ORTHOPAEDICS

Subject: Orthopedics

Lectures

MBBS phase III- part I

Total Teaching hours: 15 hours

Competencies written in red is of alignment and integration

S. NO	TOPICS	COMPETENCIES	SUBTOPICS	AIT	HOURS
1.	**Skeletal Trauma, Poly trauma**				
		OR1.1	**Lecture**: 1		1
			Principles of pre-hospital care and Casualty management of a trauma victim including principles of triage		
		OR1.2	**Lecture** : 2		1
		SU2.1	The aetiopathogenesis, clinical features, investigations, and principles of management of shock Describe Pathophysiology of shock, types of shock & principles of resuscitation including fluid replacement and monitoring.	General Surgery	
		OR1.3	**Lecture**: 3		1

			Aetiopathogenesis, clinical features, investigations, and principles of management of soft tissue injuries		
		OR1.4	**Lecture**: 4		1
			Describe and discuss the Principles of management of soft tissue injuries		
		OR1.5	**Lecture**: 5		1
		AN10.12	Describe and discuss the aetiopathogenesis, clinical features, investigations, and principles of management of dislocation of major joints, shoulder, knee, hip Describe and demonstrate shoulder, hip, knee joint for– type, articular surfaces, capsule, synovial membrane, ligaments, relations, movements, muscles involved, blood supply, nerve supply and applied anatomy	Human Anatomy	
4.	**Fractures**				
		OR2.1	**Lecture**: 6		1
		AN8.3	Describe and discuss the mechanism of Injury, clinical features, investigations and plan management of fracture of clavicle Enumerate peculiarities of clavicle	Human Anatomy	
		OR2.2	**Lecture**: 7		1
			Describe and discuss the mechanism of Injury, clinical features, investigations and plan management of fractures of proximal		

			humerus		
		OR2.3	**Lecture**: 8		1
			Select, prescribe and communicate appropriate medications for relief of joint pain		
		OR2.4	**Lecture**: 9		1
			Describe and discuss the mechanism of injury, clinical features, investigations and principles of management of fracture of shaft of humerus and intercondylar fracture humerus with emphasis on neurovascular deficit		
		OR2.5	**Lecture**: 10		1
			Describe and discuss the aetiopathogenesis, clinical features, mechanism of injury, investigation & principles of management of fractures of both bones forearm and Galeazzi and Monteggia injury		
		OR2.6	**Lecture**: 11		1
			Describe and discuss the aetiopathogenesis, mechanism of injury, clinical features, investigations and principles of management of fractures of distal radius		
		OR2.7	**Lecture**: 12		1
		AN48.2	Describe and discuss the aetiopathogenesis, mechanism of injury, clinical features, investigations and principles of management of pelvic injuries with emphasis on hemodynamic instability Describe & demonstrate the (position, features, important peritoneal	Human Anatomy	

			and other relations, blood supply, nerve supply, lymphatic drainage and clinical aspects of) important male & female pelvic viscera		
		OR2.8	**Lecture**: 13		1
			Describe and discuss the aetiopathogenesis, mechanism of injury, clinical features, investigations and principles of management of spine injuries with emphasis on mobilisation of the patient		
		OR2.9	**Lecture**: 14		1
			Describe and discuss the mechanism of injury, Clinical features, investigations and principle of management of acetabular fracture		
		OR2.10	**Lecture**: 15		1
			Describe and discuss the aetiopathogenesis, mechanism of injury, clinical features, investigations and principles of management of fractures of proximal femur		

MBBS Phase III- Part II

Total Teaching hours: 20 hours

Competencies written in red is of alignment and integration

S. NO	TOPICS	COMPETENCIES	SUBTOPICS	AIT	HOURS
1.	**Fractures**				
		OR2.11	**Lecture**: 1		**1**
			Describe and discuss the aetiopathogenesis, mechanism of injury,		

			clinical features, investigations and principles of management of (a)Fracture patella (b) Fracture distal femur (c) Fracture proximal tibia with special focus on neurovascular injury and compartment syndrome		
		OR2.12	**Lecture**: 2		**1**
			Describe and discuss the aetiopathogenesis, clinical features, investigations and principles of management of Fracture shaft of femur in all age groups and the recognition and management of fat embolism as a complication		
		OR2.13	**Lecture**: 3		**1**
			Describe and discuss the aetiopathogenesis, clinical features, Investigation and principles of management of: (a) Fracture both bones leg (b) Calcaneus (c) Small bones of foot		
		OR2.14	**Lecture**: 4		**1**
		AN20.1	Describe and discuss the aetiopathogenesis, clinical features, Investigation and principles of management of ankle fractures Describe and demonstrate the type, articular surfaces, capsule, synovial membrane, ligaments, relations, movements and muscles	Human Anatomy	

			involved, blood and nerve supply of tibiofibular and ankle joint		
		OR2.15	**Lecture**: 5		**1**
			Plan and interpret the investigations to diagnose complications of fractures like malunion, non-union, infection, compartmental syndrome		
		OR2.16	**Lecture**: 6		1
			Describe and discuss the mechanism of injury, clinical features, investigations and principles of management of open fractures with focus on secondary infection prevention and management		
2	Musculoskeletal Infection				
		OR3.1	**Lecture**: 7		**1**
		PA33.1	Describe and discuss the aetiopathogenesis, clinical features, investigations and principles of management of Bone and Joint infections a) Acute Osteomyelitis b) Subacute osteomyelitis c) Acute Suppurative arthritis d) Septic arthritis & HIV infection e) Spirochaetal infection f) Skeletal Tuberculosis	Pathology	

			Classify and describe the etiology, pathogenesis, manifestations, radiologic and morphologic features and complications of osteomyelitis		
3	Skeletal Tuberculosis				
		OR4.1	**Lecture**: 8		**1**
			Describe and discuss the clinical features, Investigation and principles of management of Tuberculosis affecting major joints (Hip, Knee) including cold abcess and caries spine		
4	Rheumatoid Arthritis and associated inlammatory disorders				
		OR5.1	**Lecture**: 9		**1**
			Describe and discuss the aetiopathogenesis, clinical features, investigations and principles of management of various inflammatory disorder of joints		
5	Degenerative disorders				
		OR6.1	**Lecture**: 10		**1**
			Describe and discuss the clinical features, investigations and principles of management of degenerative condition of spine (Cervical Spondylosis, Lumbar Spondylosis, PID)		
6	Metabolic bone				

	disorders				
		OR7.1	**Lecture**: 11		**1**
			Describe and discuss the aetiopathogenesis, clinical features, investigation and principles of management of metabolic bone disorders in particular osteoporosis, osteomalacia, rickets, Paget's disease		
7	Poliomyelitis				
		OR8.1	**Lecture**: 12		**1**
			Describe and discuss the aetiopathogenesis, clinical features, assessment and principles of management a patient with Post Polio Residual Paralysis		
8	Cerebral Palsy				
		OR9.1	**Lecture**: 13		**1**
			Describe and discuss the aetiopathogenesis, clinical features, assessment and principles of management of Cerebral palsy patient		
9	Bone Tumors				
		OR10.1	**Lecture**: 14		**1**
		PA33.2	Describe and discuss the aetiopathogenesis, clinical features, investigations and principles of management of benign and malignant bone tumours and pathological fractures Classify and describe the etiology, pathogenesis, manifestations, radiologic and morphologic features and complications and metastases of bone tumors	Pathology	

10	Peripheral nerve injuries				
		OR11.1	**Lecture**: 15		**1**
			Describe and discuss the aetiopathogenesis, clinical features, investigations and principles of management of peripheral nerve injuries in diseases like foot drop, wrist drop, claw hand, palsies of Radial, Ulnar, Median, Lateral Popliteal and Sciatic Nerves		
11	Congenital lesions				
		OR12.1	**Lecture**: 16		**1**
		AN19.6	Describe and discuss the clinical features, investigations and principles of management of Congenital and acquired malformations and deformities of: a. limbs and spine - Scoliosis and spinal bifida b. Congenital dislocation of Hip,Torticollis, c. congenital talipes equino varus Explain the anatomical basis of Flat foot & Club foot	Human Anatomy	
12	**ProceduralSkills**				
		OR13.1	**Lecture**: 17		**1**
			Participate in a team for procedures in patients and demonstrating the ability to perform on mannequins / simulated patients in the following: i. Above elbowplaster ii. Below kneeplaster iii. Above kneeplaster iv. Thomassplint v. splinting for long bonefractures		

			Strapping for shoulder and clavicletrauma		
		OR13.2	**Lecture**: 18		**1**
			Participate as a member in team for Resuscitation of Polytrauma victim by doing all of the following : (a) I.V. access central -peripheral (b) Bladdercatheterization (c) Endotrachealintubation Splintage		
13	**CounsellingSkills**				
		OR14.1	**Lecture**: 19		**1**
			Demonstrate the ability to counsel patients regarding prognosis in patients with various orthopedic illnesses like a. fractures with disabilities b. fractures that require prolonged bed stay c. bone tumours d. congenital disabilities		
		OR14.2	**Lecture**: 20		**1**
			Demonstrate the ability to counsel patients to obtain consentfor various orthopedic procedures like limp amputation, permanent fixationsetc..		

Subject: Orthopaedics

Small Group Discussion

MBBS phase III/I-

Small group teachings/ Tutorials/ Integrated teaching/ Practical's: 20 hours

***These are suggested topics which can be modified at institutional level and SLO (Specific learning objectives) can be designed for each topic at institutional level**

S. NO	TOPICS*	COMPETENCIES	SUBTOPICS	AIT	HOURS
1.	**Skeletal Trauma, Poly trauma**				
		OR1.1	SGD: 1		1
			Describe and discuss the Principles of pre-hospital care and Casualty management of a trauma victim including principles of triage		
		OR1.1	SGD: 2		1
			Describe the Principles of triage in case of trauma victim		
		OR1.2	SGD: 3		1
			Describe and discuss the aetiopathogenesis, clinical features, investigations, and principles of		

			management of shock		
		OR1.3	SGD: 4		1
			Describe and discuss the aetiopathogenesis, clinical features, investigations, and principles of management of soft tissue injuries		
		OR1.4	SGD: 5		1
			Describe and discuss the Principles of management of soft tissue injuries		
		OR1.5	SGD: 6		1
		AN10.12	Describe and discuss the aetiopathogenesis, clinical features, investigations, and principles of management of dislocation of shoulder joint Describe and demonstrate shoulder joint for– type, articular surfaces, capsule, synovial membrane, ligaments, relations, movements, muscles involved, blood supply, nerve supply and applied anatomy	Human Anatomy	
		OR1.5	SGD: 7		1
		AN18.4	Describe and discuss the aetiopathogenesis, clinical features, investigations, and principles of management of dislocation of knee joint Describe and demonstrate the type, articular surfaces, capsule, synovial membrane, ligaments,	Human Anatomy	

			relations, movements and muscles involved, blood and nerve supply, bursae around the knee joint		
		OR1.5	SGD: 8		1
		AN17.1	Describe and discuss the aetiopathogenesis, clinical features, investigations, and principles of management of dislocation of hip joint Describe and demonstrate the type, articular surfaces, capsule, synovial membrane, ligaments, relations, movements and muscles involved, blood and nerve supply, bursae around the hip joint	Human Anatomy	
		OR1.6	SGD: 9		1
			Discuss and demonstrate methods of closed reduction of shoulder dislocation / hip dislocation / knee dislocation		
2.	**Fractures**				
		OR2.1	SGD: 10		1
		AN8.3	Describe and discuss the mechanism of Injury, clinical features, investigations and plan management of fracture of clavicle Enumerate peculiarities of clavicle	Human Anatomy	
		OR2.2	SGD: 11		1

			Describe and discuss the mechanism of Injury, clinical features, investigations and plan management of fractures of proximal humerus		
		OR2.3	SGD: 12		1
			Select, prescribe and communicate appropriate medications for relief of joint pain		
		OR2.4	SGD: 13		1
			Describe and discuss the mechanism of injury, clinical features, investigations and principles of management of fracture of shaft of humerus and intercondylar fracture humerus with emphasis on neurovascular deficit		
		OR2.5	SGD: 14		1
		AN8.1	Describe and discuss the aetiopathogenesis, clinical features, mechanism of injury, investigation & principles of management of fractures of both bones forearm Identify the given bone, its side, important features & keep it in anatomical position	Human Anatomy	
		OR2.5	SGD: 15		1
			Describe and discuss the aetiopathogenesis, clinical features, mechanism of injury, investigation & principles of management of Galeazzi injury		
		OR2.5	SGD: 16		1

			Describe and discuss the aetiopathogenesis, clinical features, mechanism of injury, investigation & principles of management of fractures of Monteggia injury		
		OR2.6	SGD: 17		1
			Describe and discuss the aetiopathogenesis, mechanism of injury, clinical features, investigations and principles of management of fractures of distal radius		
		OR2.7	SGD: 18		1
		AN48.2	Describe and discuss the aetiopathogenesis, mechanism of injury, clinical features, investigations and principles of management of pelvic injuries with emphasis on hemodynamic instability Describe & demonstrate the (position, features, important peritoneal and other relations, blood supply, nerve supply, lymphatic drainage and clinical aspects of) important male & female pelvic viscera	Human Anatomy	
		OR2.8	SGD: 19		1
			Describe and discuss the aetiopathogenesis, mechanism of injury, clinical features, investigations and principles of management of spine injuries with emphasis on mobilisation of the patient		

		OR2.9	SGD: 20		1
			Describe and discuss the mechanism of injury, Clinical features, investigations and principle of management of acetabular fracture		

MBBS Phase III/II-

Small group teachings/ Tutorials/ Integrated teaching/ Practical's: 25 hours

***These are suggested topics which can be modified at institutional level and SLO (Specific learning objectives) can be designed for each topic at institutional level**

SR. NO.	TOPICS	COMPETENCIES	SUBTOPICS	AIT	HOURS
1.	**Fracture**				
		OR2.10	SGD: 1		1
		AN17.2	Describe and discuss the aetiopathogenesis, mechanism of injury, clinical features, investigations and principles of management of fractures of proximal femur Describe anatomical basis of complications of fracture neck of femur	Human Anatomy	

		OR2.11	SGD: 2		1
			Describe and discuss the aetiopathogenesis, mechanism of injury, clinical features, investigations and principles of management of (a) fracture patella (b) Fracture distal femur (c) Fracture proximal tibia		
		OR2.11	SGD: 3		1
			Describe and discuss the aetiopathogenesis, mechanism of injury, clinical features, investigations and principles of management of neurovascular injury and compartment syndrome in fractures around knee		
		OR2.12	SGD: 4		1
			Describe and discuss the aetiopathogenesis, clinical features, investigations and principles of management of Fracture shaft of femur in all age groups and the recognition and management of fat embolism as a complication		
		OR2.13	SGD: 5		1

			Describe and discuss the aetiopathogenesis, clinical features, Investigation and principles of management of: (a) Fracture both bones leg (b) Calcaneus (c) Small bones of foot		
		OR2.14	SGD: 6		1
		AN20.1	Describe and discuss the aetiopathogenesis, clinical features, Investigation and principles of management of ankle fractures Describe and demonstrate the type, articular surfaces, capsule, synovial membrane, ligaments, relations, movements and muscles involved, blood and nerve supply of tibiofibular and ankle joint	Human Anatomy	
		OR2.15	SGD: 7		1
			Plan and interpret the investigations to diagnose complications of fractures like malunion, non-union, infection, compartmental syndrome		

		OR2.16	SGD: 8		1
			Describe and discuss the mechanism of injury, clinical features, investigations and principles of management of open fractures with focus on secondary infection prevention and management		
3.	**MusculoskeletalInfection**				
		OR3.1	SGD: 9		1
			Describe and discuss the aetiopathogenesis, clinical features, investigations and principles of management of Bone and Joint infections a) Acute Osteomyelitis b) Subacute osteomyelitis c) Acute Suppurative arthritis		
		OR3.1	SGD: 10		1
		PA33.1	Describe and discuss the aetiopathogenesis, clinical features, investigations and principles of management of Bone and Joint infections	Pathology	

			a)Septic arthritis & HIV infection b)Spirochaetal infection c)Skeletal Tuberculosis Classify and describe the etiology, pathogenesis, manifestations, radiologic and morphologic features and complications of osteomyelitis		
		OR3.2	SGD: 11		1
			Describe and discuss aspiration of joints		
		OR3.3	SGD: 12		1
			Describe and discuss procedures like drainage of abscess, sequestrectomy/ saucerisation and arthrotomy		
4.	**SkeletalTuberculosis**				
		OR4.1	SGD: 13		1
			Describe and discuss the clinical features, Investigation and principles of management of Tuberculosis affecting major joints (Hip, Knee) including cold abcess		

			and caries spine		
5.	**Rheumatoid Arthritis and associatedinlammatorydisorders**				
		OR5.1	SGD: 14		1
			Describe and discuss the aetiopathogenesis, clinical features, investigations and principles of management of various inflammatory disorder of joints		
6.	**Degenerativedisorders**				
		OR6.1	SGD:15		1
			Describe and discuss the clinical features, investigations and principles of management of degenerative condition of spine (Cervical Spondylosis, Lumbar Spondylosis, PID)		
7.	**Metabolicbonedisorders**				
		OR7.1	SGD:16		1
		PA33.4	Describe and discuss the aetiopathogenesis, clinical features, investigation and principles of management of metabolic bone disorders in particular osteoporosis, osteomalacia, rickets, Paget's disease	Pathology	

			Classify and describe the etiology, pathogenesis, manifestations, radiologic and morphologic features and complications of Paget's disease of the bone		
8.	**Poliomyelitis**				
		OR8.1	SGD:17		1
			Describe and discuss the aetiopathogenesis, clinical features, assessment and principles of management a patient with Post Polio Residual Paralysis		
9.	**CerebralPalsy**				
		OR9.1	SGD:18		1
			Describe and discuss the aetiopathogenesis, clinical features, assessment and principles of management of Cerebral palsy patient		
10.	**BoneTumors**				
		OR10.1	SGD:19		1
		PA33.2	Describe and discuss the aetiopathogenesis, clinical features, investigations and principles of management of benign and malignant bone tumours and pathological fractures	Pathology	

			Classify and describe the etiology, pathogenesis, manifestations, radiologic and morphologic features and complications and metastases of bone tumors		
11.	**Peripheralnerveinjuries**				
		OR11.1	SGD:20		1
			Describe and discuss the aetiopathogenesis, clinical features, investigations and principles of management of peripheral nerve injuries in diseases like foot drop, wrist drop, claw hand, palsies of Radial, Ulnar, Median, Lateral Popliteal and Sciatic Nerves		
12.	**Congenitallesions**				
		OR12.1	SGD: 21		1
			Describe and discuss the clinical features, investigations and principles of management of Congenital and acquired malformations and deformities of: a. limbs and spine - Scoliosis and spinal bifida b. Torticollis		

		OR12.1	SGD: 22		1
			Describe and discuss the clinical features, investigations and principles of management of Congenital and acquired malformations and deformities of: a. Congenital dislocation of Hip b. congenital talipes equino varus		
13.	**ProceduralSkills**				
		OR13.1	SGD: 23		1
			Participate in a team for procedures in patients and demonstrating the ability to perform on mannequins / simulated patients in the following: i. Above elbow plaster ii. Below knee plaster iii. Above knee plaster iv. Thomas splint v. splinting for long bone fractures vi. Strapping for shoulder and clavicle trauma		
		OR13.2	SGD: 24		1
			Participate as a member in team for Resuscitation of Polytrauma victim		

			by doing all of the following : (a)I.V. access central - peripheral (b)Bladder catheterization (c)Endotracheal intubation (d)Splintage		
14	**CounsellingSkills**	OR14.1	SGD: 25		1
			Demonstrate the ability to counsel patients regarding prognosis in patients with various orthopedic illnesses like a.fractures with disabilities b.fractures that require prolonged bed stay c.bonetumours d.congenital disabilities		

Subject: Orthopaedics

Self-Directed Learning

MBBS phase III/I

Total Teaching hours : 5 hours

***These are suggested topics which can be modified at institutional level**

Sr. No.	TOPICS	COMPETENCIES	SUBTOPICS	AIT	HOURS
1.	**Counselling Skills**				
		OR14.3	SDL:1		3
			Demonstrate the ability to convince the patient for referral to a higher centre in various orthopedic illnesses, based on the detection of warning signals and need for sophisticated management		
		OR14.2	SDL:2		2
			Describe the ability to counsel patients to obtain consent for various orthopedic procedures like limp amputation, permanent fixations etc..		

MBBS phase III/II

Total Teaching hours : 5 hours

***These are suggested topics which can be modified at institutional level**

Sr. No	TOPICS	COMPETENCIES	SUBTOPICS	HOURS
1.	**Musculoskeletal Infection**			
		OR3.1	SDL:1	3
			Describe and discuss the aetiopathogenesis, clinical features, investigations and principles of management of Bone and Joint infections a) Acute Osteomyelitis b) Subacute osteomyelitis c) Acute Suppurative arthritis d) Septic arthritis & HIV infection e) Spirochaetal infection f) Skeletal Tuberculosis	
2.	**Metabolic bone disorders**			
		OR7.1	SDL:2	2
			Describe and discuss the aetiopathogenesis, clinical features, investigation and principles of management of metabolic bone disorders in particular osteoporosis, osteomalacia, rickets, Paget's disease	

Internal Assessment Orthopedics

Please refer General Surgery Syllabus (available on https://www.muhs.ac.in/upload/syllabus/Third%20MBBS%20General%20Surgery%20Syllabus%20030621.pdf) for details internal assessment in orthopedics.

Format / Skeleton of question paper for University

Please refer General Surgery Syllabus (available on https://www.muhs.ac.in/upload/syllabus/Third%20MBBS%20General%20Surgery%20Syllabus%20030621.pdf) for details question paper for university in orthopedics.

Name of the Institute

Department of Orthopaedics

Journal

Name of the Student: _____

Roll Number: _____

Batch: _____

Address: _____

Mobile number: _____

Email id: _____

Sayings of the great:

To study the phenomenon of disease without books is to sail an uncharted sea, while to study books without patients is not to go to sea at all.

-Sir William Osler

The good physician treats the disease, the great physician treats the patient who has the disease.

-Sir William Osler

Observe, record, tabulate, and communicate. Use your five senses. Learn to see, learn to hear, learn to feel, learn to smell and know that by practice alone you can become expert.

-Sir William Osler

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Clinical Posting Completion Certificate

This is to certify that the candidateMr./Ms. _____ Registration no. _____admitted in the year _____in the _____ _____ Medical College has satisfactorily completed / has not completed all assignments / requirements/ posting mentioned in this journal and journal for final MBBS (II/III-I/III-II) in Orthopaedics during the period from .....to…… She / He is / is not eligible to appear for the summative (University) assessment as on the date given below.

Signature of Head of Department
Date

GENERAL INSTRUCTIONS

1) The journal is a record of the academic / co-curricular activities of the designated student, who would be responsible for maintaining his/her journal.

2) The student is responsible for getting the entries in the journal verified by the Faculty in charge regularly.

3) Entries in the journal will reflect the activities undertaken in the department& have to be scrutinized by the Head of the concerned department.

4) The journal is a record of various activities by the student like:
- Overall participation &performance
- Attendance
- Participation in sessions
- Record of completion of pre-determined activities.
- Acquisition of selected competencies

5) The journal is the record of work done by the candidate in that department / specialty and should be verified by the college before submitting the application of the students for the University examination.

6)*Proposed number of case records should be mentioned in the journal-:

Phase 2- 1st clinical posting (2 weeks) = 2 Orthopaedics cases + 1 Follow-up cases + OT record sheet minimum 3 cases (2 major and 1 minor) + Asepsis, Basic bandaging and dressing skill performed independently and to get it certified

Phase3- 2ndclinicalposting (4 weeks) = 4Orthopaedics cases+ 2follow-up cases + OT record sheet minimum 4 cases (2 major and 2 minor) + Basic splinting and slab application skill performed independently and to get it certified

Phase 4- 3rd Clinical Posting (2 weeks) = 4 Orthopaedics cases + 2 follow-up cases + OT record sheet minimum 4 cases (2 major and 2 minor) + Basic suturing, aseptic joint aspiration skill to be performed independently and to get it certified.

POSTING CERTIFICATE

Name: - Year of Admission: -

Year of appearing for Final M.B.B.S _____

TERM	From	To	Absent days	Case Histories Written	Remark	Signature Of Unit Head
Orthopaedics (II Phase) (2 weeks)						
Orthopaedics (III Phase – Part I) (4 weeks)						
Orthopaedics (III Phase – Part II) (2 weeks)						

N.B: -

1. Students must get the signature of the Unit In charge when posting is completed.
2. This certificate must be submitted before every internal assessment & Preliminary examination.
3. Completed record is mandatory for appearing for the Final Examination.

Template for Clinical Cases and Operative Notes		
Name of Patient	Age/Sex	Ward no.
MRD No	Head of the Unit	
Occupation		
Religion		
Address		
Date of admission		Date of Discharge
Chief complaints		
HOPI/ODP		

Past H/O

Personal

H/O

Family

H/O

Menstrual History in females

Obstetrical History in females

General examination

Built &
Nourishment
Level of
consciousness
Temperature.

Pulse rate
Respiratory
rate Blood
Pressure
Pallor/ cyanosis/clubbing/oedema/Lymphadenopathy/ Icterus

Local examination:

Inspection

Palpation

Movements

Measurements

Systemic Examination:

CV

S

RS

CN

S

PA

Provisional

Diagnosis

Differential

Diagnosis

Investigations

Hematological

Biochemical

Radiological

Xray
-
USG
- CT
-
MRI
-

Final Diagnosis

Treatment-Plan

Pre-operative Workup

Template for Operative Notes

Date: - Time: - Surgeon: -

Indication And operation: The working Diagnosis on which the procedure was based and the name of the operation.

Type of Anesthesia: -

Position of patient: - Describe the position and precautions taken to avoid complications.

Incision: - Name the incision, shape and length including any extensile exposure. A drawing may be useful.

Findings: Describe what was found. List structures identified and protected.

Procedure: Report what was exactly done. Describe prosthetics or special instruments/ implants used.

Closure: Washout, Hemostasis and drains, Method used for closure and Dressing

Post-operative care: Clear instructions with frequency on (a) general observations, (b) Checks on function, (c) Wound care, (d) removal of drains, (e) Start of mobilization, (f) removal of stitches, (g) discharge, (h) follow up.

Complications: List of potential complications and actions to be taken under a 'What If' list

Specimen sent for Histopathology Examination: Yes/No

Histopathology report:

Daily progress note:

Post-Op Progress Report -

(To be filled everyday in serious cases and every third day in other. Mention observations pertaining to a case, any special investigations done and daily treatment administered)

Day (Post-op)	Gen. condition (Appearance, Pulse, BP, Temp Chest)	Fluid intake	Fluid Output			Complications- If any and their treatment and investigation
			Urine	Suction	Others	

Condition of Patient on discharge: -

Advices on discharge: -

Reflection by students in max. 200 words: -
(Write your overall impression of case at the time of discharge or when you leave the case)

Feedback by Faculty –

Signature by Student and Faculty: -

Operative Notes

Date: - Time: -

Surgeon: -

Indication And operation:

Type of Anesthesia: -

Position of patient: -

Incision: -

Findings:

Procedure:

Closure:

Post-operative care

Complications:

Specimen sent for Histopathology Examination: Yes/No

Histopathology report:

Progress Report -

(To be filled everyday in serious cases and every third day in other. Mention observations pertaining to a case, any special investigations done and daily treatment administered)

Day (Post-op)	Gen. condition (Appearance, Pulse, BP, Temp Chest)	Fluid intake	Fluid Output			Complications- If any and their treatment and investigation
			Urine	Suction	Others	

Condition of Patient on discharge: -

Advices on discharge: -

PHASE-II INDEX OF THE CASE HISTORIES OF
ORTHOPAEDICS CASES AND FOLLOW UP CASES
(minimum 2 Orthopaedics cases + 1 Follow-up cases)

Sr. No	Name of The Patient	Date	Diagnosis	Ward no.	Page No.	Signature of Faculty
1.						
2.						
3.						
4.						
5.						
6.						

Case 1:

Case 2:

Case 3:

Case 4:

Case 5:

Case 6:

INDEX OF THE OPERATIVE PROCEDURES
PHASE II
[OT record sheet minimum 3 cases (2 major and 1 minor) +Asepsis, Basic bandaging and dressing skills performed independently.]

Sr. no.	Name of the patient	Date	Diagnosis	Operative Procedures	Page No.	Signature of Faculty
1.						
2.						
3.						
4.						

Case 7:

Case 9:

Case 1:

Case 4:

PHASE-III/I INDEX OF THE CASE HISTORIES OF ORTHOPAEDICS CASES AND FOLLOW UP CASES
(minimum 4 Orthopaedics cases+ 2 follow-up cases)

Sr. No	Name of The Patient	Date	Diagnosis	Ward no.	Page No.	Signature of Faculty
1.						
2.						
3.						
4.						
5.						
6.						
7.						

Case 1:

Case 8:

Case 3:

Case 2:

Case 4:

Case 6:

Case 8:

INDEX OF THE OPERATIVE PROCEDURES
PHASE III/I
[OT record sheet minimum 4 cases (2 major and 4 minor) + Basic splinting and slab application skill performed independently]

Sr. no.	Name of the patient	Date	Diagnosis	Operative Procedures	Page No.	Signature of Faculty
1.						
2.						
3.						
4.						
5.						

Case 1:

Case 3:

Case 5:

Case 7:

Case 9:

PHASE-III/II INDEX OF THE CASE HISTORIES OF ORTHOPAEDICS CASES AND FOLLOW UP CASES

[minimum 4 Orthopaedics cases + 2 follow-up cases]

Sr. No	Name of The Patient	Date	Diagnosis	Ward no.	Page No.	Signature of Faculty
1.						
2.						
3.						
4.						
5.						
6.						
7.						

Case 1:

Case 4:

Case 6:

Case 8:

Case 5:

Case 6:

Case 7:

INDEX OF THE OPERATIVE PROCEDURES

PHASE III/II

[OT record sheet minimum 4 cases (2 major and 2 minor) + Basic suturing, aseptic joint aspiration skill, early management of trauma skills & demonstrates trauma life support]

Sr. no.	Name of the patient	Date	Diagnosis	Operative Procedures	Page No.	Signature of Faculty
1.						
2.						
3.						
4.						
5.						

Case 1:

Case 2:

Case

Case

Case

Name of the Institute

LOG BOOK

DEPARTMENT OF ORTHOPAEDICS

CONTENTS

LOGBOOK CERTIFICATE

This is to certify that this logbook is the bonafide record of Mr. / Ms. ..... Roll No.……..Admission Year ……..……., of the Department of Orthopaedics at .....Medical College.

The logbook is as per the guidelines of Competency Based Undergraduate Medical Education Curriculum, Graduate Medical Regulation 2019.

He / She has satisfactorily attended/ completed all assignments mentioned in this logbook as per the guidelines prescribed by National Medical Commission.

Head of DepartmentofOrthopaedics

Signature with Date

BIODATA OF THE CANDIDATE

PHOTO

Name of the student:

Name of the course: MBBS

Date of birth:

Father's / Guardian's name:

Mother's name:

Blood group:

Permanent Address: Temporary Address:

…… ……

…….. ……..

Student's contact no:

Father's/ Guardian's contact no:

Student's Email id:

Father's/ Guardian's Email id:

Date: Candidates Signature: ……...

GENERAL INSTRUCTIONS

1) The logbook is a record of the academic / non-academic activities of the student. Each Medical student is responsible for maintaining their logbook.

2) This logbook is prepared as per the guidelines of NMC for implementation of Competency Based Curriculum for 4THProfessional MBBS students in the subject of Orthopaedics.

3) Students are instructed to keep their logbook entries up to date. It is the responsibility of the student to enter their activity in respective pages & get them duly signed by the supervising faculty.

4) Entries in the logbook will be in accordance with activities done in the department & have to be scrutinized by the Head of the department.

5) The logbook assessment will be based on multiple factors like
   - Overall presentation
   - Active participation in the sessions
   - Quality of write up of reflections.
   - Timely completions

- Attendance

6) The logbook shall be kept as record work of the candidate for the department & be submitted to department as a bonafide record of the candidate before appearing for the University examination.

NOTE:

1. A **clear record** of all components that add to the internal assessment marks needs to be maintained by the institution and retained by them for at least **2 years** after passing of the examination. Institutions may be asked to provide these details by the University as and when required.

The contents in the logbook are suggested guidelines. The institutions can make **necessary changes as per the needs.**

ATTENDANCE

Every candidate should have attendance not less than 75% of the total classes conducted in theory, practical and clinical jointly in each calendar year calculated from the date of commencement of the term to the last working day as notified by the University in each of the subjects prescribed to be eligible to appear for the university examinations.

For appearing at the University Examination, student should have minimum 75% attendance in each subject.

A candidate lacking in the prescribed attendance in any subject(s) should not be permitted to appear for the examination in that subject(s)

Students cannot appear in part or separately in individual subjects during the first appearance at the Professional examination.

The Principal should notify the attendance details at the end of each professional phase without fail under intimation to this University.

Self-Directed Learning, Seminars, Tutorials, Projects, Quizzes, extracurricular activities

Sr. No.	Self- directed learning (Seminars, Tutorials, Projects, Quizzes, Extracurricular activities)	Date	Phase III/I	Phase III/II	Signature of Teacher

Reflection (minimum 200 words) – 1
Date :

TOPIC:

Reflection (minimum 200 words) – 2
Date :

TOPIC:

LOGBOOK CLINICAL SKILLS : LIST OF COMPETENCIES

Clinical skills can be assessed by case presentation, case-based discussion, objective structured clinical assessment the checklist, MiniCex, as per the institutional preference.

Competency # addressed	Name of Activity
OR1.1	Describe and discuss the Principles of pre-hospital care and Casuality management of a trauma victim including principles of triage
OR1.2	Describe and discuss the aetiopathogenesis, clinical features, investigations, and principles of management of shock
OR1.3	Describe and discuss the aetiopathogenesis, clinical features, investigations, and principles of management of soft tissue injuries
OR1.4	Describe and discuss the Principles of management of soft tissue injuries
OR1.5	Describe and discuss the aetiopathogenesis, clinical features, investigations, and principles of management of dislocation of major joints, shoulder, knee, hip
OR2.6	Describe and discuss the aetiopathogenesis, mechanism of injury, clinical features, investigations and principles of management of fractures of distal radius
OR2.7	Describe and discuss the aetiopathogenesis, mechanism of injury, clinical features, investigations and principles of management of pelvic injuries with emphasis on hemodynamic instability
OR2.8	Describe and discuss the aetiopathogenesis, mechanism of injury, clinical features, investigations and principles of management of spine injuries with emphasis on mobilisation of the patient
OR2.11	Describe and discuss the aetiopathogenesis, mechanism of injury, clinical features, investigations and principles of management of (a) Fracture patella (b) Fracture distal femur (c) Fracture proximal tibia with special focus on neurovascular injury and compartment syndrome
OR2.12	Describe and discuss the aetiopathogenesis, clinical features, investigations and principles of management of Fracture shaft of femur in all age groups and the recognition and management of fat embolism as a complication
OR2.16	Describe and discuss the mechanism of injury, clinical features, investigations and principles of management of open fractures with focus on secondary infection prevention and management
OR3.1	Describe and discuss the aetiopathogenesis, clinical features, investigations and principles of management of Bone and Joint infections a) Acute Osteomyelitis b) Subacute osteomyelitis c) Acute Suppurative arthritis d) Septic arthritis & HIV infection
OR4.1	Describe and discuss the clinical features, Investigation and principles of management of Tuberculosis affecting major joints (Hip, Knee) including cold abcess and caries spine
OR7.1	Describe and discuss the aetiopathogenesis, clinical features, investigation and principles of management of metabolic bone disorders in particular osteoporosis, osteomalacia, rickets, Paget's disease
OR8.1	Describe and discuss the aetiopathogenesis, clinical features, assessment and principles of management a patient with Post Polio Residual Paralysis

OR10.1	Describe and discuss the aetiopathogenesis, clinical features, investigations and principles of management of benign and malignant bone tumours and pathological fractures

Integration	
Anatomy	
AN10.12	Describe and demonstrate Shoulder joint for– type, articular surfaces, capsule, synovial membrane, ligaments, relations, movements, muscles involved, blood supply, nerve supply and applied anatomy
AN18.6	Describe knee joint injuries with its applied anatomy
Pathology	
PA33.1	Classify and describe the etiology, pathogenesis, manifestations, radiologic and morphologic features and complications of osteomyelitis
PA33.2	Classify and describe the etiology, pathogenesis, manifestations, radiologic and morphologic features and complications of metastases of bone tumors
Microbiology	
MI4.2	Describe the etiopathogenesis, clinical course and discuss the laboratory diagnosis of bone & joint infections.

LOGBOOK PSYCHOMOTOR / PERFORMANCE SKILLS:

Skills can be assessed by objective structured clinical assessment with checklist, Global Rating Scale, Simulated patients as per the institutional preference.

Colleges are instructed prepare modules for skill training as per NMC guidelines.

Module 5 Skill Training.

LIST OF COMPETENCIES

Competency # addressed	Name of Activity
OR1.6	Participate as a member in the team for closed reduction of shoulder dislocation / hip dislocation / knee dislocation
OR3.2	Participate as a member in team for aspiration of joints under supervision.
OR3.3	Participate as a member in team for procedures like drainage of abscess, sequestrectomy/ saucerisation and arthrotomy
OR13.1	Participate in a team for procedures in patients and demonstrating the ability to perform on mannequins / simulated patients in the following: i. Above elbow plaster ii. Below knee plaster iii. Above knee plaster iv. Thomas splint v. splinting for long bone fractures vi. Strapping for shoulder and clavicle trauma
OR13.2	Participate as a member in team for Resuscitation of Polytrauma victim by doing all of the following : (a) I.V. access central - peripheral (b) Bladder catheterization (c) Endotracheal intubation (d) Splintage

LOGBOOK FOR AETCOM SKILLS

Counselling for Investigation, Treatment, Prognosis, Blood donation, Organ Donation, Breaking Bad news. All types of consent. Medicolegal aspects and Ethics, Empathy and professionalism as per the Phase of the MBBS. Include cases of Allied branches also.

Competency to be assessed during Clinical postings and /or small group discussions.

LIST OF COMPETENCIES FOR AETCOM

Competency addressed	**Name of Activity**
OR14.1	Demonstrate the ability to counsel patients regarding prognosis in patients with various orthopedic illnesses like a. fractures with disabilities b. fractures that require prolonged bed stay c. bone tumours d. congenital disabilities
OR14.2	Demonstrate the ability to counsel patients to obtain consent for various orthopedic procedures like limp amputation, permanent fixations etc..
OR14.3	Demonstrate the ability to convince the patient for referral to a higher centre in various orthopedic illnesses, based on the detection of warning signals and need for sophisticated management.

PHASE II-clinical (minimum three assessments)

Sr. No.	Competency # addressed	Name of Activity	Site Ward, skill lab, opd, casualty,	Date completed	Attempt at activity First (F) Repeat (R) Remedial (Re)	Rating Below (B)expectations Meets (M)expectations Exceeds (E) expectations OR Numerical Score	Decision of faculty Completed (C) Repeat (R) Remedial (Re)	Initial of faculty	Feedback received Initial of Learner	Method of assessment and Score
1.										
2.										
3.										
4.										
5.										
6.										

PHASE II-Psychomotor

Sr. No.	Competency # addressed	Name of Activity	Site Ward, skill lab, opd , casualty ,	Date completed	Attempt at activity First (F) Repeat (R) Remedial (Re)	Rating Below (B)expectations Meets (M) expectations Exceeds (E) expectations OR Numerical Score	Decision of faculty Completed (C) Repeat (R) Remedial (Re)	Initial of faculty	Feedback received Initial of Learner	Method of assessment and Score
1.										
2.										
3.										
4.										
5.										
Sr. No.	Competency # addressed	Name of Activity	Site Ward, skill lab, opd , casualty ,	Date completed	Attempt at activity First (F) Repeat (R) Remedial (Re)	Rating Below (B) expectations Meets (M) expectations Exceeds (E) expectations OR Numerical Score	Decision of faculty Completed (C) Repeat (R) Remedial (Re)	Initial of faculty	Feedback received Initial of Learner	Method of assessment and Score
6.										
7.										
8.										
9.										
10.										
11.										
12.										

PHASE II- AetCom(Minimum three assessments)

Sr. No	Competency # addressed	Name of Activity	Site Ward, skill lab, opd , casualty ,	Date completed	Attempt at activity First (F) Repeat (R) Remedial (Re)	Rating Below (B) expectations Meets (M) expectations Exceeds (E) expectations OR Numerical Score	Decision of faculty Completed (C) Repeat (R) Remedial (Re)	Initial of faculty	Feedback received Initial of Learner	Method of assessment and Score
1.										
2.										
3.										
4.										
5.										
6.										

PHASE III Part I -clinical (Minimum three assessments)

Sr. No.	Competency # addressed	Name of Activity	Site Ward, skill lab, opd , casualty,	Date completed	Attempt at activity First (F) Repeat (R) Remedial (Re)	Rating Below (B) expectations Meets (M)expectations Exceeds (E) expectations OR Numerical Score	Decision of faculty Completed (C) Repeat (R) Remedial (Re)	Initial of faculty	Feedback received Initial of Learner	Method of assessment and Score
1.										
2.										
3.										
4.										
5.										
6.										

PHASE III Part I-Psychomotor skill

Sr. No.	Competency # addressed	Name of Activity	Site Ward, skill lab, opd , casualty ,	Date completed	Attempt at activity First (F) Repeat (R) Remedial (Re)	Rating Below (B) expectations Meets (M)expectations Exceeds (E) expectations OR Numerical Score	Decision of faculty Completed (C) Repeat (R) Remedial (Re)	Initial of faculty	Feedback received Initial of Learner	Method of assessment and Score
1.										
2.										
3.										
4.										
5.										
Sr. No.	**Competency # addressed**	**Name of Activity**	**Site Ward, skill lab, opd , casualty ,**	**Date completed**	**Attempt at activity First (F) Repeat (R) Remedial (Re)**	**Rating Below (B)expectations Meets (M)expectations Exceeds (E) expectations OR Numerical Score**	**Decision of faculty Completed (C) Repeat (R) Remedial (Re)**	**Initial of faculty**	**Feedback received Initial of Learner**	**Method of assessment and Score**
6.										
7.										
8.										
9.										
10.										
11.										
12.										

PHASE III Part I - AetCom (Minimum three assessments)

Sr. No.	Competency # addressed	Name of Activity	Site Ward, skill lab, opd , casualty ,	Date completed	Attempt at activity First (F) Repeat (R) Remedial (Re)	Rating Below (B) expectations Meets (M)expectations Exceeds (E) expectations OR Numerical Score	Decision of faculty Completed (C) Repeat (R) Remedial (Re)	Initial of faculty	Feedback received Initial of Learner	Method of assessment and Score
1.										
2.										
3.										
4.										
5.										
6.										

PHASE III Part II -clinical (minimum three assessments)

Sr. No.	Competency # addressed	Name of Activity	Site Ward, skill lab, opd , casualty,	Date completed	Attempt at activity First (F) Repeat (R) Remedial (Re)	Rating Below (B)expectations Meets (M)expectations Exceeds (E) expectations OR Numerical Score	Decision of faculty Completed (C) Repeat (R) Remedial (Re)	Initial of faculty	Feedback received Initial of Learner	Method of assessment and Score
1.										
2.										
3.										
4.										
5.										
6.										

PHASE III Part II -Psychomotor skill

Sr. No.	Competency # addressed	Name of Activity	Site Ward, skill lab, opd , casualty,	Date completed	Attempt at activity First (F) Repeat (R) Remedial (Re)	Rating Below (B) expectations Meets (M) expectations Exceeds (E) expectations OR Numerical Score	Decision of faculty Completed (C) Repeat (R) Remedial (Re)	Initial of faculty	Feedback received Initial of Learner	Method of assessment and Score
1.										
2.										
3.										
4.										
5.										
Sr. No.	**Competency # addressed**	**Name of Activity**	**Site Ward, skill lab, opd , casualty,**	**Date completed**	**Attempt at activity First (F) Repeat (R) Remedial (Re)**	**Rating Below (B) expectations Meets (M) expectations Exceeds (E) expectations OR Numerical Score**	**Decision of faculty Completed (C) Repeat (R) Remedial (Re)**	**Initial of faculty**	**Feedback received Initial of Learner**	**Method of assessment and Score**
6.										
7.										
8.										
9.										
10.										
11.										
12.										

PHASE III Part II - AetCom (Minimum three assessments)

Sr. No.	Competency # addressed	Name of Activity	Site Ward, skill lab, opd , casualty ,	Date completed	Attempt at activity First (F) Repeat (R) Remedial (Re)	Rating Below (B) expectations Meets (M)expectations Exceeds (E) expectations OR Numerical Score	Decision of faculty Completed (C) Repeat (R) Remedial (Re)	Initial of faculty	Feedback received Initial of Learner	Method of assessment and Score
1.										
2.										
3.										
4.										
5.										
6.										
7.										

REFLECTION ON AETCOM MODULE For PHASE III/II

Module 4.5 - Case studies in ethics: The doctor- industry relationship

Competency addressed	*Level*
Identify and discuss amd defend medico-legal, socio-cultural, professional and ethical issues in physician- industry relationship	*KH*

Reflection (minimum 200 words) -1
Date:

Signature of Teacher-in-charge

ANNEXURE 2:

AETCOM skills can be assessed by use of Kalamazoo consensus.

Criteria
Builds relationship
Opens the discussion
Gathers information
Understands the patient's perspective
Shares information
Manages flow
Overall rating
Signature of teacher

Rating 1-3 - Poor, 4 -6 Satisfactory, 6 -10 Superior

Communication skills rating scale adapted from Kalamazoo consensus statement.

Paper wise distribution of topics for Prelim & MUHS Annual Examination

Year: III-II MBBS Subject: Orthopaedics

Paper	Section	Topics
II (General Surgery)	A	MCQs on all topics of the paper II of general surgery will include **orthopaedics**
	C	Skeletal Trauma, Poly trauma
		Fractures
		MusculoskeletalInfection
		SkeletalTuberculosis
		Rheumatoid Arthritis and associated inflammatory disorders
		Degenerative disorders
		Metabolicbonedisorders
		Poliomyelitis
		CerebralPalsy
		BoneTumors
		Peripheralnerveinjuries
		Congenitallesions

Competency Based Medical Education

Year: Second/ III-I/ III-II MBBS

Subject: Orthopaedics

Learning Resource Material

Sr.no.	Author	Title of book/ Material	Publisher
		TEXTBOOK	
1.	Maheshwari &Mhaskar	Essential Orthopaedics	JayPee Brothers Medical Publishers
2.	Anil Jain	Turek'sOrthopaedics Principles & their Applications	Wolters Kluwer
3.	Anand Thakur	The Elements of Fracture Fixation	Elsevier
4.	John Ebnezar	Textbook of Orthopedics	JayPee Brothers Medical Publishers
5.	Ashley Blom, David Warwick, Michael Whitehouse	Apley& Solomon's System of Orthopaedics& Trauma	Productivity Press
6.	Kenneth Egol, Kenneth Koval, Joseph Zuckerman	Handbook of Fractures	Wolters Kluwer
		CLINICAL ORTHOPAEDICS	
1.	S Das	A Manual on Clinical Surgery 9th Edition 2019	DAS Publications
2.	Vivek Pandey, Hitesh Shah	Musculoskeletal Examination	JayPee Brothers Medical Publishers
		REFERENCES	
1.	Frederick Azar, James Beaty	Campbell's Operative Orthopaedics	Elsevier
2.	Charles Court-Brown, James Heckman, Margaret McQueen, William Ricci, Paul Tornetta III	Rockwood & Green's Fractures in Adults and Children	Lippincott Williams and Wilkins
3.	Shrikant Gore	Orthopaedics for Undergraduates as per M.C. I's. Competency based curriculum	Maharudra Mangnale Muktrang Prakashan ,

	AS3.4	Choose and interpret appropriate testing for patients undergoing Surgery	Bedside Cliinc			General Surgery
	AS3.5	Determine the readiness for General Surgery in a patient based on the preoperative evaluation	Bedside Cliinc			General Surgery
	AS3.6	Choose and write a prescription for appropriate premedications for patients undergoing surgery	Bedside Cliinc		Pharmacology	
2	**General Anaesthesia**					
	AS4.3	Observe and describe the principles and the practical aspects of induction and maintenance of anesthesia	Bedside Cliinc		Pharmacology	
	AS4.4	Observe and describe the principles and the steps/ techniques in maintenance of vital organ functions in patients undergoing surgical procedures	Bedside Cliinc			
	AS4.5	Observe and describe the principles and the steps/ techniques in monitoring patients during anaesthesia	Bedside Cliinc			
3	**Regional Anaesthesia**					
	AS5.1	Enumerate the indications for and describe the principles of regional anaesthesia (including spinal, epidural and combined)	Bedside Cliinc			

4	**Regional Anaesthesia**					
	AS5.6	Observe and describe the principles and steps/ techniques involved in common blocks used in surgery (including brachial plexus blocks)	Bedside Cliinc			General Surgery
5	**Post-anaesthesia Recovery**					
	AS6.1	Describe the principles of monitoring and resuscitation in the recovery room	Bedside Cliinc			

	AS6.2	Observe and enumerate the contents of the crash cart and describe the equipment used in the recovery room	Bedside Cliinc			
6	**Intensive Care Management**					
	AS7.3	Observe and describe the management of an unconscious patient	Bedside Cliinc		Physiology	General Medicine
	AS7.5	Observe and describe the principles of monitoring in an ICU	Bedside Cliinc			General Medicine
7	**Fluids**					
	AS9.3	Describe the principles of fluid therapy in the preoperative period	Bedside Cliinc			General Surgery
	AS9.4	Enumerate blood products and describe the use of blood products in the preoperative period	Bedside Cliinc		Pathology	General Surgery
8	**Patient Safety**					
	AS10.3	Describe the role of communication in patient safety	Bedside Cliinc		AETCOM	General Surgery
	AS10.4	Define and describe common medical and medication errors in anaesthesia	Bedside Cliinc		Pharmacology	General Medicine
9	**Cardiopulmonary Resuscitation**					
	AS2.1	Enumerate the indications, describe the steps and demonstrate in a simulated environment, Basic Life Support in adults, children and neonates	DOAP Session			General Medicine, Pediatrics
	AS2.2	Enumerate the indications, describe the steps and demonstrate in a simulated environment, Advanced Life Support in adults and children	DOAP Session			General Medicine

D. UG curriculum for small group teaching total no. of classes (hours): 10 – (30 Competencies)

Sr. No.	Number of Competencies	Competencies	Suggested Teaching learning method	Hour	Vertical integration	Horizontal integration
1	**Cardiopulmonary Resuscitation**		Small Group Discussion, DOAP Session	1		General Medicine, Paediatrics
	AS2.1	Enumerate the indications, describe the steps and demonstrate in a simulated environment, Basic Life Support in adults, children and neonates				
	AS2.2	Enumerate the indications, describe the steps and demonstrate in a simulated environment, Advanced Life Support in adults and children	Small Group Discussion, DOAP Session			General Medicine, Paediatrics
2	**Preoperative evaluation and medication**		DOAP Session	1		General Surgery, General Medicine
	AS3.2	Elicit, present and document an appropriate history including medication history in a patient undergoing Surgery as it pertains to a preoperative anaesthetic evaluation				
	AS3.3	Demonstrate and document an appropriate clinical examination in a patient undergoing General Surgery	DOAP Session			General Surgery
	AS3.4	Choose and interpret appropriate testing for patients undergoing Surgery	Small Group Discussion			General Surgery
	AS3.5	Determine the readiness for General Surgery in a patient based on the preoperative evaluation	Small Group Discussion			General Surgery
	AS3.6	Choose and write a prescription for appropriate premedications for patients undergoing surgery	Small Group Discussion		Pharmacology	
3	**General Anaesthesia**		Small Group Discussion	1	Pharmacology	
	AS4.3	Observe and describe the principles and the practical aspects of induction and maintenance of anesthesia				

	AS4.4	Observe and describe the principles and the steps/	Small Group			

		techniques in maintenance of vital organ functions in patients undergoing surgical procedures	Discussion			
	AS4.5	Observe and describe the principles and the steps/ techniques in monitoring patients during anaesthesia	Small Group Discussion			
	AS4.6	Observe and describe the principles and the steps/ techniques involved in day care anesthesia	Small Group Discussion			
	AS4.7	Observe and describe the principles and the steps/ techniques involved in anaesthesia outside the operating room	Small Group Discussion			
4	**Regional Anaesthesia**		Small Group Discussion, DOAP Session	1	Human Anatomy	
	AS5.3	Observe and describe the principles and steps/ techniques involved in peripheral nerve blocks				
	AS5.4	Observe and describe the pharmacology and correct use of commonly used drugs and adjuvant agents in regional anesthesia	Small Group Discussion		Pharmacology	
	AS5.5	Observe and describe the principles and steps/ techniques involved in caudal epidural in adults and children	Small Group Discussion, DOAP Session			
	AS5.6	Observe and describe the principles and steps/ techniques involved in common blocks used in surgery (including brachial plexus blocks)	Small Group Discussion, DOAP Session			General Surgery
5	**Post-anaesthesia Recovery**		Small Group Discussion	1		
	AS6.1	Describe the principles of monitoring and resuscitation in the recovery room				
	AS6.2	Observe and enumerate the contents of the crash cart and describe the equipment used in the recovery room	Small Group Discussion			

6	**Intensive Care Management**		Small Group Discussion	1		
	AS7.1	Visit, enumerate and describe the functions of an Intensive Care Unit				
	AS7.2	Enumerate and describe the criteria for admission and discharge of a patient to an ICU	Small Group Discussion			General Medicine
	AS7.3	Observe and describe the management of an unconscious patient	Small Group Discussion		Physiology	General Medicine
7	**Intensive Care Management**		Small Group Discussion	1	Physiology	General Medicine
	AS7.4	Observe and describe the basic setup process of a ventilator				
	AS7.5	Observe and describe the principles of monitoring in an ICU	Small Group Discussion			General Medicine
8	**Pain and its management**		Small Group Discussion, DOAP Session	1	Physiology	
	AS8.2	Elicit and determine the level, quality and quantity of pain and its tolerance in patient or surrogate				
9	**Fluids**		Small Group Discussion, DOAP Session	1		
	AS9.1	Establish intravenous access in a simulated environment				
	AS9.2	Establish central venous access in a simulated environment	Small Group Discussion, DOAP Session			
10	**Patient Safety**		Small Group Discussion			
	AS10.1	Enumerate the hazards of incorrect patient positioning				
	AS10.2	Enumerate the hazards encountered in the perioperative period and steps/techniques taken to prevent them	Small Group Discussion			
	AS10.3	Describe the role of communication in patient safety	Small Group Discussion		AETCOM	General Surgery

	AS10.4	Define and describe common medical and medication errors in anaesthesia	Small Group Discussion		Pharmacology	General Medicine

Dividing Competencies into
Lectures and Small Group Discussion/Bedside Clinics/DOAP Session

Sr. No.	Competency No.	Total	Dividing Competencies into			
			Lectures	Total	Small Group Discussion/Bedside Clinics/DOAP Session	Total
1	AS1.1, AS1.2, AS1.3, AS1.4	4	AS1.1, AS1.2, AS1.3, AS1.4	4		
2	AS2.1, AS2.2	2			AS2.1, AS2.2	2
3	AS3.1, AS3.2, AS3.3, AS3.4, AS3.5, AS3.6	6	AS3.1	1	AS3.2, AS3.3, AS3.4, AS3.5, AS3.6	5
4	AS4.1, AS4.2, AS4.3, AS4.4, AS4.5, AS4.6, AS4.7	7	AS4.1, AS4.2	2	AS4.3, AS4.4, AS4.5, AS4.6, AS4.7	5
5	AS5.1, AS5.2, AS5.3, AS5.4, AS5.5, AS5.6	6	AS5.1, AS5.2	2	AS5.3, AS5.4, AS5.5, AS5.6	4
6	AS6.1, AS6.2, AS6.3	3	AS6.3	1	AS6.1, AS6.2	2
7	AS7.1, AS7.2, AS7.3, AS7.4, AS7.5	5			AS7.1, AS7.2, AS7.3	3
					AS7.4, AS7.5	2
8	AS8.1, AS8.2, AS8.3,AS8.4, AS8.5	5	AS8.1, AS8.3	2	AS8.2	1
			AS8.4, AS8.5	2		
9	AS9.1, AS9.2, AS9.3, AS9.4	4	AS9.3, AS9..4	2	AS9.1, AS9.2	2
10	AS10.1, AS10.2, AS10.3, AS10.4	4			AS10.1, AS10.2, AS10.3, AS10.4	4
		46		16		30

Competency Based Medical Education

Year: III-I MBBS

Subject: **Anaesthesiology**

LEARNING RESOURCE MATERIAL

Sr. No.	Author	Title of book/ Material	Publisher
1.	John F. Butterworth, John D. Wasnick, David C. Mackey	Morgan & Mikhail's Clinical Anesthesiology	Lange
2.	R. S. Atkinson	Lee's Synopsis of Anaesthesia	Elsevier
3.	Ajay Yadav	Short Textbook of Anesthesia	Jaypee, The Health Sciences Publisher - London, New Delhi, Panama
4.	Ronald D. Miller	Miller's Anesthesia	

INTERNAL ASSESSMENT EXAM IN ANASTHESIOLOGY

End of the posting examto be conducted for 25 marks and to be submitted to department of General Surgery during respective phase of teaching. Refer to surgery Syllabus for details.

Dentistry

For theory Competencies included in Surgery Syllabus

Clinical Postings-3 days

Day	Competency no.	Topic	Hours
1	DE1.3, DE1.5, DE2.3, DE2.5, DE3.3, DE3.4	Identify dental caries, malocclusion, complete compliment of teeth and identify missing teeth, counsel the patients with respect to correction of malocclusion and the role it might have on oral health specifically on the TMJ, counsel the patients with respect to oral hygiene, diet and the direct bearing on systemic health and vice versa, Counsel the patients on the importance of restoring missing teeth with respect to benefits on oral and systemic hygiene.	3 hrs
2	DE4.3, DE4.4	Identify potential precancerous/cancerous lesions, Counsel patients about oral cancers with respect to tobacco smoking, alcohol and other causative factors.	3 hrs
3	DE5.3, DE5.4, DE5.5	Identify periodontal disease, discuss the role of periodontal disease as a focus of sepsis, counsel the patients with respect to oral hygiene, diet and the direct bearing on systemic health and vice versa	3 hrs

RADIODIAGNOSIS

Course Content

Second / III-I/ III-II MBBS

Subject : Radio Diagnosis Theory / Practical

(Based on Medical Council of India, Competency based Undergraduate curriculum for the Indian Medical Graduate, 2018. Vol. 2 / 3; page nos. 161 to166)

1. Total Teaching hours :20

A. Lectures (hours): 10 B. Self directed learning (hours) : 2

C. Small group teachings/tutorials/Integrated teaching/Practicals (hours)**: 8** hours

D. Clinical Postings (hours): 2 weeks (3hours /day x 12 days Monday to Saturday

Term I/II

A. Lectures/ Large Group Teachings Total Number of Competencies: 13

In institutes where radiotherapy facility is available 2 hours will be allotted to Radiotherapy department. Time Table in these institutes will be prepared by Radio Diagnosis and Radiotherapy department in joint collaboration

Serial No.	Competency Nos.	Topics & Subtopics	Suggested Teaching Method	Hours	Vertical Integration	Horizontal Integration
LEC 1	RD1.1	Define radiation and the interaction of radiation and importance of radiation protection	Lecture, Demonstration	1		
	RD1.2	Describe the evolution of Radiodiagnosis. Identify various radiological equipmentsIn the current era				
LEC 2	RD1.3	Enumerate indications for various common radiological investigations, choose the most appropriate and cost effective method and	Lecture, Demonstration	1		ENT

Serial No.	Competency Nos.	Topics & Subtopics	Suggested Teaching Method	Hours	Vertical Integration	Horizontal Integration
		interpret findings in common conditions pertaining to disorder of ENT				
LEC 3	RD1.4	Enumerate indications for various common radiological investigations, choose the most appropriate and cost effective method and interpret findings in common conditions pertaining todisorder in Ob &Gy	Lecture, Demonstration	1		Obstetrics &Gynaecology
	RD1.12	Describe the effects of radiation in pregnancy and the methods of prevention/ minimization of radiation exposure				
	RD1.13	Describe the components of the PC & PNDT Act and its medicolegal implications				
LEC 4	RD1.5	Enumerate indications for various common radiological investigations, choose the most appropriate and cost effective method and interpret findings in common conditions pertaining to disorder in internal medicine				Medicine
LEC 5	RD1.6	Enumerate indications for various common radiological investigations, choose the most appropriate and cost effective method and interpret findings in common conditions pertaining to				Surgery

Serial No.	Competency Nos.	Topics & Subtopics	Suggested Teaching Method	Hours	Vertical Integration	Horizontal Integration
		disorderls in surgery				
LEC 6	RD1.7	Enumerate indications for various common radiological investigations, choose the most appropriate and cost effective method and interpret findings in common conditions pertaining to disorder in Pediatrics				Pediatrics
LEC 7	RD1.8	Enumerate indications for various common radiological investigations, choose the most appropriate and cost effective method and interpret findings in common conditions pertaining to common malignancies				All clinical departments
LEC 8	RD1.9	Describe the role of Interventional Radiology in common clinical conditions				All clinical departments
LEC 9	RD1.10	Describe the role of Emergency Radiology, miscellaneous & applied aspects, interaction with clinical departments				All clinical departments
LEC 10	RD1.11	Describe preparation of patient for common imaging procedures	Lecture, Demonstration			All clinical departments
B – Self Directed Learning 2 hours						

Serial No.	Competency Nos.	Topics & Subtopics	Suggested Teaching Method	Hours	Vertical Integration	Horizontal Integration
Serial No.	**Competency No.**	**Topics & Sub Topics**	**Suggested Teaching Method**	**Hours**	**Vertical Integration**	**Horizontal Integration**
SDL 1	RD1.5	Enumerate indications for various common radiological investigations, choose the most appropriate and cost effective method and interpret findings in common conditions pertaining to disorder in internal medicine	Small group discussion, Quiz, etc	1		All clinical departments
	RD1.10	Describe the role of Emergency Radiology, miscellaneous & applied aspects, interaction with clinical departments	Small group discussion, Quiz, etc			
SDL 2	RD1.4	Enumerate indications for various common radiological investigations, choose the most appropriate and cost effective method and interpret findings in common conditions pertaining todisorder in Ob &Gy	Small group discussion, Quiz, etc	1		Obstetrics &Gynaecology
	RD1.13	Describe the components of the PC & PNDT Act and its medicolegal implications				
	RD1.1	Define radiation and the interaction of radiation and importance of radiation protection				
C	C. **Small group teachings/tutorials/Integrated teaching/Practicals(hours): 8 hours**					
Serial No.	**Competency No.**	**Topics & Sub**	**Suggested**	**Hours**	**Vertical**	**Horizontal**

Serial No.	Competency Nos.	Topics & Subtopics	Suggested Teaching Method	Hours	Vertical Integration	Horizontal Integration
		Topics	**Teaching Method**		**Integration**	**Integration**
SGT 1	AN20.6, AN25.7, AN43.7, AN43.9, AN51.1, AN51.2, IM7.18	Identify anatomical parts on radiographic images	Lecture/ Small group discussion	**3**		**Anatomy & All Clinical Departments**
SGT 2	AN25.8, AN54.2	Role of Barium Studies in gastro Intestinal Tract Evaluation	Lecture/ Small group discussion	3		Medicine, Surgery
SGT 3	FM1.9	Medicolegal aspects in Radiology	Lecture/ Small group discussion	1		Forensic Medicine
SGT 4	IM1.19, IM3.7, IM3.11, M13.12, PE34.8, PE23.13	Role of Radiology in Chest Diseases	Lecture/ Small group discussion	1		Medicine, Pediatrics
SGT 5	SU25.3	Role of Radiology in Breast Diseases	Lecture/ Small group discussion	1		Surgery
SGT 6	PE28.17	Role of Radiology in Ear Nose Throat and Eye Diseases	Lecture/ Small group discussion	1		ENT &Opthalmology
SGT 7	IM10.19, PE21.12, IM10.19, AN54.2	Role of Radiology in Diseases of the Genito Urinary System	Lecture/ Small group discussion	1		Medicine
SGT 8	IM19.7, PE30.23, IM6.12, AN43.7, AN43.8, AN43.9	Role of Radiology in Central Nervous System	Lecture/ Small group discussion	1		Medicine, Surgery, Pediatrics,

Serial No.	Competency Nos.	Topics & Subtopics	Suggested Teaching Method	Hours	Vertical Integration	Horizontal Integration
		Diseases				
D	**D.** Clinical Postings(hours): 2 weeks (3hours /day x 12 days Monday to Saturday. **In institutes where radiotherapy facility is available 6 hours will be allotted to Radiotherapy department. Time Table in these institutes will be prepared by Radio Diagnosis and Radiotherapy department in joint collaboration**					
CP 1	RD1.1 RD1.2	Introduction to All modalities under Radiodiagnosis and Radiation Protection.	Lecture, Demonstration, Small group teaching	**1**		
CP 2	RD1.5	Role of Radiology in Chest Conditions lungs and heart	Lecture, Demonstration, Small group teaching			Medicine and Pediatrics
CP 3	RD1.6	Role of Radiology in Abdominal Conditions hepatobilary system and Gastrointestinal System	Lecture, Demonstration, Small group teaching	3		Surgery
CP 4	RD1.6	Role of Radiology in Abdominal Conditions - Genitourinary system	Lecture, Demonstration, Small group teaching	3		Surgery
CP 5	RD1.4 & RD 1.5	Role of Radiology in Obstetrics and Gynaecolgy	Demonstration, Small group teaching	3		Obstetrics & Gynecology
CP 6	RD1.6	Role of	Demonstration,	3		Orthopedics

Serial No.	Competency Nos.	Topics & Subtopics	Suggested Teaching Method	Hours	Vertical Integration	Horizontal Integration
		Radiology in Musculoskeletal system	Small group teaching			
CP 7	RD1.6	Role of Radiology in Diseases of Central Nervous System	Demonstration, Small group teaching	3		All clinical Branches
CP 8	RD1.2	Basic Principles of Computed Tomography	Demonstration, Small group teaching	**3**		
CP 9	RD1.2	Basic Principles of Magnetic Resonance Imaging	Demonstration, Small group teaching	**3**		
CP 10	RD1.1	Radiation Hazards and Radiation Protection	Demonstration, Small group teaching	3		
CP 11	RT	Radiotherapy related topics	Radiotherapy related topics	3		
CP 12	RT	Radiotherapy related topics	Radiotherapy related topics	3		

Learning Resource Material

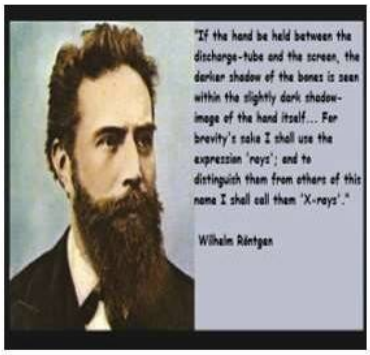
Sr.no.	Author	Title of book/ Material	Publisher
1	David Sutton	Text Book of Radiology and Medical Imaging for Medical Students Seventh Edition	Elseivier
2	David Sutton	Text Book of Radiology & Imaging Students Seventh Edition	Elseivier
3	Grainger Allison	Diagnostic Radiology	Elseivier

MUHS

Name of the Institute

LOG BOOK

DEPARTMENT OF RADIODIAGNOSIS



CONTENTS

RADIODIAGNOSIS LOGBOOK CERTIFICATE

This is to certify that this logbook is the bonafide record of Mr. / Ms..... Roll No…….. Admission Year …….……, of the Department of RadioDiagnosis at …….…… …….……. Medical College.

The logbook is as per the guidelines of Competency Based Undergraduate Medical Education Curriculum, Graduate Medical Regulation 2019.

He / She has satisfactorily attended/ completed all assignments mentioned in this logbook as per the guidelines prescribed by National Medical Commission.

Head of Department
Department of Radio Diagnosis
Signature with Date

INTERNAL ASSESSMENT EXAMINATION IN RADIODIAGNOSIS

End of the posting exam to be conducted for 25 marks and to be submitted to department of General Surgery during respective phase of teaching. Refer to Surgery Syllabus for details.

Self-Directed Learning: Seminars, Tutorials, Projects, Quizzes,

Extra-curricular activities

Sr. No.	Self- directed learning (Seminars, Tutorials, Projects, Quizzes, Extracurricular activities)	Date	Phase III/I	Signature of Teacher
1				
2				

Reflection (minimum 200 words) 1
Date:

TOPIC:

LOGBOOK CLINICAL SKILLS : LIST OF COMPETENCIES

Clinical skills can be assessed by case presentation, case-based discussion, objective structured clinical assessment the checklist, MiniCex, as per the institutional preference.

Sr. No	Competencies Addressed	Name of the Activity
1	PE21.12	How will you interpret a KUB Report?
2	PE23.13	How will you report a Chest radiograph and rule out cardiomegaly?
3	PE23.16	How will you use the ECHO reports in management of case of Cardiac disease ?
4	PE30.23	How will you interpret CT scan and MRI Report?

Radiotherapy

For theory Competencies to be included in Surgery & Radiology Syllabus

Clinical Postings-3 days where ever department exists

BOOKS RECOMMENDED:

REFERENCE BOOKS:

1) Hardikar's Orthopaedics Operations Text and Atlas by- Shrinivas S. Shintre, Sharad M. Hardikar, Vijay M. Panchandikar