical hazards to various occupations or climatic conditions • Identify personal protective measures for individuals and groups facing specific environmental hazards <p>Identify and employ protective measures against the high-risk physical environment in the healthcare profession</p>	<p>and their attendants in given situation</p>	<ul style="list-style-type: none"> • Climate: climate and weather, global environmental concerns. • Green-house effect, depletion of ozone layer, acid rains. • Effects of extremes of temperature, humidity and atmospheric pressure on human health and their prevention. • Radiation: sources, types, effects, hazards and prevention. • Healthful housing. Urban and rural slums. • Noise: definition, acceptance level, causes of noise pollution, hazards to human health and their control. 	
9	Occupational Health	<ul style="list-style-type: none"> • Relate occupational health, occupational hygiene, ergonomics, occupational diseases & Injuries. • Relate occupational disease agents and factors (physical, chemical, biological, psychological, mental) with health • Identify factors or patterns in a patient's history that may indicate a work related contribution to ill health • Identify occupational hazards and suggest relevant control • Interpret Standardized Mortality Rate (SMR) 	<ul style="list-style-type: none"> • Motivate a worker to take preventive measures at work place e.g. regular use of personal protective equipment • Counsel health workers regarding safe practices and hygiene • Observe and assess the standards being implemented for safety • Diagnose clinically common work-related symptoms and disorders; refer to relevant specialist 	<ul style="list-style-type: none"> • Occupational Hazards • Ergonomics • Pneumoconiosis • Occupational poisoning e.g. lead, arsenic, dust etc. • Sickness absenteeism • Hazards of industrialization • Preventive and control measures • Legislative measures • Social security services in Pakistan 	10

		with respect to particular trade			
10	Nutrition	<ul style="list-style-type: none"> Define the terminologies used in relation to food & nutrition Classify and comprehend the importance of different foods, minerals and vitamins Describe a balanced diet chart Relate the states which alter energy requirement of individuals Identify the major nutritional problems of public health importance Differentiate types of PEM and recommend preventive and corrective measures Plan and assess the nutritional status of a community Relate the epidemiological aspects of nutrition Classify water-borne, meat-borne and milk-borne diseases Identify & outline preventive measures for water borne, milk borne, meat-borne diseases. Calculate the energy requirement and basal metabolic rate in a given scenario 	<ul style="list-style-type: none"> Diagnose clinically the nutritional problems including iodine deficiency, anemia, fluoride deficiency, Marasmus & Kwashiorkor with their prevention on the basis of signs and symptoms according to relevant algorithm/ standard Assess anemia clinically Assess nutritional status in a community by anthropometry Inspect slaughter house, and observe characteristics of fresh meat, fish, eggs etc. Advise on restructuring or modifying the energy requirements (through diet) in relation to physiological states Communicate effectively, especially regarding behavior and life-style modification Motivate and inform the individuals and community for prevention of obesity Revise/restructure and communicate diet plan, nutritional and lifestyle modification 	<ul style="list-style-type: none"> Concepts (nutrition, nutrient, food, diet). Food groups, their functions and deficiency diseases. Role of fiber in diet. Balance diet, dietary goals (prudent diet). Malnutrition at all stages of life, its types, causes and prevention. Common nutritional problems of public health importance, their prevention and control. Dietary requirements of normal human being at different stages of life. Food hygiene, pasteurization, fortification, additives, adulteration and preservation. Food borne diseases/ Food poisoning. Assessment of nutritional status of a community. 	17

		<ul style="list-style-type: none"> • Recognize/explain nutritional hazards to which populations are exposed in emergency situations • Classify biological and social epidemiology of obesity • Correlate Immediate and delayed adverse effects of nutritional deficits with health status • Calculate and interpret obesity among adults on the basis of BMI • Plan individual and community-based methods of prevention and control of obesity. 			
11	Non-communicable diseases	<ul style="list-style-type: none"> • Classify biological and social epidemiology of different chronic non-communicable diseases and determine their risk factors • Formulate and suggest preventive measures for these diseases in individuals and populations at-risk • Relate different risk factors to particular patients and general population • Estimate the extent of damage to individuals and community in terms of morbidity and mortality burden 	Revise/restructure and communicate diet plan, nutritional and lifestyle modification	<ul style="list-style-type: none"> • Hypertension / Stroke ii) Coronary heart disease • Cancers • Diabetes mellitus • Rheumatic fever and heart disease • Blindness • Genetically transmitted disease 	12

12	Snake bite	<ul style="list-style-type: none"> • Differentiate between signs and symptoms of different snake-bites • Recommend preventive measures against snake bites in particular situations. 	<ul style="list-style-type: none"> • Educate regarding snake-bite prevention 	<ul style="list-style-type: none"> • Snakebite Epidemiology, Personal protection and management • Types of snakes according to toxin production: hemolytic toxins, musculo-toxins and neurotoxin 	1
13	Injuries and accidents	<ul style="list-style-type: none"> • Categorize different types of accidents • Define and explain epidemiology and control of different types of accidents • Relate risk factors with types of accident 	<ul style="list-style-type: none"> • Formulate a health education program for local school/ community/ hospital/ workplace on prevention of accidents and promotion of safety measures • Impart health education and knowledge for prevention of accidents and treatment of victims 	<ul style="list-style-type: none"> • Types, etiology, specific environments and at-risk populations • Preventive and safety measures 	2
14	Disaster management	<ul style="list-style-type: none"> • Define, classify and differentiate between different disasters • List duties of a disaster & emergency-management health team and relate the role of medical officer in disaster setting • Advise on Re-habilitation and re-construction • Manage disaster utilizing knowledge of disaster management (POSDCORB), disaster impact and response, mitigation 		<ul style="list-style-type: none"> • Definition, classification of disasters: Natural disasters and Manmade disasters • Magnitude and effects of disasters and public health consequences • Disaster preparedness and management 	4

		<ul style="list-style-type: none"> Relate the application of National Disaster Management and Preparedness guidelines according to given scenario 			
	End Block Assessment	End Block Assessment to be taken by concerned institute itself Assessment tools: MCQs & SAQs/SEQs			100

Schedule of Visits

Visits in Block III
Visit to NGO
Visit to family planning center
Visit to School

Learning Resources:

Park's Text Book of Preventive and Social Medicine 24th Edition, Public Health & Community Medicine by Muhammad Iliyas 8th Edition, Internet, Lecture Handouts, Material from Tutorial, CBL

SECTION - III

ENT

Overview

1. Introduction:

- a. Minimum 100 hours are allocated to ENT in the year IV. At least 30 hours are for theory content which is covered in lectures and CBLs in three blocks throughout the academic year. End block examination is taken at the end of each block by the respective institute which is counted in internal assessment at the end of fourth year.
- b. Minimum 70 hours are for clinical training in outpatient and indoor patients departments, which is covered in 08 weeks of clinical rotation. TOACS / Mock exam is held at the end of clinical rotation which is counted in internal assessment at the end of fourth year. Log book is maintained during the rotation
- c. Each group would spend four days a week - Mon to Thurs in ENT for 2.5 hours daily. Friday would be spent in the College for CPC and other activities.
- d. Pre annual examination of theory and practical is taken on the pattern of fourth professional.

2. General Outcome

General outcome of this teaching is to equip the average student with minimum essential knowledge, skill and attitude to make him enable to -:

- a. Identify common ear diseases specially emergencies, provide primary health care, refer to an appropriate center and do the follow-up of patients of his area.
- b. Perform minor procedures safely and be capable to communicate effectively with patient and family regarding disease and its relevant issues.
- c. Understand ethics specially to maintain patient confidentiality

Skills

- a. By the end of the rotation in the Department of ENT, the student should be able to:
 - i. Obtain an appropriate history.
 - ii. Perform a complete ear examination.
 - iii. Identify common ear problems for a given patient and
 - iv. Outline appropriate management plans.

Instructional Strategy

Instructional strategy to achieve above mentioned goals will be

- a. Problem based teaching /practical sessions/tutorials
- b. Clinical rotations, ward visits, lectures CPC's and seminars

ENT - BLOCK I

(EAR)

CODE: Y4B1

Duration: 12 weeks

At the end of this block, student will be able to:

S No	Theme/ Topic	Learning out comes	Course content	%
1	Basic of hearing and balance	<ul style="list-style-type: none"> Revisit the applied anatomy and physiology of hearing and balance as well as Eustachian tube and its role in hearing Recall the pathophysiology of vertigo 	<ul style="list-style-type: none"> Anatomy and physiology of hearing and balance Effects of Eustachian tube malfunction Pathophysiology of vertigo 	05
2	Discharge & Deafness	<p>Suggest a management plan for a patient with ear discharge after interpreting relevant investigations if needed</p> <ul style="list-style-type: none"> Differentiate between various types of deafness on the basis of history and examination Interpret appropriate investigations to reach the final diagnosis Suggest appropriate plan for treatment and rehabilitation 	<p>Discharge Ear DD of Discharging Ear Overview and Classification of Otitis Media Diseases*</p> <ul style="list-style-type: none"> Acute Suppurative Otitis Media Chronic Suppurative Otitis Media CSF Otterrhoea Bleeding from Ear [Trauma Base of Skull <p>Deafness Overview of Deafness</p> <ul style="list-style-type: none"> Causes [Unilateral/Bilateral/Sudden/Children] DD Social/Medico legal aspects <p><u>Diseases Causing Conductive deafness</u></p> <ul style="list-style-type: none"> Wax FB Fluid in Middle Ear [Sec OM] 	40

		<ul style="list-style-type: none"> Retell medico legal and social aspects of deafness 	<ul style="list-style-type: none"> Trauma to ear [Traumatic Perforation of TM Haemotympanum/Ossicular disruption Otosclerosis <u>Diseases Causing Senso Neural Deafness</u> <ul style="list-style-type: none"> Presbycusis Drug Induced Deafness Noise Induced Deafness and Acoustic Trauma Psychogenic Deafness Deaf-Mutism in Children Rehabilitation of the Deaf Hearing Aid Cochlear implant	
3	Otalgia	<ul style="list-style-type: none"> Differentiate between referred otalgia and that arising from local conditions of ear Suggest appropriate treatment after the interpretation of relevant investigations if needed 	Causes and Differential Diagnosis of Otalgia *Eiology/ Pathogenesis, Signs Symptoms, Investigations, treatment Complications Follow-up <ul style="list-style-type: none"> Boil Otitis Externa Ac Otitis media Herpes Simplex Perichondritis Traumatic conditions of external and middle ears Referred otalgia Barotrauma Complications of CSOM Ca- Middle Ear?? 	20
4	Vertigo & Tinnitus	<ol style="list-style-type: none"> Differentiate between various types of vertigo in relation to its pathophysiology Suggest appropriate treatment including rehabilitation after the interpretation of investigations if needed 	Overview of Vertigo <ul style="list-style-type: none"> Differentiation between True rotator vertigo, Dizziness and Unsteadiness Causes of vertigo <u>Diseases Causing Vertigo</u>(BPPV,Vestibular Neuronitis,Meniere,S Disease) 	25
		<ol style="list-style-type: none"> Diagnose a case presenting with tinnitus on the basis of signs, symptoms and appropriate investigations Suggest thorough management plan 	Overview of Tinnitus <ul style="list-style-type: none"> Causes of Tinnitus How to investigate and manage a case of Tinnitus 	

			<ul style="list-style-type: none">• Acoustic Neuroma	
5	Facial disfigurement	Identify the lesions of facial nerve relating to its etiology	<ul style="list-style-type: none">• Anatomy of Facial Nerve• Electrophysiological Test for Facial Nerve• Differentiation between upper and lower motor Neuron lesion• Causes and work-up in a case of Facial Paralysis• Treatment/ Complications and Follow-up• facial nerve palsy (secondary to ear surgery, trauma, bell's palsy and Attic disease), Unsafe chronic otitis media, Fracture Temporal bone	10
		Recognize the salient features of common tumors of Ear	<ul style="list-style-type: none">• Presentation, features and diagnosis of Basal cell carcinoma of pinna, Squamous cell carcinoma of external and middle ear, Glomus tumor and Acoustic neuroma	
Total				100
	End Block Assessment	End Block Assessment to be taken by concerned institute itself Assessment tools: MCQs & SAQs/SEQs		

ENT – BLOCK II				
CODE: Y4B2				
Duration: 10 Weeks				
At the end of this block, student will be able to:				
S No	Theme/Topic	Learning outcome	Course Content	%
1.	Basic of Nose and Para nasal Sinuses	Revisit the applied anatomy and physiology of nose and Paranasal sinuses	Anatomy of Nose & Para-Nasal Sinuses <ul style="list-style-type: none"> Basic concepts in clinical anatomy of nose & Para-nasal sinuses Anatomical routes of extensions of disease of nose and PNS into oral cavity, nose, orbit and skull base. Physiology of Nose & Para-Nasal Sinuses <ul style="list-style-type: none"> Basic concepts in clinical physiology of nose & Para-nasal sinuses Patho-physiology and extensions of diseases of nose and PNS into oral cavity, nose orbit and skull base 	10
2.	Nasal obstructions	<ul style="list-style-type: none"> Enlist different causes of unilateral and bilateral obstruction Suggest appropriate plan of investigations and management 	Overview of Nasal Obstruction [unilateral/Bilateral/Adults/Children/Neonate] Diseases causing Obstruction <ul style="list-style-type: none"> DNS Nasal Polypi [in Children, adults, Elderly] FB Nose Septal Haematoma/Abscess ADENOIDS Obstructive Sleep Apnoea Congenital abnormalities as Choanal Atresia/Meningocele/Encephalocele Tumors of Nose [Classification + special Emphasis on Angiofibroma, Ca-Maxilla and Ca-Nasopharynx] 	40

3.	Discharge and Epistaxis	<ul style="list-style-type: none"> Differentiate between various types of Rhinitis on the basis of signs and symptoms Interpret necessary investigations Suggest symptomatic and curative treatment 	<ul style="list-style-type: none"> Overview of Rhinitis <p>Rhinitis*</p> <ul style="list-style-type: none"> Allergic rhinitis Vasomotor Rhinitis Infective rhinitis [Viral, Bacterial] Rhinitis Medica Mentosa Atrophic Rhinitis Wegners Granuloma and list of other <p>Granulomatous diseases</p> <ul style="list-style-type: none"> Etiology of Nasal Allergy Symptoms and signs of Allergic Rhinitis. Examination of patients of Allergic Rhinitis. Investigation of Allergic Rhinitis <p>Symptomatic and curative treatment options</p>	30
		<ul style="list-style-type: none"> Suggest thorough management plan in case of Epistaxis Suggests measures to control refractory epistaxis 	<ul style="list-style-type: none"> Blood Supply of Nose Epistaxis Angiofibroma 	
4.	Headache and facial pains	<ul style="list-style-type: none"> Differentiate between various causes of Facial Pain and Headache on the basis of history and clinical examination Advise necessary investigations if needed Suggest appropriate treatment plan 	<p>Overview of Facial Pain and headache</p> <p>Acute and Chronic Sinusitis</p> <ul style="list-style-type: none"> <u>Patho-physiology of sinus infection</u> <u>Signs and symptoms of sinus disease.</u> <u>Detailed Investigation of sinus infection / how to read a sinus CT scan</u> <u>Medical & Surgical treatment of sinus infection</u> Basics of FESS its indication /procedure/ complications <p>Complications of Sinusitis</p> <ul style="list-style-type: none"> Common orbital, nasal, oral, dental and intra-cranial complication of Sinus pathology and its management. 	20

			<ul style="list-style-type: none"> • Fungal Sinusitis and its management. • Atypical facial pains • Granulomatous diseases and Tumors • Sinus barotrauma 	
Total				100
	End Block Assessment	End Block Assessment to be taken by concerned institute itself Assessment tools: MCQs & SAQs/SEQs		

ENT - BLOCK III (THROAT & LARYNX)

CODE: Y4B3

Duration: 10 weeks

At the end of this block, student will be able to:

S No	Theme/Topic	Learning Outcomes	Course Contents	%
1.	Sore throat and pain	<ul style="list-style-type: none"> • Manage acute and chronic tonsillitis • Identify need of tonsillectomy in a case of chronic tonsillitis 	<p>Acute & Chronic Tonsillitis</p> <ul style="list-style-type: none"> • symptoms and signs of Acute and Chronic Tonsillitis • important investigations • medical and surgical treatment options • Indications and technique of tonsillectomy <p>Acute & Chronic Pharyngitis</p> <ul style="list-style-type: none"> • Basic anatomy and physiology of pharynx and oesophagus and its clinical importance <p>symptoms, signs, investigations and management of sore throat and recurrent throat infections</p> <p>Common disorders of oral cavity. Basic understanding of the common disorders of oral cavity</p> <p>Tumors of Oro-pharynx</p> <ul style="list-style-type: none"> • Common sites of tumor of oro-pharynx <p>Symptoms, signs, investigations and management of these tumors</p>	40
2.	Dysphagia and Odynophagia	<ul style="list-style-type: none"> • Differentiate between various types of dysphagia basing on its etiology and patho physiology 	<p>Dysphagia & Disorders of Oesophagus –</p> <ul style="list-style-type: none"> • Normal swallowing mechanism • Types of dysphagia • Causes and patho-physiology of each cause 	30

		<ul style="list-style-type: none"> • Suspect abscesses around the pharynx on the basis of symptoms and signs • Suggest treatment for these abscesses 	<p>Abscesses around Pharynx (Retro-Pharyngeal Abscess & Peri-Tonsillar Abscess)</p> <ul style="list-style-type: none"> • Symptoms of Acute Retro-pharyngeal abscess, and possible complications if this condition is not recognized in time • Emergency investigations and management of this condition <p>Oropharyngeal tumors Carcinoma Tongue & Oral Cavity CBL – symptoms, signs and examination of CA. Tongue emergency investigations and management of this condition</p>	
3.	Hoarseness and stridor	<ul style="list-style-type: none"> • Differentiate between different causes of hoarseness and stridor on the basis of signs and symptoms • Outline relevant investigations • Suggest treatment modalities for hoarseness and stridor 	<p>Congenital Lesions of Larynx & Stridor – Basic differences between anatomy and physiology of larynx of a child as compared to the adult Pathophysiology of congenital lesions of larynx</p> <hr/> <p>Acute & Chronic Laryngitis CBL:</p> <ul style="list-style-type: none"> • Symptoms, signs and examination of Acute Laryngitis • Emergency investigations and management of this condition <hr/> <p>Laryngeal Paralysis, Voice & Speech Disorders –</p> <ul style="list-style-type: none"> • Patho-physiology of Laryngeal paralysis • Patho-physiology of Voice and speech disorders <hr/> <p>Carcinoma of Larynx –</p>	20

			<ul style="list-style-type: none"> • symptoms, signs and examination of a patient suspected to have CA. Larynx • emergency investigations and different management plan of this condition 	
4.	Neck masses	<ul style="list-style-type: none"> • Differentiate between different types of neck masses on the basis of signs and symptoms • Advise relevant Investigations and management plan 	<ul style="list-style-type: none"> • Distribution and drainage area of Neck Lymph Nodes • DD of Lateral Neck Masses • DD of Lymph Node enlargement in Neck • Work-up for a suspected Metastatic Lymph Node • Thyroid gland- 	
5.	Advances in ENT/Neck surgeries	Reproduce the basic concept about recent trends in different ENT treatment modalities	<p>Laser Surgery, Cryosurgery, HIV Infection/ AIDS & ENT Managements –</p> <ul style="list-style-type: none"> • Physics and physiology of LASER surgery and Cryosurgery • Basics of HIV and AIDS infection <p>Radiotherapy / Chemotherapy for Head & Neck Cancers – Basics of Radiotherapy and Chemotherapy in head and neck cancers</p>	10
Total				100
	End Block Assessment	End Block Assessment to be taken by concerned institute itself		
		Assessment tools: MCQs & SAQs/SEQs		

SCHEDULE OF CLINICAL TRAINING

S. No	LEARNING OUTCOMES	ACTIVITY
	At the end of 08 weeks training, the student will be able to:	
<u>Ear</u>		
1	<u>Special Skills</u> <ul style="list-style-type: none"> ➤ Take history of a patient with Ear pathology ➤ Demonstrate the use of Otoscope to aid in examination of the external auditory canal and the tympanic membrane and learn (Use of Seigle's speculum). ➤ Demonstrate the use of tuning forks and interpret the findings. ➤ Demonstrate Syringing of ear. ➤ Reproduce steps of recording tympanogram and hearing levels on audiogram ➤ Interpret audiogram and tympanogram ➤ Identify all common Ear instruments used in OPD 	<u>OPD / Ward</u> <ul style="list-style-type: none"> ➤ Video clip of examination of ear. ➤ Demonstration of clinical examination of ear. ➤ Practical session of examination of ear ➤ Examination of ear on patients ➤ Assessment of Hearing ➤ Audiogram / Tympanogram, practical demonstration & discussion <u>Instruments</u> Students must be shown ear instruments used in OPD
2	<ul style="list-style-type: none"> ➤ Perform OT scrub for surgery according to the protocol ➤ Reproduce the procedure of the operations, mentioned in column III, including their indications and post-operative care ➤ Identify all common Ear instruments used in OT 	<u>OT</u> <ul style="list-style-type: none"> ➤ How to enter the operation theatre. ➤ How to behave in OT ➤ Steps of washing and preparation for operation ➤ Students should observe the following operations <ul style="list-style-type: none"> • Myringotomy • I/D of hematoma ear • Removal of Foreign body ear • Removal of wax • Myringoplasty and Mastoidectomy • Abscess incision drainage/Hematoma ear

		<u>Instruments</u> <ul style="list-style-type: none"> ➤ Students must be shown ear instruments used in above mentioned surgeries
<u>Nose</u>		
3	<u>Special Skills</u> <ul style="list-style-type: none"> ➤ Take history of a patient with nasal pathology ➤ Perform basic examination of nose and paranasal sinuses in a stepwise fashion ➤ Diagnose a case of Nasal Polypi on the basis of glistening appearance of nasal polypi in anterior rhinoscopy ➤ Interpret a simple X-Ray / CT Scan for Sinus, Paranasal Sinus, Nasopharynx and other simple ENT pathologies ➤ Identify all common Nasal instruments used in OPD 	<u>OPD / Ward</u> <ul style="list-style-type: none"> ➤ Examination of nose and para nasal sinuses. The steps and logic behind it ➤ Video clip of examination of nose and para nasal sinuses. ➤ Demonstration of nose and para nasal sinuses ➤ Practical session of examination of nose and para nasal sinuses in patients ➤ Nasal Polypi – demonstration on patient ➤ Simple X-Ray / CT Scan for Sinus, Paranasal Sinus, Nasopharynx and other simple ENT pathologies
4	<ul style="list-style-type: none"> ➤ Reproduce the procedure of the operations, mentioned in column III, including their indications and post-operative care ➤ Identify all common Nasal instruments used in OT 	<u>OT</u> <ul style="list-style-type: none"> ➤ Students should observe the following operations ➤ Tonsillectomy ➤ Adenoidectomy ➤ Septoplasty ➤ How to carry out anterior nasal packing ➤ Sinus lavage, electrocautery ➤ SMR, procedure, indications and post-operative care ➤ Observation of SMR procedure ➤ FESS, indications, procedure and post-operative care ➤ Observation of FESS procedure

		<p>➤ Epistaxis and its management</p> <p><u>Instruments</u></p> <p>Students must be shown instruments used in above mentioned surgeries</p>
Throat & Larynx		
3	<p><u>Special Skills</u></p> <ul style="list-style-type: none"> ➤ Take history of a patient with throat and laryngeal pathology ➤ Perform examination of throat ➤ Perform basic examination of larynx in a clinical setting ➤ Identify all common instruments used in OPD 	<p><u>OPD / Ward</u></p> <ul style="list-style-type: none"> ➤ Clinical examination of throat, the steps and logic behind it ➤ Video clip of throat examination. ➤ Demonstration of examination of throat ➤ Practical session of examination of throat on patients ➤ Laryngeal Disorders – Ward demonstration
4	<ul style="list-style-type: none"> ➤ Reproduce the procedure of the operations, mentioned in column III, including their indications and post-operative care ➤ Perform tracheostomy in emergency situations ➤ Identify all common instruments used in OT 	<p><u>OT</u></p> <ul style="list-style-type: none"> ➤ Students should observe the following operations <ul style="list-style-type: none"> • Tracheostomy, procedure, indications and post-operative care <p><u>Instruments</u></p> <p>Students must be shown instruments used in above mentioned surgeries</p>
WARD TEST		

SECTION-IV

Ophthalmology (EYE)

Overview

3. Introduction:

- e. Minimum 100 hours are allocated to the Ophthalmology in the year IV. About 30 hours are for theory content which is covered in lectures and CBLs in three blocks throughout the academic year. End block examination is taken at the end of each block by the respective institute which is counted in internal assessment at the end of fourth year
- f. Almost 70 hours are for clinical training in outpatient and indoor patients departments, which is covered in 08 weeks of clinical rotation. TOACS / Mock exam is held at the end of clinical rotation which is counted in internal assessment at the end of fourth year. Log book is maintained during the rotation
- g. Each group will spend four days a week - Mon to Thurs in Ophthalmology for 2.5 hours daily. Friday will be spent in the College for CPC and other activities.
- h. Pre annual examination of theory and practical is taken on the pattern of fourth professional

4. General Outcome

General outcome of this teaching is to equip the average student with minimum essential knowledge, skill and attitude to make him enable to -:

- d. Identify common ophthalmological diseases specially emergencies, provide primary health care, refer to an appropriate center and do the follow-up of patients of his area.
- e. Perform minor procedures safely and be capable to communicate effectively with patient and family regarding disease and its relevant issues.
- f. Understand ethics specially to maintain patient confidentiality

5. Instructional Strategy

Instructional strategy to achieve above-mentioned goals will be

- b. Interactive lectures
- c. Small group discussions
- d. Problem based teaching
- e. Clinical rotations, ward visits
- f. Tutorials
- g. CPCs and seminars

6. Skills

- h. By the end of the rotation in the Department of Ophthalmology, the student should be able to:
 - v. Obtain an appropriate history
 - vi. Perform routine examination
 - vii. Identify common eye problems for a given patient and
 - viii. Outline appropriate management plans.

OPHTHALMOLOGY - BLOCK I

CODE- Y4B1

Written Internal Assessment

Duration: 12 Weeks

By the end of Block-1, the Student will be able to:

S.NO	Theme	Learning Outcomes	Contents	Weightage %
1.	Eye Lid & adnexa	Identify conditions like ptosis, lid Tumors and benign lesions, Entropion, Ectropion , dry eyes etc based on their clinical assessment and make a referral to ophthalmologist.	Ptosis, Blephritis, lid tumors & benign lesions, Entropion, Ectropion, diseases of lacrimal system, evaluation of dry eye , KCS, Bitot's spots and Vit A deficiency.	30
2.	Conjunctiva, Episclera & sclera	<ol style="list-style-type: none"> 1. Recognize conditions like Pterygium, Pingecula, conjunctivitis episcleritis and scleritis and their systemic association when presents. 2. Identify red eye causing common conditions for their initial management. 	<p>Bacterial, Viral Allergic, and other types of conjunctivitis, Pterygium, Pingecula, Ophthalmia neonatorum, Episcleritis, Scleritis.</p> <p>Misc systemic diseases affecting sclera, episclera</p>	30
3.	Orbit	<ol style="list-style-type: none"> 1. Recognize proptosis and its common causes like thyroid eye disease, orbital inflammatory disease and orbital tumors. 2. Advise common investigations required for its evaluation. 3. Summarize various medical and surgical management options. 	<p>Proptosis and its common causes, Thyroid eye disease.</p> <p>Orbital tumors, Cellulitis</p>	20
4.	Uveitis	<ol style="list-style-type: none"> 1. Identify uveitis as a cause of decreased vision. 2. Recognize signs and symptoms of acute and chronic uveitis for giving its initial treatment 	Anterior and Posterior uveitis and their major causes. Various systemic associations and broad outline of	20

			immunosuppressive treatments.	
	End Block Assessment	End Block Assessment to be taken by concerned institute itself Assessment tools: MCQs & SAQs/SEQs		

OPHTHALMOLOGY - BLOCK II

CODE- Y4B2

Written Internal Assessment

Duration: 10 Weeks

By the end of Block-2 , the Student will be able to :

S.No	Theme	Learning Outcomes	Contents	Weightage/ %
1.	Corneal Diseases	<ol style="list-style-type: none"> 1. Identify corneal ulcers for giving initial treatment. 2. Summarize principles of corneal disease management. 	<p>Bacterial, Fungal, Viral, Corneal Ulcers and use of antibiotics/ cycloplegics</p> <p>Keratoconus, dysplasias and degenerations.</p>	20
2.	Lens	<ol style="list-style-type: none"> 1. Identify different types of cataract and recognise type of visual deterioration in each type of cataract. 2. Justify different types of surgical options of cataract including phacoemulsification 3. Indicate possible complications of cataract surgery 	<p>Types of cataracts & their evaluation,</p> <p>Congenital, Age related, ICCE/ECCE/ Phaco emulsification, Complications of cataract surgery. Ectopia lentis</p>	30
3	Refractive errors& Refractive Surgery	<ol style="list-style-type: none"> 1. Identify common refractive conditions of the eye like myopia, hypermetropia and astigmatism 2. Summarize various treatment options. 	<p>Glasses, Contact lens, excimer, LASIK, DAELEK, PKP & other refractive surgical options</p>	20
4.	Glaucoma and ocular therapeutics	<ol style="list-style-type: none"> 1. Differentiate between various types of Glaucoma, its clinical signs, investigations, common VF defects and various anti Glaucoma medications. 2. Enlist other options of Glaucoma management 	<p>Types of glaucoma & Evaluation, Classification, POAG, PACG, Surgery, Drugs, Lasers to treat glaucoma</p>	30

		<p>including laser filtration surgery, cyclo-destructive procedures and implants.</p> <p>3. Identify shallow anterior chamber for avoiding mydriatic eye drops to prevent acute congestive glaucoma.</p> <p>4. Suggest emergency treatment of acute angle closure glaucoma.</p>		
	End Block Assessment	<p>End Block Assessment to be taken by concerned institute itself</p> <p>Assessment tools: MCQs & SAQs/SEQs</p>		

OPHTHALMOLOGY – BLOCK- III

CODE- Y4B3

Written Internal Assessment

Duration: 10 Weeks

By the end of Block-3 , the Students will be able to :

S.No	Topics	Learning Outcomes	Contents	Weightage/ %
1.	Retinal vascular diseases, Retinal Detachment, Common Fundus Pathologies,	<ol style="list-style-type: none"> 1. Correlate symptoms with signs of retinal vascular diseases, ocular tumors and fundus pathologies 2. Identify retinal disorder as a cause of reduce vision. 3. Suggest common treatment option of retinal diseases. 4. Discuss broad outline of management of RD, diabetic retinopathy & AMD and use of lasers in ophthalmology 	<p>Conditions affecting retinal vasculature and their Evaluation, Hypertensive Retinopathy, Diabetic Retinopathy, CRVO, BRVO, CRAO, BRAO, AMD, RP, ARMD ,</p> <p>Diabetic retinopathy. ROP,</p> <p>Types of retinal detachment, clinical exam, investigations and surgical options</p> <p>Vitreotomy and its indications .use of lasers</p>	40
2.	Strabismus & Neuro Ophthalmology	<ol style="list-style-type: none"> 1. Differentiate between comitant and non-comitant strabismus 2. Perform cover & uncover test. 3. Enlist surgical and non-surgical treatment of strabismus. 4. Reproduce Cranial nerve pathway and nerve supply of extra ocular muscles 5. Enlist relevant laboratory investigations and imaging & surgical and non-surgical treatment options. 	<p>Types of squint and its Management,</p> <p>Cranial nerves palsies, tumors, papilledema, visual field in various optic pathway lesions</p>	30

3.	Ocular trauma	1. Differentiate between penetrating and non- penetrating ocular injuries. 2. Discuss different types of chemicals damaging eye (Acid/alkali/Alcohol/elfy) and its symptoms and signs. 3. Mange chemical injuries of the eye and to removes conjunctival foreign body.	Types of ocular injuries and their Evaluation and initial Management, Ophthalmic emergency and their primary eye care.	30
Total				100
	End Block Assessment	End Block Assessment to be taken by concerned institute itself Assessment tools: MCQs & SAQs/SEQs		

Clinical Trg / List of Competencies

	Learning Outcomes	List of <u>Competencies</u>
	By the end of 08 weeks clinical rotation , the Students will be able to:	
1.	Establish rapport with the patient	How to greet and counsel Patients?
2.	Assess level of vision	Visual Acuity (Children, Adults),color vision, Amsler Grid
3.	Examine visual field by confrontation	Visual Fields
4.	Identify the type of refractive error	Refractive Errors
5.	Diagnose vision loss due to cataract	Cataract Examination
6.	See and differentiate normal optic disc and macula from abnormal.	Ophthalmoscopy (Fundoscopy)
7.	Examine interior segments	Torch/Slit lamp examination
8.	Prescribe common eye drops keeping in mind contraindications of dilating drops	Ocular Pharmacology
9.	Enlist common ophthalmic instruments Like cataract surgery instruments, DCR surgery instruments etc	Ophthalmic Instruments
10.	Enumerate laser use in ophthalmology	Introduction to Lasers
11.	Enlist helpful investigation	Ocular Investigations an overview
12.	Classify various squint	Ocular movements and squint assessment
13.	Perform retinoscopy	Retinoscopy and Prescription writing
14.	Examine the pupils	Pupillary Reactions
15.	Examine the lid	Lid examination
16.	Identify retinal disease as a cause of loss of vision	Common retinal diseases
17.	Examine proptosis	Examination of Proptosis
18.	Measure IOP	Tonometry
19.	Observe common Ophthalmic surgical procedures/ Instruments including cataract, glaucoma, oculoplastics, retinal detachment and other common procedures and instruments.	common Ophthalmic surgical procedures/ Instruments
Ward Test		

TABLE

OF

SPECIFICATIONS

SPECIAL PATHOLOGY (2020)

TABLE OF SPECIFICATIONS FOR MBBS FOURTH YEAR ANNUAL PROFESSIONAL EXAM: THEORY

Time Allowed = 03 hrs(*Including MCQs*)

Marks of theory paper = 135 **Internal assessments** = 15

Total marks = 150 **Pass Marks** = 75

65 x MCQs (65 Marks) (Time = 1 hour 15 Minutes)

10 SEQs/SAQs/Scenario based questions: 7 Marks each (70 Marks) Time = 1 hour 45 Minutes

TOPIC	No. MCQs 65 Recall (20) application (45) (1 mark each)	Number of SEQs/SAQs (10) (7 Marks each)
SPECIAL PATHOLOGY		
Cardiovascular System	05	01
Respiratory System	04	01
Oral cavity & Gastrointestinal Tract	05	01
Hepatobiliary system & Pancreas	04	
Urinary system (Kidney, Urinary bladder & Prostate)	06	01
Male Genital System	04	
Female Genital System	05	01
Breast	05	
Endocrine System	03 (Histo)	01
Central Nervous System & Peripheral Nervous System	04	
Bones, Joints & Soft Tissues	04	
Chemical Pathology Endocrinology related tests Other chemical pathology tests	07	01 01
Hematology		
• RBCs & Bleeding Disorders	04	01
• White Blood Cells	04	01
Skin	01	-
Total	65 (65 Marks)	10 (70 Marks)

Table of specifications for Pre-Annual/ Annual Professional Exam: Practical

Practical = 135

Internal Assessment = 15

Total marks =150

Pass Marks = 75

Gen Viva Voce		Practical		Internal Evaluation	Total
Int Examiner	Ext Examiner	*OSPE	Notebook	15	150
30	30	70	05		

Practical Marks Distribution

1. Viva: 60 Marks 15 Marks each Examiner
2. Practical Copy: 5 Marks each
3. * OSPE: 70 Marks
 - 14x Stations (5 Marks each)
 - 6x Stations Histopathology, 4 x Stations Haematology, 4 x Station Chemical Pathology

Theory: Internal Assessment (IA) Calculation

A	B	C	D
Roll No.	Name	All Blocks/ Pre annual Exams or any other exam	Total Marks of internal assessment Out of 15
Total Marks		Sum of Marks obtained x15/ sum of total marks in all internal exams	

Practical: Internal Assessment Calculation

A	B	C	D
Roll No.	Name	OSPE /all practical Class tests throughout the year /Pre annual practical Exams or any other exam	Total Marks of internal assessment Out of 15
Total Marks		Sum of Marks obtained x15/ sum of total marks in all internal exams	

TABLE OF SPECIFICATIONS (2020)

COMMUNITY MEDICINE

4th Professional Examination: Theory

Time Allowed	=03 hrs. (Including MCQs)	
Marks of theory paper	=70	
Internal assessment	=15	
Total marks	=150	
Pass Marks	=75	
65 x MCQs	(65 Marks)	Time = 1 hour 15 Mins
Q. No. 1,2,3,4,5,6,7,8,9,10		
3 x SAQs/SEQs (Recall)	= 7 marks each	
7 x SAQs/SEQs (Application)	= 7 marks each	
Total Marks (10 Questions)	= 70	Time = 1 hour 45 Mins

S. No	TOPIC	NUMBER OF MCQs (65) Recall: 17 Application: 48 (1 mark each)	NUMBER OF SAQs/SEQs (10) (7 marks each)
1.	General Epidemiology, Infectious disease epidemiology, Screening of diseases,	11	1
2.	Biostatistics, HMIS, concept of health and disease	9	1
3.	Medical ethics, Primary Health care, Leadership, SDGs	03	1
4.	General immunology, Personal hygiene, Travel Medicine, Communicable Diseases including Entomology, Parasitology, hospital acquired infections, emerging and re-emerging diseases, Hospital waste management,	12	2
5.	Health education, Social and behavioral sciences, Drug Addiction, Smoking, , Mental health, Accidents and Injuries,	05	1
6.	Environmental health, Snake bite, Occupational health, Disasters Management	06	1
7.	Health programs in Pakistan, Health planning and management, Health System in Pakistan, International health (partners in health)	02	1
8.	Non- Communicable diseases, Nutrition, School and dental health services	08	1
9.	Demography, MCH (Reproductive health and preventive pediatrics, geriatrics) and family planning	9	1
Total		65 (65 Marks)	10 (70 marks)

Table of specifications for Pre-Annual/ Annual Professional Exam: Practical

Practical = 135

Internal Assessment = 15

Total marks = 150

Pass Marks = 75

Gen Viva Voce	Practical		Total
	OSPE	Project/Research/Collective	
60	50	25	135

BREAKDOWN OF VIVA

- Total of four examiners = 15 marks with each examiner = $15 \times 4 = 60$
- OSPE** : Total 10 stations(5 marks each, 4 minutes)
 - Unobserved stations** – $8 \times 5 = 40$ marks
 - Observed and interactive stations** - $2 \times 5 = 10$ marks

Theory: Internal Assessment (IA) Calculation

A	B	C	D
Roll No.	Name	All Blocks/ Pre annual Exams or any other exam	Total Marks of internal assessment Out of 15
Total Marks		Sum of Marks obtained x15/ sum of total marks in all internal exams	

Practical: Internal Assessment Calculation

A	B	C	D
Roll No.	Name	OSPE /All Class tests throughout the year /Pre annual practical Exams or any other exam	Total Marks of internal assessment Out of 15
Total Marks		Sum of Marks obtained x 15/ sum of total marks in all internal exams	

Fourth Professional MBBS Examination (2020)

ENT

Time Allowed =03 hrs. (Including MCQs)

Marks of theory paper =90

Internal assessment =10

Total marks =100

Pass Marks =50

45 x MCQs (45 Marks) Time =50 min

Q. No. 1,2,3,4,5,6,7,8,9

2x SAQs/SEQs (Recall) = 05 marks each

7x SAQs/SEQs (Application) =05marks each

Total Marks = 45 Marks Time = 2 hours & 10 min

TOPIC	NUMBER OF MCQs (45) Recall: 09 Application: 36 (1 mark each)	NUMBER OF SAQs/SEQs (09) (05 marks each)
EAR		
• Basics of hearing and balance	03	-
• Deafness & Discharge	04	01
• Otagia	05	01
• Vertigo & Tinnitus	03	01
• Facial disfigurement	03	01
Nose		
• Basics of Nose and Para nasal Sinuses	02	-
• Nasal obstructions	04	01
• Discharge and Epistaxis	04	01
• Headache and facial pains	03	
Throat & Larynx		
• Sore throat and pain	03	01
• Hoarseness and stridor	03	01
• Dysphagia and Odynophagia	03	01
• Neck masses	03	
• Advances in ENT/Neck surgeries	02	-
Total	45 (45 Marks)	09 (45 Marks)

Practical

Table of Specification for 2020

ENT

Max Marks = 90
Internal Assessment = 10
Grand Total = 100
Pass Marks = 45

OSCE ENT													
OSCE- (Observed)					Non-Observed								Total Marks
1	2	3	4	5	6	7	8	9	10	11	12	13	
Comm Skill	Exam Skills			Comm Skill	Procedural skills/ Diagnostic skills/ Management skills								
HT	CE	CE	CE	OC	IATF	IATF	DP	TP	TP	DP	IATF	TP	
History taking	Examination of Ear	Examination of Nose	Examination of Throat	Counselling	Picture identification, Differential diagnosis, Management	Picture identification, Differential diagnosis, Management	X Ray identification of findings, Differential diagnosis, Management	Instrument identification, uses and complication	Implant/Drug and its uses	Investigation including PTA and Tympanogram	Scenario Having Diagnosis, DD and Management	Materials including NG Tube, tracheostomy tube/ Sutures	
10	10	10	10	10	05	05	05	05	05	05	05	05	90 Marks
5 minutes for each station 12 x 5 = 60 Minutes For 25 students = 125 Minutes= 2hrs 5 minutes													
*Number of rest stations depends upon the number of students													

- **Communication:** HT=Focused History Taking, OC=other communication
- **Examination:** CE = Clinical examination, SI= Sign Identification
- **Procedural skills:** DP=Diagnostic Procedure, TP=Therapeutic Procedure, IATF=Identification of Abnormal Test Finding

Theory: Internal Assessment (IA) Calculation

A	B	C	D
Roll No.	Name	All Blocks/ Pre annual Exams or any other exam	Total Marks of internal assessment Out of 10
Total Marks		Sum of Marks obtained x 10/ sum of total marks in all internal exams	

Practical: Internal Assessment Calculation

A	B	C	D
Roll No.	Name	OSPE /All Class tests throughout the year /Pre annual practical Exams or any other exam	Total Marks of internal assessment Out of 10
Total Marks		Sum of Marks obtained x10/ sum of total marks in all internal exams	

Fourth Professional MBBS Examination (2020)

EYE

Time Allowed =03 hrs. *(Including MCQs)*

Marks of theory paper =90

Internal assessment =10

Total marks =100

Pass Marks =50

45 x MCQs (45 Marks) Time =50 min

Q. No. 1,2,3,4,5,6,7,8,9

2x SAQs/SEQs (Recall) = 05 marks each

7x SAQs/SEQs (Application) =05marks each

Total Marks = 45 Marks Time = 2 hours & 10 min

TOPIC	NUMBER OF MCQs (45) Recall: 09 Application: 36 (1 mark each)	NUMBER OF SAQs/SEQs (09) (05 marks each)
Eye Lid & adnexa	7	01
Conjunctiva, Episclera & sclera	5	01
Orbit / Uveitis/ocular therapeutics	6	01
Corneal Diseases & Refractive Surgery/Refractive errors	5	01
Lens	5	01
Glaucoma	5	01
Retinal Vascular Diseases, RD Ocular Tumors, Macular diseases, Common Fundus Pathologies	4	01
Strabismus & Neuro Ophthalmology	4	01
Ocular trauma	4	01
Total	45 (45 Marks)	09 (45 Marks)

Practical

Table of Specification for 2020

Ophthalmology

Max Marks = 90
 Internal Assessment = 10
 Grand Total = 100
 Pass Marks = 45

OSCE Ophthalmology													
5 x Observed					8 x Non-Observed								Total Marks
1	2	3	4	5	6	7	8	9	10	11	12	13	
Comm skills	Exam skills			Comm skills	Procedural skills/Diagnostic skills								
HT	CE	CE	CE	OC	IATF	IATF	TP	TP	TP	DP	IATF	IATF	
Focused History	Short case -1	Short case -2	Short case-3	Counselling/ Comm Skills	2 x Data Interpretation	2 x Picture	2 x Instrument	2 x X rays	Drugs	Picture / Visual acuity Charts	Picture	Picture	
10	10	10	10	10	05	05	05	05	05	05	05	05	90 Marks
5 minutes for each station													
12 x 5 = 60 Minutes													
For 25 students = 125 Minutes= 2hrs 5 minutes													
*Number of rest stations depends upon the number of students													

- **Communication:** HT=Focused History Taking, OC=other communication
- **Examination:** CE = Clinical examination, SI= Sign Identification
- **Procedural skills:** DP=Diagnostic Procedure, TP=Therapeutic Procedure, IATF=Identification of Abnormal Test Finding

Theory: Internal Assessment (IA) Calculation

A	B	C	D
Roll No.	Name	All end blocks/ Pre annual Exams or any other exam	Total Marks of internal assessment Out of 10
Total Marks		Sum of Marks obtained x15/ sum of total marks in all internal exams	

Practical: Internal Assessment Calculation

A	B	C	D
Roll No.	Name	OSCE /TOACS throughout the year /Pre annual practical Exams or any other exam	Total Marks of internal assessment Out of 10
Total Marks		Sum of Marks obtained x15/ sum of total marks in all internal exams	