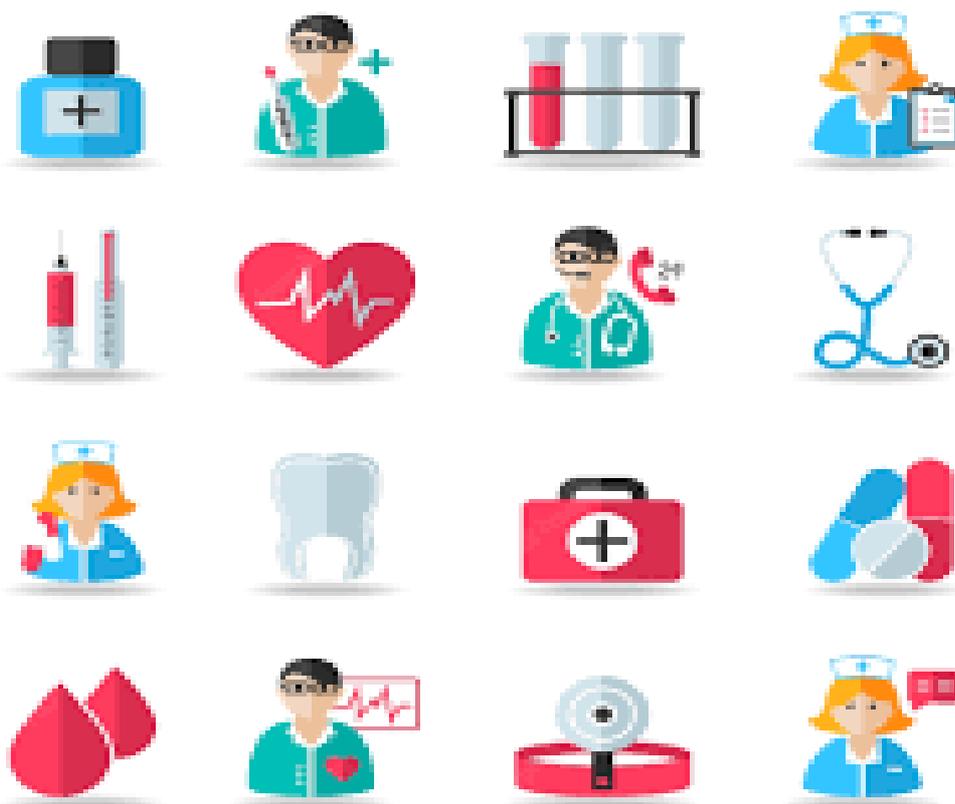


SPIRAL II – INTEGRATED CURRICULUM
STUDY GUIDE FOR THE STUDENTS OF
4th YEAR MBBS SESSION 2023- 2024



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INTEGRATED MODULAR COURSE STUDY GUIDE



Musculoskeletal System & Dermatology

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Preface

The recent developments in the field of medical education globally have brought about major changes in the traditional paradigm of learning and teaching. The shift from teacher-centered to student-centered learning has an impact on both undergraduate and postgraduate learners.

This study guide for the integrated modular system is developed to keep pace with these changes. This guide is based on the SPICES model of curriculum development.

1. The course organization, content, and activities are mainly student-centered.
2. we have incorporated case-based learning in our modules to make students problem-oriented learners.
3. Integration of the basic sciences content with pre-clinical and clinical subjects has been done explicitly.
4. Field visits are arranged at Baqai Medical University satellite clinics and other community healthcare centers to enlighten the students about community-related health problems.
5. Students are allowed to opt for Electives in the parent as well as other institutes for enhancement in learning.
6. It is a structured program, which starts with the basic concepts of medicine and incorporates all components of medical sciences in horizontal as well as vertical form.

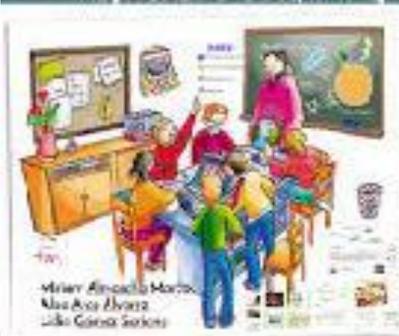
This study guide provides content-related information in the form of learning resources, a guide to learning and curriculum for the management of learning, and an outline of students' activities. In this way, it may be considered as a multidimensional guide for an undergraduate program of MBBS.

<i>Vision</i>	<i>Mission</i>
	
<i>Baqai Medical University</i>	
<p>To evolve as a nucleus for higher learning with a resolution to be socially accountable, focused on producing accomplished health care professionals for services in all spheres of life at the national and global level”.</p>	<p>The mission of Baqai Medical University is to be recognized as a center of excellence in education, research, patient care, and community services by producing highly capable and knowledgeable professionals.</p>
<i>Baqai Medical College</i>	
<p>Our vision is to enhance access and excellence in medical education and research, with the aim of capacity building of students and faculty through innovations, and science and technology competencies, to achieve rapid and sustainable health. The medical graduate thus produced, will be informed, and trained enough to serve the community better, and to be an advisor to the national and international health organizations.</p>	<p>The mission of the Baqai Medical College is to produce medical graduates, who are responsible and accomplished individuals and have skills for problem-solving, clinical judgment, research, and leadership for medical practice at the international level and are also aware of the health problems of the less privileged rural and urban population of Pakistan.</p>

CURRICULUM INTEGRATION COMMITTEE (CIC)

Name	Designation
Prof. Dr. Nazia Jameel	Head CIC Spiral II
Dr. Sarah Azhar	Head CIC Spiral II
Dr. Maeesa Sajeel	Member, 4 th year MBBS Class Coordinator
Prof. Dr. M.S. Fahmi	Member, Department of Ophthalmology
Dr. Abdul Ghaffar	Member, Department of Surgery & Allied
Dr. Amara Altaf	Member, Department of Community Medicine
Dr. Dania Faisal	Member, Department of Medicine & Allied
Dr. Faraz Saleem	Member, Department of Pharmacology
Dr. Hina Amjad	Member, Department of Pharmacology
Dr. Nasima Iqbal	Member, Department of Pathology
Dr. Nikhat Ahsan	Member, Department of Obstetrics & Gynecology
Dr. Rehana Babar	Member, Department of ENT
Dr. Saadia Akram	Member, Department of Obstetrics & Gynecology
Dr. Tahira Saeed	Member, Department of Pediatrics
Dr. Zulfiqar H. Naqvi	Member, Department of Community Medicine
Ms. Maria Rahim	Member, Department of Research

TEACHING METHODOLOGIES

		
<p>Interactive Lectures</p>	<p>Case-based Learning</p>	<p>Student's Presentations</p>
		
<p>Flipped Classroom</p>	<p>Small group discussions</p>	<p>Practical demonstration</p>
		
<p>Hands-on practice of clinical skills in a simulated environment</p>	<p>Virtual teaching sessions</p>	<p>Self-directed learning</p>

*Musculoskeletal
System
And
Dermatology*

INTRODUCTION TO MODULE – II



<i>Module – II</i>	
<i>Musculoskeletal System & Dermatology</i>	
Systems	<ul style="list-style-type: none"> • Musculoskeletal System • Dermatology
Duration	8 Weeks (From 18 th July 2023 to 11 th September 2023)
Assessment Dates	*Tuesday 12 th September 2023
Assessment Pattern	MCQs, SEQs & OSPE

*The Assessment pattern and dates are tentative (Subject to change)

Pathology

At the end of these 1-hour interactive lectures, the students of 4th year MBBS will be able to:

Topic	Teaching Strategy	Duration	Learning Objectives
Developmental disorders of bone and cartilage	Interactive Lecture	1 hour	<ol style="list-style-type: none"> 1. List the developmental disorders of bone and cartilage. 2. Discuss the pathophysiology, morphology, and clinical features of achondroplasia. 3. Comprehend osteogenesis imperfecta based on its pathogenesis, morphology, types, and clinical features. 4. Describe the pathogenesis, clinical features, and morphology of osteopetrosis.
Acquired disorders of bone and cartilage - I	Interactive Lecture	1 hour	<ol style="list-style-type: none"> 1. Classify the acquired disorders of bone and cartilage. 2. Define Osteopenia and Osteoporosis. 3. Enumerate the primary and secondary categories of generalized osteoporosis. 4. Discuss the risk factors, pathogenesis, morphology, and clinical course of osteoporosis.
Acquired disorders of bone and cartilage - II	Interactive Lecture	1 hour	<ol style="list-style-type: none"> 1. Discuss Paget's disease based on its pathogenesis, clinical course, morphology, and complications. 2. Describe the contributing factors, pathogenesis, and clinical manifestations of Renal Osteodystrophy. 3. Differentiate between the pathophysiology & clinical features of Rickets and Osteomalacia.

Pathology

At the end of these 1-hour interactive lectures, the students of 4th year MBBS will be able to:

Topic	Teaching Strategy	Duration	Learning Objectives
Fractures & Osteonecrosis	Interactive Lecture	1 hour	<ol style="list-style-type: none"> 1. Define & classify fractures. 2. Explain the sequence of events in the healing of a fracture. 3. List the conditions associated with Osteonecrosis. 4. Discuss the pathophysiology, morphology & clinical course of osteonecrosis.
Infective conditions of the bone (Osteomyelitis)	Interactive Lecture	1 hour	<ol style="list-style-type: none"> 1. Define and classify osteomyelitis. 2. List the etiological factors of osteomyelitis. 3. Comprehend the pathogenesis, morphology, and clinical course of osteomyelitis. 4. Enumerate the common routes of spread and frequent sites involved in osteomyelitis. 5. Differentiate between acute and chronic osteomyelitis.
Bone Tumors	Interactive Lecture	1 hour	<ol style="list-style-type: none"> 1. Classify the primary tumors of the bone. 2. Differentiate between osteoid osteoma and osteoblastoma based on size, sites of origin, and symptoms. 3. Describe the morphology of osteoid osteoma. 4. Comprehend the risk factors, pathogenesis, morphology & and clinical features of osteosarcoma.

Pathology

At the end of these 1-hour interactive lectures, the students of 4th year MBBS will be able to:

Topic	Teaching Strategy	Duration	Learning Objectives
Cartilage forming tumors	Interactive Lecture	1 hour	<ol style="list-style-type: none"> 1. Classify the primary tumors of the cartilage. 2. Describe the pathophysiology, clinical features, and morphology of osteochondroma. 3. Explain the pathogenesis, clinical course & morphology of chondroma. 4. Comprehend the pathophysiology, morphological & clinical features of chondrosarcoma.
Joint tumors and tumor-like conditions	Interactive Lecture	1 hour	<ol style="list-style-type: none"> 1. Classify joint tumors and tumor-like conditions. 2. Define ganglion and synovial cyst. 3. Describe the pathogenesis, morphology, and clinical features of a teno-synovial giant cell tumor.
Inflammatory disorders of joints (Arthritis)	Interactive Lecture	1 hour	<ol style="list-style-type: none"> 1. Classify arthritis. 2. Differentiate between osteoarthritis and rheumatoid arthritis based on their types, pathogenesis, morphological features, and clinical course. 3. Enumerate the joints frequently involved in osteoarthritis and rheumatoid arthritis. 4. Describe the diagnostic criteria of rheumatoid arthritis.

Pathology

At the end of these 1-hour interactive lectures, the students of 4th year MBBS will be able to:

Topic	Teaching Strategy	Duration	Learning Objectives
Soft tissue tumors	Interactive Lecture	1 hour	<ol style="list-style-type: none"> 1. Categorize the tumors of soft tissue. 2. Differentiate between the pathophysiology and morphology of lipoma and liposarcoma. 3. Compare leiomyoma & leiomyosarcoma based on their pathogenesis and morphology. 4. Classify tumors of the skeletal muscle. 5. Discuss the subtypes, pathogenesis, and morphology of Rhabdomyosarcoma.
Inherited diseases of the skeletal muscle	Interactive Lecture	1 hour	<ol style="list-style-type: none"> 1. Classify Congenital myopathies. 2. Comprehend the subtypes, causes, pathophysiology, morphology, and clinical features of Muscular dystrophy.
Inflammatory diseases of the skeletal muscles	Interactive Lecture	1 hour	<ol style="list-style-type: none"> 1. Classify inflammatory myopathies. 2. Discuss the pathogenesis, morphology, and clinical features of dermatomyositis. 3. Describe the pathogenesis and morphology of Polymyositis, and inclusion-body myositis.

Pathology

At the end of these 1-hour interactive lectures, the students of 4th year MBBS will be able to:

Topic	Teaching Strategy	Duration	Learning Objectives
Nomenclature of Skin lesions	Interactive Lecture	1 hour	<ol style="list-style-type: none"> 1. Define common macroscopic terms e.g., Macule, Papule, Nodule, Plaque, Vesicle, Bulla, Blister, Pustule, Scale, Lichenification, and Excoriation. 2. Define common microscopic terms e.g., Hyperkeratosis, Parakeratosis, Acanthosis, Dyskeratosis, Acantholysis, Papillomatosis, and Lentiginous Spongiosis
Acute inflammatory dermatosis - I	Interactive Lecture	1 hour	<ol style="list-style-type: none"> 1. Define and classify eczematous dermatitis. 2. Describe the etiology and pathogenesis of contact dermatitis, atopic dermatitis, drug-related eczematous dermatitis, photo-eczematous eruptions, and primary irritant dermatitis. 3. Describe the morphological and clinical features of acute eczematous dermatitis.
Acute inflammatory dermatosis – II	Interactive Lecture	1 hour	<ol style="list-style-type: none"> 1. Enumerate the conditions which are associated with Erythema Multiforme. 2. Discuss the morphology and clinical features of Erythema Multiforme. 3. Define Urticaria. 4. Describe the causes, pathogenesis, morphological and clinical features of urticaria.

Pathology

At the end of these 1-hour interactive lectures, the students of 4th year MBBS will be able to:

Topic	Teaching Strategy	Duration	Learning Objectives
Chronic inflammatory dermatosis	Interactive Lecture	1. hour	<ol style="list-style-type: none"> 1. Define and Classify Chronic Inflammatory Dermatoses 2. Describe the etiopathogenesis, morphology, and clinical features of Psoriasis. 3. Discuss the etiopathogenesis, morphology, and clinical features of Seborrheic Dermatitis. 4. Define Lichen planus. Explain its etiopathogenesis, morphology, and clinical features. 5. Comprehend the etiopathogenesis, morphology, and clinical features of Lichen planus chronicus.
Infectious dermatosis	Interactive Lecture	1 hour	<ol style="list-style-type: none"> 1. List superficial & and deep bacterial infections of the skin e.g., Impetigo caused by Staphylococcus and Streptococcus spp. (superficial) and Pseudomonas aeruginosa(deep). 2. Describe the etiopathogenesis, morphology, and clinical features of bacterial infections. 3. List fungal infections of the skin. 4. Describe the etiopathogenesis, morphology & and clinical features of Candida species and Aspergillus species. 5. Define Verrucae (Warts) and describe its etiopathogenesis, morphology, and clinical features. 6. Define Acne vulgaris. Describe its etiopathogenesis, morphology, and clinical features.

Pathology

At the end of these 1-hour interactive lectures, the students of 4th year MBBS will be able to:

Topic	Teaching Strategy	Duration	Learning Objectives
Blistering (Bullous) diseases of the Skin	Interactive Lecture	1 hour	<ol style="list-style-type: none"> 1. Define and classify blistering (bullous) disorders of the skin (Pemphigus vulgaris, Pemphigus foliaceus, and Paraneoplastic pemphigus). 2. Discuss the variants, pathophysiology, clinical features, and morphology of Pemphigus. 3. Comprehend the pathogenesis, clinical features & and morphology of Bullous Pemphigoid. 4. Define Dermatitis Herpetiformis and describe its etiopathogenesis, morphology, and clinical features.
Pre-malignant and malignant epidermal tumors	Interactive Lecture	1 hour	<ol style="list-style-type: none"> 1. List premalignant and malignant epidermal tumors. 2. Describe the etiopathogenesis, morphology, and clinical features of Actinic Keratosis. 3. Explain the risk factors, etiology, and morphology of squamous cell carcinoma of the skin. 4. Discuss basal cell carcinoma with respect to the frequent sites of origin and clinical and morphological features.
Tumor and tumor-like lesions of the Melanocytes	Interactive Lecture	1 hour	<ol style="list-style-type: none"> 1. List tumor and tumor-like lesions of the Melanocytes. 2. Comprehend the types (Congenital nevus, blue nevus, Spitz's nevus, halo nevus, dysplastic nevus), etiopathogenesis, morphology, and clinical features of Melanocytic Nevi. 3. Describe the pathogenesis, clinical features, and morphology of malignant melanoma.

Pathology

At the end of these 2 ¼ hours small group discussion sessions, the students of 4th year MBBS will be able to:

Topic	Teaching Strategy	Duration	Learning Objectives
Disorders of bone and cartilage	Small group discussion (TBL)	2 ¼ hours	<ol style="list-style-type: none"> 1. Classify the disorders of bone and cartilage. 2. Discuss the pathogenesis, clinical course, and morphology of the developmental disorders of the bone and cartilage. 3. Describe the pathophysiology, clinical features, and morphology of acquired disorders of bone and cartilage.
Crystal induced arthritis	Small group discussion (TBL)	2 ¼ hours	<ol style="list-style-type: none"> 1. Define and classify Arthritis. 2. Discuss the pathogenesis, clinical course, and morphology of gout. 3. Describe the pathophysiology and morphology of pseudogout.
Inflammatory dermatosis	Small group discussion (TBL)	2 ¼ hours	<ol style="list-style-type: none"> 1. Classify the inflammatory disorders of the skin. 2. Discuss the causes, pathogenesis, clinical course, and morphology of acute inflammatory dermatosis. 3. Comprehend the causes, pathophysiology, clinical features, and morphology of chronic inflammatory dermatosis.
Skin Pathologies	Small group discussion (TBL)	2 ¼ hours	<ol style="list-style-type: none"> 1. Classify Skin pathologies. 2. Comprehend the pathogenesis, clinical course, and morphology of Skin infections. 3. Discuss the pathophysiology and morphology of dermatological malignancies.

Pathology

At the end of these 2 ¼ hours practical sessions, the students of 4th year MBBS will be able to:

Topic	Teaching Strategy	Duration	Learning Objectives
Bone Tumors	Practical (Task-based learning)	2 ¼ hours	<ol style="list-style-type: none"> 1. Comprehend the incidence and occurrence, pathogenesis, and morphology of Ewing's sarcoma. 2. Identify the given photomicrographs of Ewing's sarcoma with their points of identification. 3. Summarize the pathophysiology, morphological & clinical features of giant cell tumor. 4. Identify the histopathological slide of a giant cell tumor with its points of identification.
Soft tissue & skeletal tumors	Practical (Task-based learning)	2 ¼ hours	<ol style="list-style-type: none"> 1. Identify the histopathological slide of lipoma with its points of identification. 2. Identify the histopathological slide of leiomyoma with its points of identification. 3. Identify the histopathological slide of leiomyosarcoma with its points of identification. 4. Identify the histopathological slide of Rhabdomyosarcoma with its points of identification.
Tumors of the skin	Practical (Task-based learning)	2 ¼ hours	<ol style="list-style-type: none"> 1. Identify and illustrate the histopathological slide of squamous cell carcinoma of the skin. 2. Identify and illustrate the histopathological slide of squamous cell papilloma of the skin. 3. Identify and illustrate the histopathological slide of Melanoma.

Pharmacology

At the end of these 1-hour interactive lectures, the students of 4th year MBBS will be able to:

Topic	Teaching Strategy	Duration	Learning Objectives
Autacoids	Interactive Lecture	1 hour	<ol style="list-style-type: none"> 1. Define autacoids. 2. Explain their physiological and pathological effects through multiple receptor subtypes. 3. Classify autacoids according to the site of action.
Ergot Alkaloids	Interactive Lecture	1 hour	<ol style="list-style-type: none"> 1. Define ergot alkaloids. 2. List the sources of ergot alkaloids. 3. Classify ergot alkaloids based on their effects on major tissues. 4. Explain the effects of Ergotamine on serotonin and alpha dopamine receptors. 5. List the clinical uses of Ergotamine. 6. List the common adverse effects and contraindications of Ergotamine.
Histamine & Antihistamines	Interactive Lecture	1 hour	<ol style="list-style-type: none"> 1. Define histamine and its role as a chemical mediator. 2. List the types of histamine receptors with their distribution. 3. Classify histamine receptors with examples. 4. Explain the mechanism of action of Chlorpheniramine, Cyclizine, and Cetirizine. 5. List the pharmacokinetics of Chlorpheniramine, Cyclizine, and Cetirizine. 6. List the common adverse effects and contraindications of Chlorpheniramine, Cyclizine, and Cetirizine.

Pharmacology

At the end of these 1-hour interactive lectures, the students of 4th year MBBS will be able to:

Topic	Teaching Strategy	Duration	Learning Objectives
Serotonin Agonists and Antagonists	Interactive Lecture	1 hour	<ol style="list-style-type: none"> 1. Identify serotonin as a neurotransmitter and its prominent peripheral actions. 2. Memorize various serotonin receptors with their effects. 3. Classify serotonin receptor agonists and antagonists. 4. List the clinical uses of Sumatriptan. 5. List the clinical uses of Ondansetron. 6. Explain the characteristics of serotonin syndrome and other hyperthermic syndromes. 7. List the common adverse effects and contraindications of Ondansetron.
Vasoactive Peptides (Kinins, Natriuretic Peptides, Endothelin, VIP, Substance P, Urotensin Agonist and Antagonist)	Interactive Lecture	1 hour	<ol style="list-style-type: none"> 1. Define Vasoactive peptides. 2. Classify Vasoactive peptides. 3. List the physiologic functions of major Vasoactive peptides. 4. Explain the mechanism of action of Vasoactive peptides. 5. List the clinical applications of Vasoactive peptides.
Drugs for Rheumatoid arthritis (DMARDs)	Interactive Lecture	1 hour	<ol style="list-style-type: none"> 1. Outline the pathophysiology of rheumatoid arthritis. 2. Classify drugs used for management of rheumatoid arthritis. 3. Explain the mechanism of action of Methotrexate and Leflunomide. 4. List the pharmacokinetics of Methotrexate and Leflunomide. 5. List the common adverse effects and contraindications of Methotrexate and Leflunomide.

Pharmacology

At the end of these 1-hour interactive lectures, the students of 4th year MBBS will be able to:

Topic	Teaching Strategy	Duration	Learning Objectives
Drugs for Osteoarthritis	Interactive Lecture	1 hour	<ol style="list-style-type: none"> 1. Outline the pathophysiology of Osteoarthritis. 2. Classify drugs used to treat Osteoarthritis. 3. Explain the mechanism of action of Acetaminophen, NSAIDs (Aspirin, Ibuprofen, and Naproxen), collagen-active peptides, and Hormonal Therapy. 4. Discuss the pharmacokinetics of Acetaminophen, NSAIDs (Aspirin, Ibuprofen, and Naproxen), collagen-active peptides, and Hormonal Therapy. 5. List the common adverse effects and contraindications of Acetaminophen, NSAIDs (Aspirin, Ibuprofen, and Naproxen), collagen-active peptides, and Hormonal Therapy.
Skeletal muscle relaxants	Interactive Lecture	1 hour	<ol style="list-style-type: none"> 1. Classify Skeletal muscle relaxants. 2. Explain the mechanism of action of Tubocurarine, Succinylcholine, Baclofen, and Dantrolene 3. Describe the pharmacokinetics and pharmacodynamics of these drugs. 4. List the clinical uses, common adverse effects, and contraindications of these drugs.
Drugs for Gout	Interactive Lecture	1 hour	<ol style="list-style-type: none"> 1. Outline the pathophysiology of Gout. 2. Classify drugs used for the management of Gout. 3. Explain the mechanism of action of Allopurinol and Colchicine. 4. List the pharmacokinetics of these drugs. 5. List the common adverse effects and contraindications of these drugs.

Pharmacology

At the end of these 1-hour interactive lectures, the students of 4th year MBBS will be able to:

Topic	Teaching Strategy	Duration	Learning Objectives
Drugs for Acne	Interactive Lecture	1 hour	<ol style="list-style-type: none"> 1. Classify drugs used to treat acne vulgaris. 2. Explain the mechanism of action of Macrolide (Erythromycin), Benzoyl peroxide, and Retinoids used in acne vulgaris. 3. List the pharmacokinetics of these drugs. 4. List adverse effects and contraindications of these drugs.
Drugs used to treat fungal skin infections	Interactive Lecture	1 hour	<ol style="list-style-type: none"> 1. Classify drugs used to treat Fungal Skin Infections. 2. Explain the mechanism of action of Clotrimazole, Miconazole, Nystatin, Fluconazole, and Griseofulvin used in fungal skin infection. 3. List the pharmacokinetics of these drugs. 4. List adverse effects and contraindications of these drugs.
Drugs used to treat Psoriasis	Interactive Lecture	1 hour	<ol style="list-style-type: none"> 1. Classify drugs used to treat psoriasis. 2. Explain the mechanism of action of Acitretin, Tazarotene, Calcipotriene, and Apremilast used in psoriasis. 3. List the pharmacokinetics of these drugs. 4. List adverse effects and contraindications of these drugs.
Drugs used to treat Eczema and Seborrheic Dermatitis	Interactive Lecture	1 hour	<ol style="list-style-type: none"> 1. Classify drugs used to treat Eczema and Seborrheic Dermatitis. 2. Explain the mechanism of action of Betamethasone, Coal tar, Antihistamines, cyclosporine, and methotrexate used in Eczema and Seborrheic Dermatitis. 3. List the pharmacokinetics of these drugs. 4. List their adverse effects & contraindications.

Pharmacology

At the end of these 2 ¼ hours small group discussion sessions, the students of 4th year MBBS will be able to:

Topic	Teaching Strategy	Duration	Learning Objectives
Prescription of Osteoarthritis and pain management	Tutorial (TBL)	2 ¼ hours	<ol style="list-style-type: none"> List drugs used for the management of Osteoarthritis and pain management. Explain the pharmacokinetics and pharmacodynamics of Acetaminophen, Ibuprofen, and Meloxicam. Write down the pharmacological management of this case.
Prescription writing on Rheumatoid arthritis and DMARDs	Tutorial (TBL)	2 ¼ hours	<ol style="list-style-type: none"> Classify drugs used for management of rheumatoid arthritis. Explain the pharmacokinetics and pharmacodynamics of Abatacept, Hydroxychloroquine, and Sulfasalazine. Write down the pharmacological management of this case.
Prescription writing on Gout (Acute and Chronic gout)	Tutorial (TBL)	2 ¼ hours	<ol style="list-style-type: none"> Discuss the pharmacological management of the given case. Discuss the rationale for prescribing the drugs for the pharmacological management of the given case. Write down the prescription of the given case.
Prescription writing on calcium and Vitamin D deficiency	Tutorial (TBL)	2 ¼ hours	<ol style="list-style-type: none"> Discuss the pharmacological management of the given case. Discuss the rationale for prescribing the drugs for the pharmacological management of the given case. Write down the prescription of the given case.

Pharmacology

At the end of these 2 ¼ hours small group discussion sessions, the students of 4th year MBBS will be able to:

Topic	Teaching Strategy	Duration	Learning Objectives
Prescription writing on Acne	Tutorial (TBL)	2 ¼ hours	<ol style="list-style-type: none"> 1. Discuss the pharmacological management of the given case. 2. Discuss the rationale for prescribing the drugs for the pharmacological management of the given case. 3. Write down the prescription of the given case.
Prescription writing on Eczema (Atopic Dermatitis)	Tutorial (TBL)	2 ¼ hours	<ol style="list-style-type: none"> 1. Discuss the pharmacological management of the given case. 2. Discuss the rationale for prescribing the drugs for the pharmacological management of the given case. 3. Write down the prescription of the given case.
Prescription writing on Psoriasis	Tutorial (TBL)	2 ¼ hours	<ol style="list-style-type: none"> 1. Discuss the pharmacological management of the given case. 2. Discuss the rationale for prescribing the drugs for the pharmacological management of the given case. 3. Write down the prescription of the given case.

Pharmacology

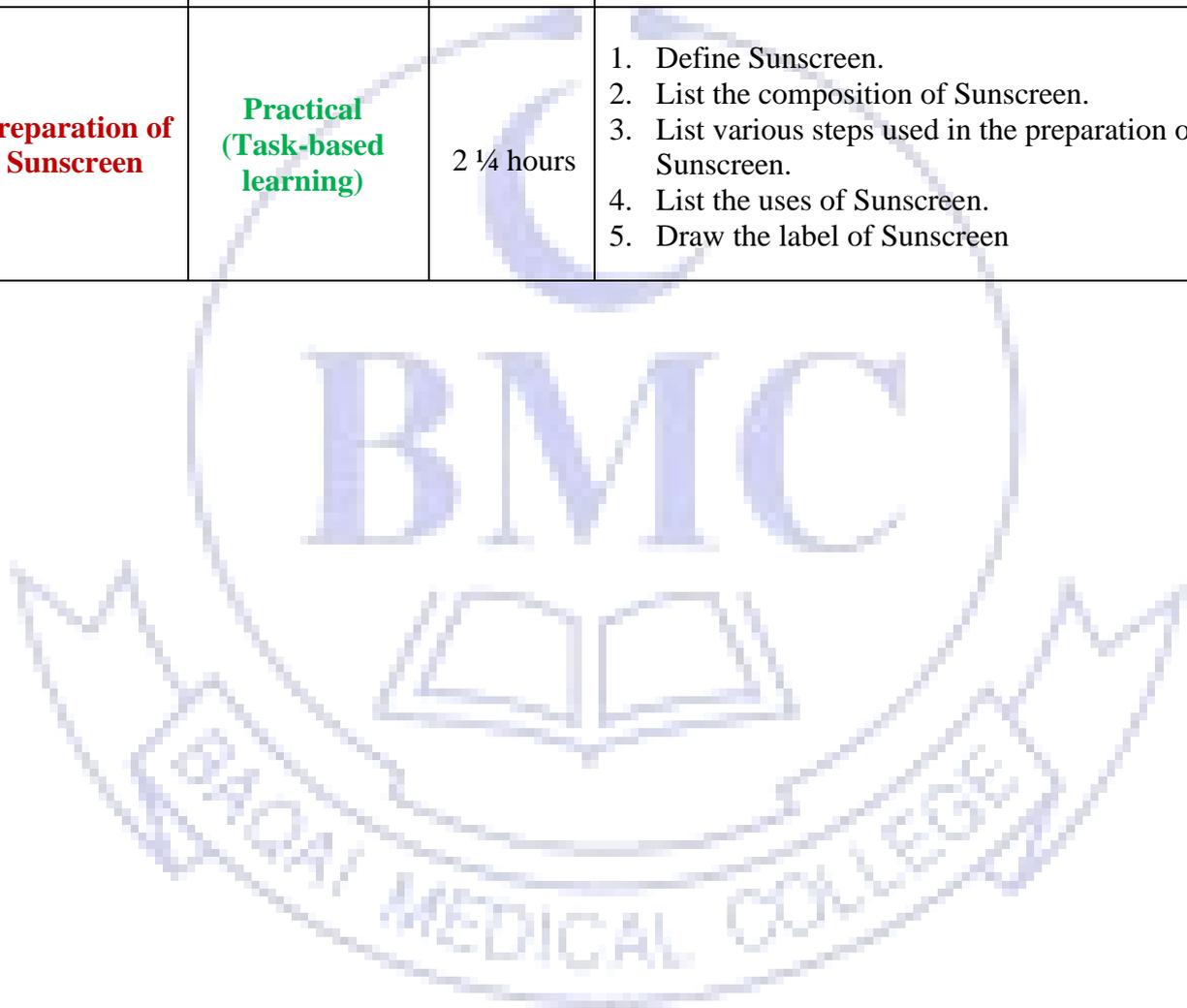
At the end of these 2 ¼ hours practical sessions, the students of 4th year MBBS will be able to:

Topic	Teaching Strategy	Duration	Learning Objectives
Preparation and dispensing of topical analgesic ointment	Practical (Task-based learning)	2. ¼ hours	<ol style="list-style-type: none"> 1. Define lotion. 2. List the composition of calamine lotion. 3. List various steps used in the preparation of Calamine lotion. 4. List the uses of calamine lotion. 5. Draw the label of the calamine lotion.
Preparation and dispensing of corticosteroid cream for Dermatitis	Practical (Task-based learning)	2 ¼ hours	<ol style="list-style-type: none"> 1. Define cream. 2. List the composition of corticosteroid cream for dermatitis. 3. List various steps used in the preparation of corticosteroid cream for dermatitis. 4. List the uses of corticosteroid cream for dermatitis. 5. Draw the label of corticosteroid cream for dermatitis.
Preparation and dispensing of Vitamin A Cream (Retinoic Acid)	Practical (Task-based learning)	2 ¼ hours	<ol style="list-style-type: none"> 1. List the composition of Vitamin A cream for different skin diseases. 2. List various steps used in the preparation of Vitamin A cream for different skin diseases. 3. List the uses of Vitamin A cream for different skin diseases. 4. Draw the label of Vitamin A cream for different skin diseases.
Preparation and dispensing of topical antibacterial creams	Practical (Task-based learning)	2 ¼ hours	<ol style="list-style-type: none"> 1. List the composition of topical antibacterial creams. 2. List various steps used in the preparation of topical antibacterial creams. 3. List the uses of topical antibacterial creams. 4. Draw the label of topical antibacterial creams.

Pharmacology

At the end of these 2 ¼ hours practical sessions, the students of 4th year MBBS will be able to:

Topic	Teaching Strategy	Duration	Learning Objectives
Preparation of Sunscreen	Practical (Task-based learning)	2 ¼ hours	<ol style="list-style-type: none"> 1. Define Sunscreen. 2. List the composition of Sunscreen. 3. List various steps used in the preparation of Sunscreen. 4. List the uses of Sunscreen. 5. Draw the label of Sunscreen



Community Medicine

At the end of these 1-hour interactive lectures, the students of 4th year MBBS will be able to:

Topic	Teaching Strategy	Duration	Learning Objectives
Introduction to Occupational Health	Interactive Lecture	1 hour	<ol style="list-style-type: none"> 1. Define Occupational Health. 2. Define Occupational environment. 3. Discuss Occupational disease in the context of technological advancement. 4. Describe the application of ergonomics.
Occupational Hazards	Interactive Lecture	1 hour	<ol style="list-style-type: none"> 1. Discuss how to recognize and evaluate occupational hazards. 2. Classify different types of hazards such as physical, chemical, biological, and psychosocial hazards. 3. Describe the measures to control and prevent occupational hazards.
Occupational Health Practices	Interactive Lecture	1 hour	<ol style="list-style-type: none"> 1. Define occupational health practices. 2. List the functions of occupational health services. 3. Discuss the responsibilities of a doctor working in industry.
Occupational Cancers	Interactive Lecture	1 hour	<ol style="list-style-type: none"> 1. Define Occupational Cancer. 2. Describe the causes and risk factors of occupational health. 3. Discuss the prevention strategies for Occupational cancers.
Mental Health	Interactive Lecture	1 hour	<ol style="list-style-type: none"> 1. Define mental health. 2. List the causes of mental illnesses. 3. Discuss the common mental health problems in Pakistan. 1. Explain the different levels of prevention of mental illness.

Community Medicine

At the end of these 1-hour interactive lectures, the students of 4th year MBBS will be able to:

Topic	Teaching Strategy	Duration	Learning Objectives
Drug/Substance Abuse	Interactive Lecture	1 hour	<ol style="list-style-type: none"> 1. Define drug abuse, drug dependence & drug addiction. 2. Enumerate the criteria of a drug addict. 3. Discuss the magnitude of the problem- Drug addiction. 4. Classify the psychoactive drugs.
Drug Addiction	Interactive Lecture	1 hour	<ol style="list-style-type: none"> 1. Discuss the etiology of drug addiction. 2. Describe the prevention and control of drug addiction.
School Health-1	Interactive Lecture	1 hour	<ol style="list-style-type: none"> 1. Define School Health. 2. List the components of coordinated school health program. 3. Discuss the school health problems. 4. Describe the health school environment.
School Health - 2	Interactive Lecture	1 hour	<ol style="list-style-type: none"> 1. Discuss the responsibilities of school health services team members (school medical officer school health nurse & attendant) 2. Describe the functions of school health services (levels of prevention)
Disaster Management-1	Interactive Lecture	1 hour	<ol style="list-style-type: none"> 1. Define Disaster Management. 2. List the types of Disasters. 3. Explain the criteria for evaluating the magnitude and effect of disaster. 4. Describe the duties of the health team during a disaster.

Community Medicine

At the end of these 1-hour interactive lectures, the students of 4th year MBBS will be able to:

Topic	Teaching Strategy	Duration	Learning Objectives
Disaster Management -2	Interactive Lecture	1 hour	<ol style="list-style-type: none"> 1. Discuss the steps in planning disaster management. 2. Explain the strategies to manage social reactions following a disaster.
Snake Bite	Interactive Lecture	1 hour	<ol style="list-style-type: none"> 1. Enumerate the risk factors of snake bite incidents. 2. Describe the signs and symptoms of snake bites. 3. Discuss the management and prevention strategies for snake bite.
Health Education - 1	Interactive Lecture	1 hour	<ol style="list-style-type: none"> 1. Define Health education and health promotion. 2. Describe the aim of health education. 3. Explain the stages of health education.
Health Education - 2	Interactive Lecture	1 hour	<ol style="list-style-type: none"> 1. Identify the communication barriers regarding health education. 2. Discuss the components of program planning for health education.

For Ophthalmology & ENT, please refer to their respective Study guides previously shared.

Medicine

At the end of these 1-hour interactive lectures, the students of 4th year MBBS will be able to:

Topic	Teaching Strategy	Duration	Learning Objectives
Osteoporosis	Interactive Lecture	1 hour	<ol style="list-style-type: none"> 1. Identify the causes of Osteoporosis. 2. Enumerate the signs and symptoms of Osteoporosis. 3. Discuss and logically analyze the management plan for Osteoporosis patients.
Rheumatoid Arthritis	Interactive Lecture	1 hour	<ol style="list-style-type: none"> 1. Identify the causes of Rheumatoid Arthritis. 2. Enumerate the signs and symptoms of Rheumatoid Arthritis. 3. Discuss and logically analyze the management plan for Rheumatoid Arthritis patients.
Systemic Lupus Erythematosus	Interactive Lecture	1 hour	<ol style="list-style-type: none"> 1. Identify the causes of Systemic Lupus Erythematosus. 2. Enumerate the signs and symptoms of SLE. 3. Discuss and logically analyze the management plan for SLE patients.
Cutaneous Presentation of Diabetes	Interactive Lecture	1 hour	<ol style="list-style-type: none"> 1. Identify the signs and symptoms of dermal lesions of Diabetes Mellitus. 2. List the appropriate investigations required to confirm the lesions/ manifestations. 3. Discuss the differential diagnosis of the cutaneous lesions.
Cutaneous Presentation of Thyroid	Interactive Lecture	1 hour	<ol style="list-style-type: none"> 1. Identify the signs and symptoms of dermal lesions of Thyroid disorders. 2. List the appropriate investigations required to confirm the lesions/ manifestations.

Surgery

At the end of these 1-hour interactive lectures, the students of 4th year MBBS will be able to:

Topic	Teaching Strategy	Duration	Learning Objectives
Bone fractures & their management	Interactive Lecture	1 hour	
Bone tumors & their management	Interactive Lecture	1 hour	
Malignant Skin diseases	Interactive Lecture	1 hour	

ASSESSMENT METHODS

1. Formative Assessment

- Assignment
- Quiz (face-to-face or online)
- Student Presentation
- Class participation in small group discussions and case-based learning sessions
- Project / Poster

* 4th Year MBBS Students are directed to maintain their practical journals & and logbooks for formative assessment.

2. Summative Assessment

- Modular Exam:

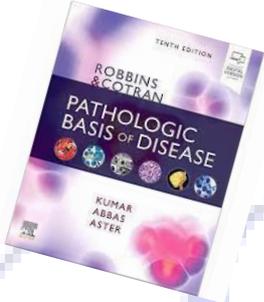
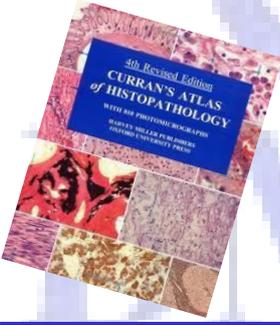
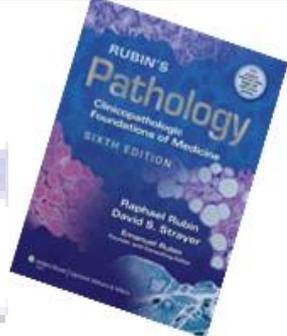
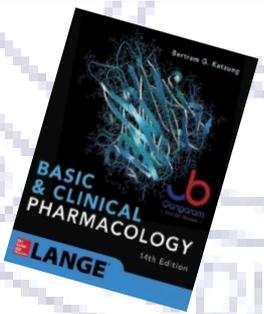
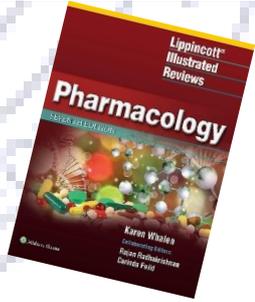
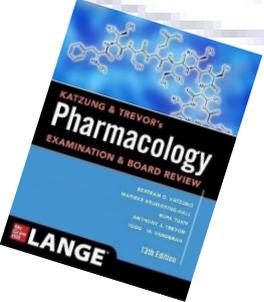
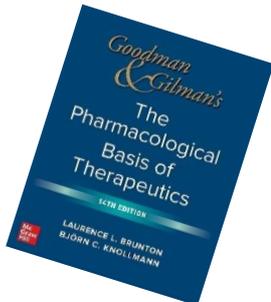
With reference to the Assessment Policy of BMC, dated 14-06-21) (Point 5: Process; Summative assessment point a, b & d); a single modular exam will be conducted at the end of each module which will include all the subjects of basic medical sciences.

*Module exam will be assessed by any of the following assessment methods:

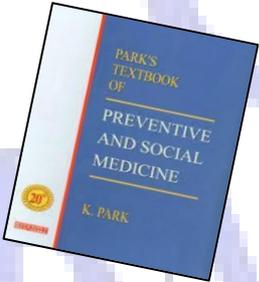
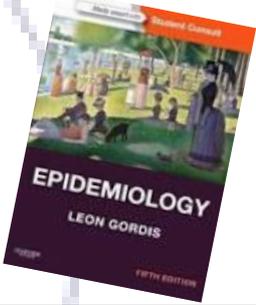
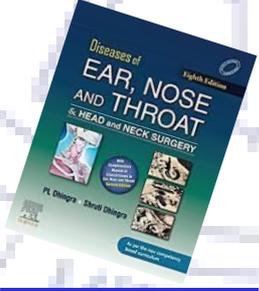
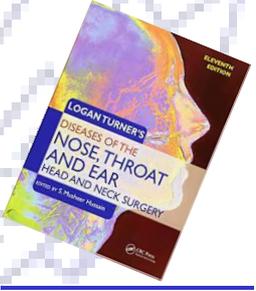
- MCQ
 - SEQ
 - OSPE.
- Annual Exam:
 - Internal Evaluation = 20%
 - Final Exam= 80%
- Theory: MCQs, EMQs & SAQs
Practical: Viva & OSPE



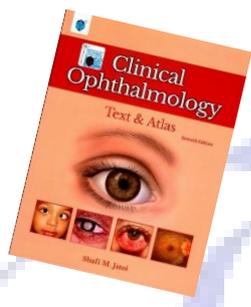
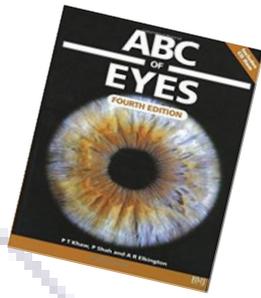
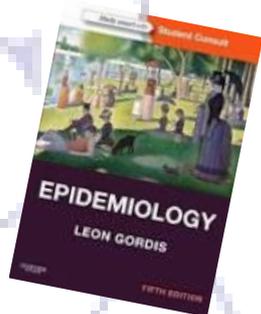
SUGGESTED READING BOOKS

PATHOLOGY			
<p>Robbins & Cotran Pathologic Basis of Disease 10th Edition Kumar, Abbas & Aster</p>		<p>Pathology Illustrated 8th Edition Alasdair D. T. Govan</p>	
<p>Curran's Atlas of Histopathology 4th Edited Edition Robert Curran</p>		<p>Rubin's Pathology: Clinicopathologic Foundations of Medicine 6th Edition Raphael Rubin & David S. Strayer</p>	
PHARMACOLOGY & THERAPEUTICS			
<p>Basic and Clinical Pharmacology 14th Edition Bertram Katzung</p>		<p>Lippincott's illustrated review of Pharmacology 7th Edition Karen Whalen</p>	
<p>Katzung and Trevor's Pharmacology Examination and Board Review 14th Edition Katzung and Trevor</p>		<p>Goodman & Gilman The Pharmacological Basis of Therapeutics 14th Edition Laurence L Brunton & Bjorn C. Knollmann</p>	

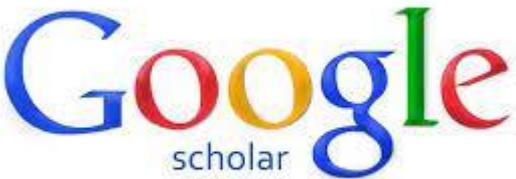
SUGGESTED READING BOOKS

COMMUNITY MEDICINE			
<p>Public Health & Community Medicine 8th Edition M. Ilyas</p>		<p>Public Health & Preventive Medicine 13th Edition Maxcy- Rosenau-Last</p>	
<p>Park's Textbook of Preventive & Social Medicine 20th Edition K. Parks</p>		<p>Epidemiology 5th Edition Leon Gordis</p>	
ENT			
<p>Diseases of Ear, Nose and Throat 8th Edition P.L. Dhingra & Shruti Dhingra</p>		<p>Logan Turner's Diseases of the Nose, Throat and Ear, Head and Neck Surgery 11th Edition Musheer Hussain</p>	

SUGGESTED READING BOOKS

OPHTHALMOLOGY			
<p>Clinical Ophthalmology 4th Edition Shafi M. Jatoi</p>		<p>ABC of Eyes 4th Edition P. Shah, P.T. Khaw & A.R. Elkington</p>	
RESEARCH METHODOLOGY			
<p>Introduction to Research in Health Sciences- Stephen Polgar, Shane A. Thomas</p>		<p>Epidemiology 5th Edition Leon Gordis</p>	

SUGGESTED WEBSITES & SEARCH ENGINES

	
<p>https://www.medscape.com</p>	<p>https://www.PathologyOutlines.com</p>
	
<p>https://pubmed.ncbi.nlm.nih.gov</p>	<p>https://scholar.google.com</p>
	
<p>https://medlineplus.gov</p>	<p>https://medicine.nus.edu.sg/pathweb</p>



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