**MGMIHS, Navi Mumbai**

# Electives Module

# Anatomy , Physiology a Biochemistry for Phase 3 part 1

## (as per CBME syllabus)

**MGMIHS, Navi Mumbai**

**List of Electives Anatomy , Physiology and Biochemistry for Phase 3 part 1 –as per CBME syllabus are as follows**

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| Sr no | **Name of Department** | **Elective** |
|---|---|---|
| 1 | Department of Anatomy, MGM Medical college Navi Mumbai | **1.Karyotyping.**<br>**2.Neuroanatomy**<br>**3.Developmental anatomy of genito-urinary system** |
| 2 | Department of Anatomy , MGM Medical College, Aurangabad | **1.Anatomical basis of imaging in health.**<br>**2.Basic Genetics and future of medicine.**<br>**3.Computer application in healthcare.**<br>**4.Neuroanatomy in clinical perspective** |
| 3 | Department of Physiology MGM Medical college Navi Mumbai | **1.Fitness testing.**<br>**2. Nerve Conduction Study and needle Electromyography.** |
| | Department of Physiology , MGM Medical College, Aurangabad | **1.Development of teaching skill.**<br>**2.Cardiovascular autonomic neuropathy .**<br>**3.ECG.** |
| 4 | Department of Biochemistry MGM Medical college Navi Mumbai | **1.Clinical Nutrition**<br>**2.Electives on Special techniques in Biochemistry** |
| 5 | Department of Biochemistry MGM Medical College, Aurangabad | **1. Liver Function Test.**<br>**2.Thyroid Function Test.**<br>**3.Quality Control.**<br>**4.Preanalytical variables.** |

# ELECTIVES

# ANATOMY

**Annexure No. 3A**

**MGM, MC, Navi Mumbai**

## Electives- Anatomy

### Anatomy Elective 1

**Block 1 - Name of Elective – Medical Genetics - Karyotyping**

**Location of the Hospital Lab –** Genetics Laboratory, 1st floor MGM Medical College, Navi Mumbai

**Duration**: 1 month.

**Name of Internal preceptor**

Dr. Anjali Sabnis& Dr. Charushila Shinde

**Goal/ Competency**

To develop understanding of the basic ofmodes of inheritance and role of karyotyping in medical genetics

**Learning objectives**

1. To enumerate commonly available genetic tests
2. To enumerate indications for common genetic tests
3. To enumerate the testing protocol for commonly performed genetic tests
4. To observe & describe the correct method to perform a karyotype
5. To present a genetic history and determine the nature of inheritance of a given simulated condition

**No of students that can be accommodated – 4**

**Prerequisites:**

1. Have knowledge of basic DNA & chromosome structure
2. Have knowledge of cell structure and cell division

**Learning resources:**

Handouts of resource material

**Activities:**

1. Work daily with a supervisor in observing and assisting genetic tests
2. Participate in case discussions
3. Present at least two genetic histories done by student as a case work up

**Portfolio Entry:**

1. Schedule of activities with attendance
2. Documentation of case discussions done
3. Documentation of presentation done

**Logbook entry required:**

1. Day wise entry of activities in the logbook,
2. Completion of posting signed by preceptor with ‘M – meets Expectation’ grade.

**Formative assessment**

Based on attendance, day-to-day participation in departmental activity, performance of assigned tasks and presentation of worked up case in department

**Annexure No. 3A**

## Anatomy Elective 2

**Block 1 - Name of Elective – Neuroanatomy**

**Location of the Hospital Lab –** Anatomy dissection hall, 1st floor MGM Medical College, Navi Mumbai

**Duration**: 1 month.

**Name of Internal preceptor**

Dr. Bhavana Junagade& Dr. Mini Mol

**Goal/ Competency**

To develop understanding of the detailed structure of nervous system through prosection and cross sectional study

**Learning objectives**

6. To enumerate parts of CNS
7. To describe & demonstrate external features of all parts of CNS
8. To describe & demonstrate features of ventricular system of brain
9. To describe & demonstrate deep structures of CNS as seen in sagittal, horizontal and coronal sections of different parts of CNS
10. To describe functional anatomy of CNS along with clinical correlation

**No of students that can be accommodated – 4**

**Prerequisites:**

1. To have basic knowledge of structure and function of parts of CNS

**Learning resources:**

Handouts of resource material

**Activities:**

4. Work with a supervisor during prosection of Neuro anatomy specimens
5. Participate in discussion sessions
6. Present at least two clinical case scenarios with explanation of anatomical basis

**Portfolio Entry:**

4. Schedule of activities with attendance
5. Documentation of prosection sessions
6. Documentation of clinical case scenario presentations done

**Logbook entry required:**

3. Day wise entry of activities in the logbook,
4. Completion of posting signed by preceptor with 'M – meets Expectation' grade.

**Formative assessment**

Based on attendance, day-to-day participation in departmental activity, performance of assigned tasks and presentation of worked up case in department

**Annexure No. 3A**

## Anatomy Elective 3

**Block 1 - Name of Elective – Developmental anatomy of genito-urinary system**

**Location of the Hospital Lab –** Anatomy Embryology Lab, 1st floor MGM Medical College, Navi Mumbai

**Duration**: 1 month.

**Name of Internal preceptor**

Dr.Pradeep Pawar& Dr. Rekha Mane

**Goal/ Competency**

To develop understanding of the detailed developmental anatomy of genito-urinary system

**Learning objectives**

11. To describe development of urinary system
12. To describe development of male & female reproductive system
13. To demonstrate developmental anatomy of genito-urinary system using models
14. To describe congenital anomalies of genito-urinary system with their developmental basis

**No of students that can be accommodated – 4**

**Prerequisites:**

1. Knowledge of Gross anatomy of genito urinary system

**Learning resources:**

Genito-urinary system development models

**Activities:**

7. Work with a supervisor in embryology lab to study genito-urinary system models
8. Participate in discussion sessions
9. Present at least two clinical case scenarios with explanation of developmental basis

**Portfolio Entry:**

7. Schedule of activities with attendance
8. Documentation of discussion sessions
9. Documentation of clinical case scenario presentations done

**Logbook entry required:**

5. Day wise entry of activities in the logbook,
6. Completion of posting signed by preceptor with 'M – meets Expectation' grade.

**Formative assessment**

Based on attendance, day-to-day participation in departmental activity, performance of assigned tasks and presentation of worked up case in department

**Annexure No.3B**

**MGM, MC, Aurangabad**

## Electives- Anatomy

### Block/Anat/01: Neuroanatomy in Clinical Perspective

| Sr. No. | Name of the Block | Block/Anat/01 |
|---|---|---|
| 1 | Name of Elective | Neuroanatomy in Clinical Perspective |
| 2 | Location | Department of Anatomy |
| 3 | Name of Internal Preceptor | Dr. V. S. Mandhana<br>Dr. Suvarna Gulanikar<br>Dr. Sana Khan |
| 4 | Name of External Preceptor | - |
| 5 | Learning Objectives | At the end of the session students should be able to-<br>• Recollect the Neuroanatomy at a glance.<br>• To correlate the Anatomy of nervous system and its clinical aspect.<br>• To demonstrate Anatomy of specimen like spinal cord, cerebellum and sections of cerebrum.<br>• Justify various tests, investigations and reflexes to reach the diagnosis. |
| 6 | Number of Students that can be accommodated in the Elective | 6 |
| 7 | Prerequisites for Elective | Basic knowledge of Neuroanatomy. |
| 8 | Learning Resources for Students | Departmental Handbook of Neuroanatomy. |
| 9 | List of Activities of Students Participation | • PBL<br>• Case based study<br>• Demo of specimens |
| 10 | Portfolio Entries Required | • Relation<br>• Record of PBL<br>• Record of CBL |
| 11 | Log Book Entry Required | Must be maintained & assessed by preceptor |
| 12 | Assessment | Formative assessment<br>• MCQ<br>• SAQ<br>• Viva Voce |
| 13 | Other Comments | - |

**Annexure No.3B**

# MGM Medical College, Aurangabad
## Departmetrant of Anatomy
## Preclinical Elective: Block/Anat/02: Anatomical basis of imaging in health care

| | |
|---|---|
| Name of block | Block 2 Anatomy |
| Name of Elective | Anatomical basis of imaging in health |
| Location | Department of Anatomy |
| Name of internal preceptor | Dr Gautam A Shroff<br>Dr Smita Shinde<br>Dr Shamama Sk |
| Name of external preceptor | NA |
| Learning objectives | Able to explain basic principle of imaging techniques.<br>Able to describe different use of each technique and its advantages and disadvantages.<br>Able to explain technique and able to identify structures in chest X-ray with its clinical application.<br>Able to identify anatomical structure in brain MRI.<br>Able to explain structures identified in USG Abdomen and Obstetric ultrasound and fetal biometry.<br>Able to identify X-ray of long bone with its clinical importance.<br>Able to identify Structure identify for MRI of joints.<br>Able to identify paranasal sinuous in X-ray and CT scan.<br>Able to brief about CECT and HRCT |
| Number of students that can be accommodated in the elective | 6 |
| Prerequisites for elective | Fundamental knowledge of medical terminology and disease process |
| Learning resources for students | Handbook provided by department |
| List of activities of student participation | Learn activities so as to improve performance and use effective time and maintain accuracy.<br>Expected initiative to identify structure and able to apply for type of investigation to be suggested.<br>Complete project and presentation. |
| Portfolio entries required | Reflections and what learned<br>Keeping record of activities. |
| Log book entry required | Logbook must be maintain and assessed by preceptor |
| Assessment | Formative assessment:<br>Participation, Solving assignments, Demonstrating soft skills |
| Other comments | |

**Annexure No.3B**

# MGM Medical College Aurangabad
# Department of Anatomy

## Preclinical Elective
### Block/Ant/03: Basic Genetics and Future of Medicine

| Sr. No. | Name of the Block | Block/03/ Anatomy |
|---|---|---|
| 1 | Name of Elective | Basic Genetics and Future of Medicine |
| 2 | Location | Department of Anatomy |
| 3 | Name of Internal Preceptor | Dr. Gautam Shroff<br>Dr. Savita Kadam<br>Dr. Poonam Autade |
| 4 | Name of External Preceptor | NA |
| 5 | Learning Objectives | Able to<br>• Explain basic principles of genetics & genetic variation.<br>• Able to tell various branches of genetics.<br>• Able to describe concept of genetic counselling & methods of genetic screening with its advantages & disadvantages.<br>• Able to explain ethical issues with genetic testing & counselling. |
| | Number of Students that can be accommodated in the Elective | 6 |
| 7 | Prerequisites for Elective | Fundamental knowledge of genetics |
| 8 | Learning Resources for Students | Departmental handbook of medical genetics. |
| 9 | List of Activities of Students Participation | • Case based study.<br>• Application of basics genetic. principals.<br>• Appropriate use of basic genetic screening |
| 10 | Portfolio Entries Required | • Participation in various activities and able to explain future of genetics. |
| 11 | Log Book Entry Required | Must be maintained & assessed by preceptor |
| 12 | Assessment | • Formative assessment.<br>• Interactive session about genetics screening and use of modern-day medication. |
| 13 | Other Comments | - |

**Annexure No.3B**

# MGM Medical College, Aurangabad Department of Anatomy

## Preclinical Elective: Block/Anat/04: Computer application in healthcare

| | |
|---|---|
| Name of block | Block 4 Anatomy |
| Name of Elective | Computer application in healthcare |
| Location | Computer Lab in Anatomy Department |
| Name of internal preceptor | Dr Gautam A Shroff<br>Dr Minakshi Ghuge<br>Mr Pawan Sonawane |
| Name of external preceptor | NA |
| Learning objectives | Able to explain use of computer technology and information technology in healthcare.<br>Able to select hardware and software required for cost effectiveness.<br>Able to utilize windows tools.<br>Able to do edit and retrieve media files.<br>Effectively use social media and conduct survey.<br>Able to demonstrate and use office application for day to day activity.<br>Able to utilize literature search by using various search engines. |
| Number of students that can be accommodated in the elective | 6 |
| Prerequisites for elective | Fundamental knowledge of computers. |
| Learning resources for students | Handbook provided by department |
| List of activities of student participation | Careful handling of instrument and maintenance.<br>Learn activities so as to improve performance and use effective time and maintain accuracy.<br>Expected initiative to solve day to day issue with help of IT and AI.<br>Complete project and presentation. |
| Portfolio entries required | Reflections and what learned<br>Keeping record of activities.<br>Exploring new innovative methods to enhance speed and effectiveness. |
| Log book entry required | Logbook must be maintain and assessed by preceptor |
| Assessment | Formative assessment:<br>Participation, Solving assignments, Demonstrating soft skills |
| Other comments | |

# ELECTIVES

# **Physiology**

**MGM, MC, Navi Mumbai**

**Electives- Physiology**

# Fitness testing module

**Annexure No. 3C**

## Block 1 elective

Department of Physiology

MGM Medical College, Navi Mumbai

(Physiology in collaboration with School of Physiotherapy, NM)

Name of the elective: **FITNESS TESTING**

**Location of the facility**

Department of Physiology

MGM School of physiotherapy Navi Mumbai,MGMIHS

Centre of human movement science

**Name of internal preceptor:from** Department of Physiology, MGM MC NM

Dr.Priyanka Rane, Associate Professor

Dr.David Isaac, Assistant Professor

**Name of external preceptor:** MGM School of physiotherapy Navi Mumbai,MGMIHS

Dr.Bela Agarwal, Professor

**Learning objectives**

1. Enlist and explain components of physical fitness test

2. Observe conduction of of various test on patients

3.Self evaluation of fitness

4.Evaluation of years for fitness

5.Perform under guidance various test for fitness

6.Understand the significance of the test for management of of non communicable diseases in normal and in patient population

**Number of students that can be accommodated**: 6

**Prerequisites for the elective:**

1. Knowledge of nerve muscle, cardiovascular and respiratory physiology
2. Effect of exercise on the cardiovascular and respiratory system
3. Different types of exercise
4. Student must be physically fit

**Learning resources:**

Textbook of Physiology Guyton, GK Pal, Indu Khurana, Mc Ardle

American College of Sports Medicine

**List of activities in which two students will participate:**

1. Muscle strength
    a. Upper limb handgrip and Pinch
    b. Lower limb treadmill
2. Endurance testing 6 minutes walk
3. Agility for flexibility testing
4. Body composition
5. Cardiorespiratory

**Portfolio entries required:**

- Schedule followed

- Record of observations
- Record of self evaluation
- Record of performance on different persons(any 2)

**Log Book entry:**

- satisfactory completion of posting by preceptor

**Assessment:**

- 75% attendance with active participation
- Successful verification of required Log Book entry and portfolio
- Successful completion of the posting as certified in the logbook with a “Meets” expectation ‘M’ grade.

# Block 2 elective

**Name of Elective: Nerve Conduction Study and needle Electromyography.**

**Location of the Hospital Lab:**

Neurlab, 2nd floor MGM Hopsital **,** Navi Mumbai

**Duration**: 1 month.

**Name of Internal preceptor**

Dr. Aarthika Sreenivasan

Dr. Yashoda Kattimani (yet to ask madam)

**Goal/ Competency:**

To develop understanding of the basics of NCS and EMG study and its application in a clinical or research setup.

**Learning objectives:**

Describe the innervation and course of nerves of upper and lower limbs.

Describe the physiology of nerve conduction and muscle contraction.

Explain the basic methodology of NCS.

Explain the basic methodology of EMG.

Describe the various parameters assessed on NCS

Learn patient communication skills

Learn to correlate clinical findings with NCS EMG findings.

**No of students that can be accommodated: 6**

**Prerequisites:**

1. Anatomy of Upper limb and lower limbs Nerves and muscles.

2. Physiology of Action potential

3, Neuro-muscular transmission

4. Physiology of Skeletal muscles contraction

**Learning resources:**

PDF / Handouts of resource material

Practical physiology textbooks

**Activities:**

1. Group discussion/ Seminar –on Innervation and course of nerves of upper & lower limbs.

2. Group discussion/ Seminar –on Physiology of nerve conduction and muscle contraction

3. Observe the recording of NCV & EMG of different cases.

4. Observation and Interpretation of Lab records of NCV of common diseases, to differentiate between normal and abnormal parameter.

5. Explain and prepare the patient for NVC recording

6. Interpret and correlate clinical findings with NVC & EMG findings of patients of common cases- Diabetic neuropathy, Carpel tunnel syndrome (Minimum 2 cases )

**Portfolio Entry:**

1. Schedule of Activity

2. Pictures and Observation report of Cases seen(Minimum 2)

3. Pictures and case report & lab report of common cases like - Diabetic neuropathy, Carpel tunnel syndrome(Minimum 2)

**Logbook entry required:**

Day wise entry of activities in the logbook, with completed posting with ‘M’ Expectationgrade signed by preceptor.

**MGM, MC, Aurangabad**

## Electives- Physiology

**Annexure No. 3D**

| | |
|---|---|
| Name of Block | Block 1 |
| Name of Elective | Development of teaching skill |
| Location of hospital Lab or research facility | MGM Medical college hospital |
| Name of internal preceptor(s) | **Dr Bhakti Dabir, Dr Rahul Surve** |
| Name of external preceptor if applicable | N/A |
| Learning objectives of elective | 1. To obtain experience in teaching to 1st MBBS students<br>2. To obtain experience in demonstration to the students |
| Number of students that can be accommodated in this elective | 6 |
| Prerequisites for elective | Should go through different teaching methods from MET book of Rege |
| List of activities of student participation | 1. Participate in teaching activities of other faculties of department<br>2. Participate in academic programs of the department<br>3. Write up the notes of allotted topic for teaching<br>4. Present at least two topics in microteaching<br>5.Conduction of practical topic to students With teaching and demonstration |
| Learning Resources | Physiology textbook and practical book |
| Portfolio entries required | Teaching Notes entries; Presentations done |
| Log book entry required | Satisfactory completion of posting authenticated by preceptor |
| Assessment | Attendance<br>Successful verification of required portfolio entries,<br>Successful completion of the posting as certified in the log book with a “meets expectation ‘M’ grade” |
| Other comments | |

**Annexure No. 3D**

| | |
|---|---|
| **Name of Block** | Block 1 |
| **Name of Elective** | Cardiovascular autonomic neuropathy (CAN) |
| **Location** | Autonomic & vascular function lab, Physiology dept. MGM Medical College. Aurangabad. |
| **Name of Internal Preceptor** | 1.Dr Sangita Sarkate<br>2. Dr F.B. Irani<br>3.Dr Saba Khan |
| **Name of External Preceptor** | NA |
| **Learning Objectives of elective** | 1. To enumerate the different tests under Autonomic function test.<br>2. To enumerate the indication for performing Autonomic function test.<br>3. To perform Autonomic reactive tests for parasympathetic & sympathetic nerves.<br>4. To list the other tests performed on Diabetes Risk Profiler. |
| **Number of students that can be accommodated** | 04 |
| **Pre requisites for this elective** | 1. Knowledge of recording vital parameters<br>2. Basic knowledge of nerve supply to circulatory system |
| **List of activities of student participation** | 1. Work daily under supervisor.<br>2. Collecting vital parameters of subjects.<br>3. Under observation collecting data related to CAN as per protocol.<br>4. Tabulating data in worksheet<br>5. Drawing analysis of data & summary of work daily. |
| **Learning resources** | Departmental handbook |

| | |
|---|---|
| **Portfolio entries required** | 1. Daily documentation of data collected in worksheet.<br>2. At least 04 subjects autonomic function data to be recorded.<br>3. Analysis of data to be done. |
| **Logbook entry required** | Satisfactory completion of posting as given by preceptor and meet exception of 'M' grade |
| **Assessment** | 1. Attendance<br>2. Verified portfolio entries<br>3. Completion of posting as certified in log book.<br>4. Completion of assigned task and presentation of analysis of data in department as seminar. |
| | |

**Annexure No. 3D**

| | |
|---|---|
| **Name of Block** | Block 1 |
| **Name of Elective** | ECG |
| **Location** | ECG lab, Physiology dept. MGM Medical College. Aurangabad. |
| **Name of Internal Preceptor** | 1.Dr Sangita Phatale<br>2.Dr Kirti Sarkate<br>3. Dr Saroj Mulkhede |
| **Name of External Preceptor** | NA |
| **Learning Objectives of elective** | 5. To demonstrate application of different instruments used for ECG recording.<br>6. To enumerate the indication for performing ECG.<br>7. To perform ECG by applying different leads<br>8. To calculate details of each wave, HR & vector from graph drawn. |
| **Number of students that can be accommodated** | 04 |
| **Pre requisites for this elective** | 3. Knowledge of ECG<br>4. Basic knowledge of cardiac potentials |
| **List of activities of student participation** | 6. Work daily under supervisor and independently recording ECG.<br>7. Collecting data related to ECG as per protocol.<br>8. Labeling ECG as normal & abnormal<br>9. Tabulating data in worksheet<br>10. Drawing summary of everyday work |
| **Learning resources** | Departmental handbook |
| **Portfolio entries required** | 4. Daily documentation of data collected in worksheet.<br>5. At least 04 subjects ECG data to be recorded.<br>6. Analysis of data to be drawn |
| **Logbook entry required** | Satisfactory completion of posting as given by preceptor and meet exception of 'M' grade |

| | |
|---|---|
| **Assessment** | 5. Attendance<br>6. Verified portfolio entries<br>7. Completion of posting as certified in log book.<br>8. Completion of assigned task and presentation of analysis of data in department as seminar. |
| | |

# Electives

# Biochemistry

**Annexure No. 3D**

**Elective posting:- I**

**Name of Elective: Clinical Nutrition**

**Location: Department of Biochemistry , MGM MC ,Navi Mumbai**

**Duration**: 15 days.

**Name of Internal preceptor**

Dr. Santosh Gawali

**Goal/ Competency:**

To impart knowledge and develop capacities of the students in the area of Clinical Nutrition and Dietetics and its application in Medical Nutrition Management.

**Learning objectives:**

1. Describe the Nutrition assessment, Nutrition diagnosis andNutrition intervention
2. To calculate Calorie Intake using 24-hour Dietary Recall and Food Frequency Questionnaire
3. Describe the Dietary Diagnosis and need of therapeutic diet
4. Describe diet in Pregnancy and Lactation
5. Describeenteral and parenteral feeding,
6. DescribeDietary management in common diseases
7. Describe role of Intermittent fasting in Diet
8. Learn patient communication skills
9. Learn Diet Prescription in common metabolic diseases and lifestyle disorders.

**No of students that can be accommodated: 7**

**Prerequisites:**

1. Metabolism of carbohydrates, proteins and Lipids.
2. Basic Biochemistry vitamins, minerals and Nutrition
3. Metabolic and endocrine alterations during pregnancy and lactation

4. Pathophysiology of metabolic diseases

**Learning resources:**

PDF / Handouts of resource material

Krause' s Food and Nutrition Therapy 2010, 12th Edition

**Activities:**

1. Group discussion/ Seminar –on nutrition assessment, and Balanced Diet.

2. Lecture sessions – on, Dietary Diagnosis, 24-hour Dietary Recall, Food Frequency Questionnaire and Therapeutic diet

3. Group activity - on Calorie Intake calculation.

4. Observation session at Nutrition OPD at MGM Hospital kamothe to understand the applications and working pattern.

5 Group discussion/ Seminar – on metabolic alteration in Pregnancy and Lactation and common diseases

6. Lecture sessions – on enteral and parenteral feeding, Dietary management in common diseases and Intermittent fasting

7. Group activity- on Dietary Prescriptionfor common metabolic diseases.

**Portfolio Entry:**

1. Schedule of Activity

2.case scenarios, laboratory reports

3. Diet chart preparation of common cases like –Diabetes mellitus, Hypertension, metabolic syndrome, Pregnancy and Lactation.

**Logbook entry required:**

Day wise entry of activities in the logbook, certified with completed posting with 'M' Expectationgrade signed by preceptor.

**Elective posting:- II**

**Electives on Special techniques in Biochemistry**

| | |
|---|---|
| Name of Block | Block 1 |
| Name of Elective | Special techniques in Biochemistry |
| Location of hospital lab or research facility | Biochemistry Department MGM MC, Navi Mumbai |
| Name of internal preceptor(s) | Co-ordinator- Dr. Kavita More |
| Name of external preceptor(ifany) | MGM School of Biomedical sciences and central Research lab |
| Learning objectives of the elective | At the end of session, the student should be able to<br>1. Demonstrate and perform Paper Chromatography and result interpretation<br>2. Demonstrate and hands on training and result interpretation of gel electrophoresis<br>3. Demonstrate HPLC and ELISA tests<br>4. Interpretation of HPLC and ELISA results<br>5. Demonstration of Extraction of DNA and hands on training of extraction of DNA |
| Number of students that can be Accommodated in this selective | 5 |
| Prerequisites for the elective | Covid 19 vaccination and other immunization as required in our set up |
| Learning resources for students | Handouts related to biochemical and molecular techniques to be provided |

| | |
|---|---|
| Listof activitiesinwhichthestudentwill<br>Participate<br>1st week<br><br>2nd week<br>3rd week<br><br>4th week | Participate in lecture related to Biochemical and Molecular techniques covered in objectives and perform sample preparation<br>1.To be able to interpret results of chromatography<br>2.To be able to interpret electrophoresis of an unknown given case<br>3. To be able to interpret HPLCand ELISA test results of an unknown given case<br>4 To be able to extract the DNA from biological sample |
| Portfolioentries required | 1.Documentation of lectures attended<br>2. Documentation of interpretation of results made by the students |
| Logbookentryrequired | satisfactory completion of posting by preceptor |
| Assessment | 75% attendance with active participation<br>- Successful verification of required Log Book<br>entry and portfolio<br>- Successful completion of the posting as<br>certified in the logbook with a “Meets”<br>expectation ‘M’ grade. |
| Othercomments | |

**Annexure No. 3F**

**MGM, MC, AURANGABAD**

## Electives- Biochemistry

## Liver Function Test

| | | |
|---|---|---|
| 1 | Name of Block | Block 1 |
| 2 | Name of Elective | **Liver Function Test** |
| 3 | Location of hospital lab or research facility | MGM, MC, AURANGABAD.<br>Central Clinical Laboratory |
| 4 | Name of internal preceptor(s) | Dr Benazeer Jadhav, Dr. Hina Ansari<br>Dr. Ashlesha Jambure |
| 5 | Name of external preceptor (if any) | N/A |
| 6 | Learning objectives of the elective | 1. to demonstrate the conduct of commonly available biochemical tests in a central clinical laboratory<br>2. to enumerate indications for Liver Function tests<br>3. To enumerate the testing protocol for commonly performed Liver Function tests<br>4. to demonstrate the correct method to perform Liver Function Test<br>5. to present family and past history and determine the nature of disease of a given condition<br>6. to interpret the test result of liver function test |
| 7 | Number of students that can be accommodated in this elective | 4-6 |
| 8 | Prerequisites for the elective | Necessary immunizations,<br>Universal precaution certification |
| 9 | Learning resources for students | Departmental handbook provided |
| 10 | List of activities in which the student will participate | 1. Work daily with a supervisor in observing, assisting and performing liver function tests<br>2. Participate in departmental education activities<br>3. Present at least two tests done by student as a case work up |
| 11 | Portfolio entries required | 1. Documentation of worked up cases<br>2. Documentation of presentation done |
| 12 | Log book entry required | Completion of posting signed by preceptor with a “meets expectation ‘(M)’grade” |
| 13 | Assessment | **Formative:** attendance;<br>day-to-day participation in departmental activity;<br>performance of assigned tasks and presentation of worked up case in |

| | | |
|---|---|---|
| | | department |

Table 1: Template for planning learning experiences in electives

**Annexure No. 3F**

**Thyroid Function Test**

| | | |
|---|---|---|
| 1 | Name of Block | Block 1 |
| 2 | Name of Elective | **Thyroid Function Test** |
| 3 | Location of hospital lab or research facility | MGM, MC, AURANGABAD.<br>Central Clinical Laboratory |
| 4 | Name of internal preceptor(s) | Dr D.V.Bhale, Dr. Manjusha Hivre |
| 5 | Name of external preceptor (if any) | N/A |
| 6 | Learning objectives of the elective | 1. to demonstrate the conduct of commonly available biochemical tests in a central clinical laboratory<br>2. to enumerate indications for Thyroid Function tests<br>3. To enumerate the testing protocol for commonly performed Thyroid Function tests<br>4. to demonstrate the correct method to perform Thyroid Function Test<br>5. to present family and past history and determine the nature of disease of a given condition<br>6. to interpret the test result of Thyroid function test |
| 7 | Number of students that can be accommodated in this elective | 4-6 |
| 8 | Prerequisites for the elective | Necessary immunizations,<br>Universal precaution certification |
| 9 | Learning resources for students | Departmental handbook provided |
| 10 | List of activities in which the student will participate | 1. Work daily with a supervisor in observing, assisting and performing liver function tests<br>2. Participate in departmental education activities<br>3. Present at least two tests done by student as a case work up |
| 11 | Portfolio entries required | 1. Documentation of worked up cases<br>2. Documentation of presentation done |
| 12 | Log book entry required | Completion of posting signed by preceptor with a “meets expectation ‘(M)’grade” |
| 13 | Assessment | **Formative:** attendance; day-to-day participation in departmental activity; performance of assigned tasks and presentation of worked up case in department |

**Annexure No. 3E**

Table 1: Template for planning learning experiences in electives

**Quality Control**

| | | |
|---|---|---|
| 1 | Name of Block | Block 1 |
| 2 | Name of Elective | **Quality Control** |
| 3 | Location of hospital lab or research facility | MGM, MC, AURANGABAD.<br>Central Clinical Laboratory |
| 4 | Name of internal preceptor(s) | Dr. Ruta Anantgaonkar<br>Mr. Sanjay Guddetwar |
| 5 | Name of external preceptor (if any) | N/A |
| 6 | Learning objectives of the elective | 1. to demonstrate the conduct of Quality control for various biochemical tests in a central clinical laboratory<br>2. to enumerate indications for Quality control<br>3. To enumerate the testing protocol for commonly performed Quality control assessment<br>4. to demonstrate the correct method to perform Quality control assessment<br>5. to Know various parameters for Quality control assessment<br>6. to interpret the result of various charts for Quality control assessment |
| 7 | Number of students that can be accommodated in this elective | 4-6 |
| 8 | Prerequisites for the elective | Necessary immunizations,<br>Universal precaution certification |
| 9 | Learning resources for students | Departmental handbook provided |
| 10 | List of activities in which the student will participate | 1. Work daily with a supervisor in observing, assisting and performing Quality control assessment<br>2. Participate in departmental education activities<br>3. Present Quality control assessment for at least two tests done bystudent as a case work up |
| 11 | Portfolio entries required | 1. Documentation of work done in laboratory<br>2. Documentation of presentation done |
| 12 | Log book entry required | Completion of posting signed by preceptor with a “meets expectation ‘(M)’grade” |
| 13 | Assessment | **Formative:** attendance;<br>day-to-day participation in departmental activity;<br>performance of assigned tasks |

Annexure No. 3F

## Table 1: Template for planning learning experiences in electives

**Preanalytical variables**

| | | |
|---|---|---|
| 1 | Name of Block | Block 1 |
| 2 | Name of Elective | **Preanalytical variables** |
| 3 | Location of hospital lab or research facility | MGM, MC, AURANGABAD.<br>Central Clinical Laboratory |
| 4 | Name of internal preceptor(s) | Dr D.M. Vaishnav ,Dr. Hina Ansari<br>Dr. Ashlesha Jambure |
| 5 | Name of external preceptor (if any) | N/A |
| 6 | Learning objectives of the elective | 1. to demonstrate the conduct of various techniques for blood collection, transport and storage in a central clinical laboratory<br>2. to enumerate various pre-analytical variables<br>3. To enumerate the blood collection, transport and storage protocol<br>4. to demonstrate the correct method to perform venipuncture<br>5. to Know various parameters that can be affected by pre-analytical variables |
| 7 | Number of students that can be accommodated in this elective | 4-6 |
| 8 | Prerequisites for the elective | Necessary immunizations,<br>Universal precaution certification |
| 9 | Learning resources for students | Departmental handbook provided |
| 10 | List of activities in which the student will participate | 1. Work daily with a supervisor in observing, assisting and performing blood collection, transport and storage in a central clinical laboratory<br>2. Participate in departmental education activities |
| 11 | Portfolio entries required | 1. Documentation of work done in laboratory<br>2. Documentation of presentation done |
| 12 | Log book entry required | Completion of posting signed by preceptor with a “meets expectation ‘(M)’grade” |
| 13 | Assessment | **Formative:** attendance;<br>day-to-day participation in departmental activity;<br>performance of assigned tasks |

# Electives
# Pharmacology

# Annexure-14A of AC-46/2023

- ~~**Annexure 1A:**~~ **Pharmacovigilance** (Block 1)

| | Name of Block | Block 1 |
|---|---|---|
| | **Name of Elective** | Pharmacovigilance |
| | **Location of hospital lab or research facility** | MGM Medical College and Hospital, Navi Mumbai |
| | **Name of Internal preceptor** | Dr Prakash Khandelwal, Prof., & HOD, Pharmacology<br>Dr Deepanjana Dass, Assistant Professor, Pharmacology |
| | **Name of external preceptor (if any)** | Nil |
| | **Learning Objectives** | At the end of the Elective the learner shall be able to<br>• To identify and report Adverse Drug Reactions (ADRs) in clinical care setup through patient records.<br>• To fill the suspected Adverse Drug Reactions Reporting Form of Indian Pharmacopoeia Commission, Govt. Of India.<br>• To perform causality analysis of the reported Adverse Drug Reactions (ADRs).<br>• To upload the ADRs in Vigiflow Software |
| | **Number of students that can be accommodated in this elective** | 10 |
| | **Prerequisites for the elective** | Familiarity with common terminologies of ADR and its types, Microsoft excel. |
| | **Learning resource for students** | • Textbook of Pharmacovigilance by SK Gupta and Shushma Srivastava, Jaypee Publications, latest edition.<br>• Fundamentals of Pharmacovigilance by Sumit Verma and Yogesh Gulati, Paras Medical Publications, latest edition.<br>• Textbook of Pharmacovigilance concept and practice by Guruprasad Mohanta, Prabal Kumar Manna. Pharma Med Press, latest edition.<br>• E-Resources – Available at: https://www.who-umc.org/media/165164/3-working-with-data-entry.pdf<br>• E-Resources – Vigiflow user guide. Available at: https://www.adr.who-umc.org/userguide.pdf |
| | **List of activities in which the student will participate** | • Participate in following teaching learning activities<br>**Pharmacovigilance**<br>***Lectures***<br>o Introduction, historical development and scope of Pharmacovigilance.<br>o Introduction to ADR, Definition and Types of ADR<br>o Pharmacovigilance Programme of India and Global |

| | | |
|---|---|---|
| | | Pharmacovigilance Programme<br>o Pharmacovigilance Methods<br>o Role of epidemiological studies in Pharmacovigilance<br>o Causality Assessment and Signal Detection<br>o Parts of the Suspected Adverse Drug Reaction Reporting Form and filling of ADR forms<br>o ADR Report analysis, action taken<br>o Electronic Data entry in Vigiflow<br>o Drug interactions and Food Drug interactions<br>o Vulnerable population – extremes of age, pregnancy and lactation<br>o Medication error and medication misuse<br>o Setting a Pharmacovigilance Centre, inspection and audit<br>***Practical's/Group Activity***<br>o Causality Assessment<br>o Narrative writing<br>o ADR reporting case scenario<br>o Assessment of seriousness and severity of an ADR<br>o Electronic data entry (VIGIFLOW)<br>o Cases on Drug interactions causing ADR |
| | **Portfolio entry required** | • Documentation of worked up (causality assessment of suspected ADRs)<br>• Documentation of worked up (Narrative writing)<br>• Documentation of worked up cases (ADR reporting of reported cases)<br>• Documentation of worked up cases (Assessment of seriousness and severity of an ADR)<br>• Documentation of worked up cases (Vigiflow entries)<br>• Documentation of worked up (cases on drug interactions)<br>• Documentation of presentations done<br>• Documentation of self-directed learning as summary and reflection |
| | **Log book entry required** | • Completion of activities signed by preceptor with a "meets expectation '(M)'grade" |
| | **Assessment** | • Documentation of attendance<br>• Successful completion of required portfolio and log book entries<br>• Participation in group discussions and team activities<br>• Presentation of seminars, worked up cases<br>• Reflection Writing |
| | **Other Comments** | Nil |

- ~~**Annexure 1B**~~**: Clinical Research** (Block 1)

| | Name of Block | Block 1 |
|---|---|---|
| | **Name of Elective** | Clinical Research |
| | **Location of hospital lab or research facility** | MGM Medical College and Hospital, Navi Mumbai |
| | **Name of Internal preceptor** | Dr Ipseeta Ray, Professor, Pharmacology<br>Dr Pradeep Jadhav, Associate Professor, Pharmacology |
| | **Name of external preceptor (if any)** | Nil |
| | **Learning Objectives** | At the end of the Elective the learner shall be able to<br>• Understand the key phases of drug development<br>• Gain Knowledge on the basics of Clinical Research Methodology<br>• Understand the Ethical Regulations and Guidelines governing Clinical Research<br>• Get hands on experience on drafting Informed Consent Documents<br>• Get hands on training on how to design a Clinical Research Protocol<br>• Critical Appraisal of Published Research Article |
| | **Number of students that can be accommodated in this elective** | 10 |
| | **Prerequisites for the elective** | None |
| | **Learning resource for students** | • SK Gupta. Basic Principles of Clinical Research and Methodology. Jaypee Brothers, Medical Publishers Pvt. Limited<br>• ICMR National Ethical Guidelines for Biomedical Research, 2017<br>• Morris B, Sharma P, Bennett P. Clinical Pharmacology. Publisher: Elsevier – Saunders, Mosby, Churchill |
| | **List of activities in which the student will participate** | o Participate in following teaching learning activities<br><br>**Clinical Pharmacology**<br>***Lectures***<br>o Drug development process<br>o Preclinical Studies |

| | | |
|---|---|---|
| | | ○ Phases of Clinical Trials<br>○ Ethical Regulations and Guidelines governing Clinical Research<br>○ Basics of Clinical Research Methodology<br>○ Elements of Clinical Research Protocol<br>○ Informed Consent Document<br>○ Institutional Ethics Committee<br>○ Critical Appraisal of Published Literature<br><br>***Practical's/Group Activity***<br>○ Drafting of Informed Consent Documents and Assent Form<br>○ Designing of Clinical Research Protocols<br>○ Critical Appraisal of Published Research Articles |
| | **Portfolio entry required** | • Documentation of lectures and practical sessions attended<br>• Documentation and presentation of worked up Informed Consent Documents<br>• Documentation and presentation of worked up Assent form Document<br>• Documentation and presentation of worked up Clinical Research Protocol<br>• Documentation and presentation of worked up critical appraisal of published article<br>• Preparation of Summary Report of Elective Module<br>• Documentation of Reflective Writing |
| | **Log book entry required** | • Completion of activities signed by preceptor with a "meets expectation '(M)'grade" |
| | **Assessment** | • Documentation of attendance<br>• Successful completion of required portfolio and log book entries<br>• Presentation of worked up cases, seminars<br>• Participation in group discussions and team activities<br>• Reflection Writing |
| | **Other Comments** | Nil |

**Department of Immunohematology and Blood Transfusion**

**Template for planning learning experiences in electives**
**Elective -02**

| Sr. No. | Electives | PART 1 |
|---|---|---|
| 1. | Name of Block | Block -01 (Blood Centre) |
| 2. | Name of Elective | **Essentials of Blood donation camp** (Donor screening, blood donation camps, blood grouping) |
| 3. | Location of hospital lab or research facility | Dept of Immunohematology and Blood Transfusion MGM MEDICAL COLLEGE AND HOSPITAL, KAMOTHE |
| 4. | Name of internal preceptor(s) | Dr. Shweta Dhote<br>Dr. Madiha Shaikh |
| 5. | Name of external preceptor (if any) | NA |
| 6. | Learning objective of the elective | 1) Knowledge about criteria for donor screening.<br>2) Knowledge about hemoglobin estimation methods used for donor screening.<br>3) Knowledge about requirement of blood donation camp.<br>4) To be able to interpret results of forward and reverse cell grouping. |
| 7. | Number of students that can be accommodated in this elective | 04 |
| 8. | Prerequisite for the elective | Necessary immunization |
| 9. | Learning resources for students | 1) DGHS manual handout<br>2) GSR 10$^{th}$ March 2020 handout (for donor screening)<br>3) Standard operating procedure handout. |
| 10. | List of activities in which the student will participate | 1) Daily work with resident doctors in observing and assisting in related activities.<br>2) Participating in blood donation camps and PG activities organized by the department.<br>3) Present a seminar at the end of the elective(power point presentation) |
| 11. | Portfolio entries required | 1) Weekly worksheet to be completed provided by the preceptor<br>2) Submission of activities done during the elective. |
| 12. | Logbook entry required | Completion of posting signed by preceptor with a " meets expectation '(M)' grade |
| 13. | Assessment | Formative: minimum 75% attendance, day to day participation in departmental activities<br>Performance of assigned tasks and presentation of data as power point. |
| 14. | Other comments | Students who are found to be extremely well oriented and interested can be advised to go through the FDA D&C act, regulations and requirements for setting up a blood centre/ storage centre. |

**Department of Immunohematology and Blood Transfusion**

**Template for planning learning experiences in electives**

**Elective -02**

| Sr. No. | Electives | PART 2 |
|---|---|---|
| 1. | Name of Block | Block -01 (Blood Centre) |
| 2. | Name of Elective | **Fundamentals of Blood component** (Blood component preparation and storage, pre-transfusion testing, adverse effects of transfusion) |
| 3. | Location of hospital lab or research facility | Dept of Immunohematology and Blood Transfusion<br>MGM MEDICAL COLLEGE AND HOSPITAL, KAMOTHE |
| 4. | Name of internal preceptor(s) | Dr. Shweta Dhote<br>Dr. Madiha Shaikh |
| 5. | Name of external preceptor (if any) | NA |
| 6. | Learning objective of the elective | 1) Knowledge about steps of component separation, storage and QC criteria of components.<br>2) Knowledge about transfusion triggers for components.<br>3) To be able to perform pre-transfusion testing<br>4) Knowledge about adverse transfusion reaction |
| 7. | Number of students that can be accommodated in this elective | 04 |
| 8. | Prerequisite for the elective | Necessary immunization |
| 9. | Learning resources for students | 1) DGHS manual handout<br>2) blood requisition form for transfusion triggers<br>3) Standard operating procedure<br>4) Harmening, 7th Edition, Part 2, ch no. 11, 14 & 15 |
| 10. | List of activities in which the student will participate | 1) Daily work with resident doctors in observing and assisting in related activities<br>2) Participating in PG activities organized by the department<br>3) Present a seminar at the end of the elective (power point presentation) |
| 11. | Portfolio entries required | 1) Weekly worksheet to be completed provided by the preceptor<br>2) Submission of activities done during the elective. |
| 12. | Logbook entry required | Completion of posting signed by preceptor with a " meets expectation '(M)' grade |
| 13. | Assessment | Formative: minimum 75% attendance, day to day participation in departmental activities<br>Performance of assigned tasks and presentation of data as power point |
| 14. | Other comments | Students who are found to be extremely well oriented and interested can be advised to go through Laboratory information system, Quality management in the blood centre and Federal Regulatory requirements. |

# Department of Pathology

## (Elective 1 – Automation & QC in Hematology)

**Table 2: Template for planning learning experiences in electives**

| Sr. No. | Electives | |
|---|---|---|
| **1.** | **Name of Block** | Block - 01 |
| **2.** | **Name of Elective** | Quality control in Haematology (Automation and QC in hematology) |
| **3.** | **Location of hospital lab or research facility** | Central Laboratory, MGM Medical College & Hospital, NM |
| **4.** | **Name of Internal preceptor(s)** | Dr. Ujwala Maheshwari<br>Dr. Manisha Tambeka |
| **5.** | **Name of external preceptor (if any)** | N/A |
| **6.** | **Learning objectives of the elective** | 1) Knowledge about automation & quality control in hematology.<br>2) To be able to calculate and use Quality control statistics<br>3) Knowledge about additional quality control statistics (mean & SD)<br>4) Pre analytic limp of Understanding. |
| **7.** | **Number of students that can be accommodated in this electives** | 04 |
| **8.** | **Prerequisites for the elective** | 1) NABL 15189 booklet available online<br>2) Handout/ Booklet prepared by internal preceptor |
| **9.** | **Learning resources for students** | 1) Handout/ Booklet prepared by internal preceptor |
| **10.** | **List of activities in which the students will participate** | 1) work daily with resident doctors in observing , assisting and performing the related activates<br>2)Participating in related PG activities organized by department<br>3) Present a Seminar at the end keeping the objectives in mind (Power Point Presentation) |
| **11.** | **Portfolio entries required** | 1) Daily worksheet to be completed provided by the preceptor.<br>2) Presentation of documentation. |
| **12.** | **Log book entry required** | Completion of posting signed by preceptor with a “meets expectation’(M)’ garde” |
| **13.** | **Assessment** | Formative: attendance, day-to-day participation in departmental activity.<br>Performance of assigned tasks and presentation of fortnight data as power point |
| **14.** | **Other comments** | Students who are found to be extremely well oriented and interested can be advised to take the next level (03 day workshop on NABL 15189) |

# Department of Pathology

## (Elective 2 – HPLC)

**Table 2: Template for planning learning experiences in electives**

| Sr. No. | Electives | |
|---|---|---|
| 1. | **Name of Block** | Block - 01 |
| 2. | **Name of Elective** | High Performance Liquid Chromatography In Haemolytic Anemia |
| 3. | **Location of hospital lab or research facility** | Central Laboratory, MGM Medical College & Hospital, NM |
| 4. | **Name of Internal preceptor(s)** | Dr. Shilpi Sahu<br>Dr. Priyanka Jadhav |
| 5. | **Name of external preceptor (if any)** | N/A |
| 6. | **Learning objectives of the electives** | 1) Interpretation of charts of HPLC in Hemolytic anemina.<br>2) To perform test of sickling, nestoff test, and osmotic fragility test |
| 7. | **Number of students that can be accommodated in this electives** | 04 |
| 8. | **Prerequisites for the elective** | Universal safety precaution certification. |
| 9. | **Learning resources for students** | 1) Handout/ Booklet prepared by internal preceptor |
| 10. | **List of activities in which the students will participate** | 1) Work daily with resident doctors in observing , assisting in HPLC<br>2) Performing sickling, |
| 11. | **Portfolio entries required** | 1) Daily worksheet to be completed provided by the preceptor.<br>2) Presentation of documentation. |
| 12. | **Log book entry required** | Completion of posting signed by preceptor with a “meets expectation’(M)’ garde” |
| 13. | **Assessment** | Formative: attendance, day-to-day participation in departmental activity.<br>Performance of assigned tasks and presentation of fortnight data as power point |
| 14. | **Other comments** | Students who are found to be extremely well oriented and interested can be advised to Hematology automatic conference. |

**TOTAL TIME IN HOURS : 6864**

| | | |
|---|---|---|
| **Clinical postings** | **:** | **132 weeks** |
| **Total** | **:** | **176 weeks** |

**Electives:**

**Block - 1** of 15 days may be offered **in Final MBBS part 1**,

**Subjects**: Anatomy/ Physiology/ Biochemistry/Pathology/ Blood Banking/ Microbiology/ Pharmacology/ Forensic Medicine and Toxicology.

**Block - 2** of 15 days may be offered **in Final MBBS part 2**,

**Subjects**: Gen. Medicine and allied, Gen. Surgery and allied.

**KEY CHANGES FROM GMER 2019:**

1. Theory sessions of Dermatology, Radiology, Psychiatry, Anesthesiology, Respiratory Medicine shifted to final phase.
2. Theory sessions of Otorhinolaryngology and Ophthalmology reduced and remaining sessions shifted to final phase.
3. Clinical posting of Otorhinolaryngology as well as Ophthalmology from Phase-II of MBBS has been shifted to Phase-III part I and part II
4. Newer elements of Pandemic Module, and Family Adoption Programme in Community Medicine included.
5. No postings during electives.
6. Clinical Postings have been re-scheduled to facilitate learning and help students cope up with introduction of common national exit test.
7. No supplementary batches. Supplementary exams to be conducted by the end of one (1) month of results of regular exams. Results be declared within a fortnight of the end of last exam.

These changes are proposed to ensure:

1. Ease of rotation of students in the posting and ensure minimum number of students in each posting.
2. Provide increased hours and shifting posting to final year in some allied subjects based on feedback by faculty from these departments.

# ELECTIVES

# MICROBIOLOGY

**Mahatma Gandhi Mission's College.**
**N-6 CIDCO, Aurangabad – 431003**
**DEPARTMENT OF MICROBIOLOGY**

**PROPOSAL FOR ELECTIVE COURSE [I] IN BLOCK - 1**

1. **NAME OF ELECTIVE :** Biomedical waste management

2. **Eligibility:** MBBS students before commencement of 3rd MBBS Part II.

3. **COURSE DESCRIPTION:**

It is a short certificate course designed to provide adequate knowledge to UG MBBS Students regarding biomedical waste (BMW) classification, segregation, treatment and disposal methods so as to increase their awareness to reduce the impact of waste on environment & community. To motivate and sensitize the students towards reducing the chances of getting infections and accidental injuries due to improper handling of BMW.

4. **LEARNING OBJECTIVES:**

1) This elective posting will provide adequate knowledge to MBBS Students regarding impact of improper disposal of biomedical waste (BMW) on environment & community .
2) Will provide knowledge about BMW classification, segregation, treatment and disposal methods
3) To Motivate and sensitize the students for preventing the chances of getting infections and accidental injuries due to improper handling of BMW.

**5. COURSE OUTCOMES:**

- **At the end of this course MBBS student shall be able to:**
  1) Classify & segregate BMW as per BMW management & handling rules.
  2) Supervise the pretreatment & disposal of BMW.
  3) To explain the importance of proper disposal so as to reduce the impact of waste on environment & community and to reduce accidental injuries.

**6. COURSE DURATION:** 2 weeks - before commencement of 3rd MBBS Part II.

**7. INTAKE CAPACITY:** 05 students.

**8. COURSE COORDINATOR:** Dr Shraddha Naik

**9. COURSE FACILITATORS:** All Teaching faculties.

**10. TEACHING HOURS :** Total 12 hours

## Annexure 1

**Block 1 learning experience: Para clinical -- Subject: Microbiology, MGM, Aurangabad.**

| **Name of Block** | **Block 1** |
|---|---|
| **Name of Elective** | Biomedical Waste management. |
| **Eligibility** | MBBS students before commencement of 3rd MBBS Part II. |
| **Location of hospital lab or research facility** | Department of Microbiology, MGM Medical college & Hospital, Aurangabad. |
| **Name of internal preceptor(s)** | Dr Shraddha Naik. |
| **Name of external preceptor (it applicable)** | Nil |
| **Learning objectives of elective** | 4) To provide adequate knowledge to MBBS Students regarding biomedical waste (BMW) impact on environment & community due to its improper disposal.<br>5) To provide knowledge about BMW classification, segregation, treatment and disposal methods<br>6) To Motivate and sensitize the students for preventing the chances of getting infections and accidental injuries due to improper handling of BMW.<br>7) This course will help MBBS graduates to supervise the pre treatment & disposal of BMW management in his future. |
| **Number of students that can be accommodated in this elective** | 5 |
| **Prerequisites for elective** | ○ Vaccinated with Hepatitis B<br>○ Files with worksheets<br>○ BMW disposal bags, Autoclave, Chemical disinfectants & material for its validity testing |
| **Learning resources for students** | Reference books & BMW hand book.<br>1) Text book of Microbiology by R. Ananthanarayan & C K Jayaram Panikar<br>2) Text book of Essential Medical Microbiology by Dr Apurba S Sastry & Dr Sandhya Bhat.<br>3) Hospital associated Infection, Epidemiology, Prevention & Control by Neeta Patwardhan<br>4) Biomedical Waste Management Rules 2016.<br>5) Departmental BMW hand book |

| | |
|---|---|
| **List of activities of student participation** | 1-Lectures, Practical's / Demonstrations.<br>2-Visit to various patient care areas (laboratory, ICU, Labor room, ward, OPD) of the hospitals.<br>3-Visit to Central BMW storage area.<br>4-Presentations on observations made during visit. |
| **Portfolio entries required** | Not required |
| **Worksheet entry required** | -Documentation of location of patient care areas (laboratory, ICU, Labor room, ward, OPD) & Central BMW storage area visited and date of visit.<br>-Documentation of findings of methods for proper segregation, pretreatment & disposal of BMW.<br>-Satisfactory completion of posting signed by preceptor with a "meets expectation 'M' grade. |
| **Assessment**<br>Attendance:<br>More than 80 % attendance is mandatory | Formative: Day to day assessment based on :<br>Attendance: 05 marks<br>Presentation on observations : 05 marks<br>Documentation of findings of methods for proper segregation: 05 marks<br>Completion of worksheets : 05 marks<br>Total marks : 20 marks |

As per NMC

**TIME DURATION**: 2 weeks

- **Clinical posting should continue.**
- **Duration for elective course : 2 Weeks (Afternoon session)**

**COURSE CONTENT:**

| **Sr. no.** | **Lectures** | **Demonstrations** |
|---|---|---|
| Day 1 | Introduction of course & pattern.<br>BMW management & handling rules, Definition – Related to BMW rules. | -- |
| Day 2 | Sterilization by autoclave, Disinfection [Commonly used disinfectants ] | Working of Autoclave. Chemical disinfectants used in hospital for disposal of BMW & its Validity testing |
| Day 3 | Classification of BMW (Category & types of waste) | -- |
| Day 4 | Collection of waste, segregation & its importance. | Video demonstration – BMW management. Demonstration of color coded bags. |
| Day 5 | Universal safety precautions & Management of Infectious spills | -- |

| Sr. no. | Lectures | Demonstrations |
|---|---|---|
| Day 6 | Policy for handling BMW including COVID -19 waste & disposal of sharps | -- |
| Day 7 | PEP Management | -- |
| Day 8 | Storage and Transport of biomedical waste, Instructions for persons handling BMW. | --- |
| Day 9 | Treatment & disposal of BMW : General guidelines.<br>Methods for treatment of BMW: Mechanical processes. | Visit to patient care areas (laboratory, ICU, Labor room ,ward, OPD) to observe waste disposal practices |
| Day 10 | Standard for deep burial, Disposal of liquid waste ( ETP ) , animal waste , cytotoxic drug waste & Disposal of General waste. | Visit to central BMW storage area. |
| Day 11 | Presentation by students on observations of the visited areas (laboratory, ICU, Labor room ,ward, OPD) | -- |
| Day 12 | Presentation by students on observations of the visited area (Central BMW storage area of the hospital)<br>Feedback about the course | -- |

**COURSE FACILITATORS**: All faculty members of Microbiology department& laboratory technician in microbiology.

~~ANNEXURE NO: 1B~~

**Annexure-17B of AC-46/2023**

**Mahatma Gandhi Mission's College.**
**N-6 CIDCO, Aurangabad – 431003**
**DEPARTMENT OF MICROBIOLOGY**

**PROPOSAL FOR ELECTIVE COURSE (II) IN BLOCK - 1**

1. **NAME OF ELECTIVE :** Diagnostic methods in bacteriology

2. **ELIGIBILITY:** MBBS students before commencement of 3rd MBBS Part II.

3. **COURSE DESCRIPTION:**

It is a short certificate course designed to provide adequate knowledge to UG MBBS Students regarding the procedures carried out in Bacteriology for isolation of bacteria from clinical specimen, sterilization method staining techniques, biochemical reactions for identification of bacterial pathogens and its antimicrobial susceptibility pattern. By doing this elective course student will be competent in carrying out diagnostic procedures in side laboratory of hospital.

4. **LEARNING OBJECTIVES:**

1) This elective posting will provide adequate knowledge to MBBS Students regarding diagnostic methods in bacteriology.
2) Will provide knowledge about isolation of bacteria from clinical specimen, various staining techniques, biochemical reactions for identification of bacterial pathogens and its antimicrobial susceptibility pattern .

**5. COURSE OUTCOMES:**

- **At the end of this course MBBS student shall be able to:**
  1) Know collection & transport of clinical specimen in bacteriology section.
  2) Know sterilization methods used in bacteriology.
  3) Perform staining techniques for identification of bacterial isolates.
  4) Perform antimicrobial susceptibility test and its interpretation.

**6. COURSE DURATION:** 2 weeks - before commencement of 3rd MBBS Part II.

**7. INTAKE CAPACITY:** 05 students.

**8. COURSE COORDINATOR:** Dr. Wyawahare A.S

**9. COURSE FACILITATORS:** All Teaching faculties.

**10. TEACHING HOURS:** Total 12 hours

**Diagnostic methods in bacteriology** (Block 1): Microbiology (Aurangabad)

| **Name of the Block** | **Block 1** |
|---|---|
| Name of the elective | **Diagnostic methods in bacteriology** |
| Location of Hospital lab or research facility | Microbiology Laboratory, MGM Medical College and Hospital Aurangabad. |
| Name of Internal Preceptors | Mr. Kamlesh Khule Tutor, Microbiology Aurangabad.<br>Mr. Sopan Pathade Laboratory Technician |
| Name of External Preceptors | Nil |
| Learning Objectives of the elective | • This elective posting will provide efficient and balanced training to 2nd Year MBBS students in Laboratory Medicine especially in the field of bacteriology<br>• Students will receive supportive academic experience.<br>• This course will help a MBBS graduate to work in various lab settings in future.<br>• The course will also deal with Collection of Information needed for sampling, testing & reporting of bacteriology investigations. |
| Number of Students that can be accommodated | 5 |
| Prerequisite for elective | ○ Vaccinated with Hepatitis B and<br>○ Appropriate PPE like gloves, masks etc<br>○ Files with worksheets. |
| Learning resources for students | Textbook of Microbiology by R Ananthnarayan and Paniker<br>Textbook of Microbiology by Baveja<br>Mackie McCartney practical Medical Microbiology by Colle JG, Fraser AG |
| List of activities in which students will participate | Attend Theory lectures<br>Present seminars<br>Observe various test procedures<br>Perform and interpret common tests |
| Portfolio entries required | Not required |
| Worksheets entries required | Completion of postings signed by Preceptor with a "Meets expectation" (M) Grade and documentation of all tests observed and performed. |
| Assessment<br>Attendance:<br>More than 80 % attendance is mandatory | **Formative** :<br>Formative: Day to day assessment based on<br>Attendance: 05 marks<br>Seminars Presentation: 05 marks<br>Interpretation of procedures : 05 marks<br>Completion of Worksheets : 05 marks<br>Total marks : 20 marks |
| Other comments | Course content and facilitators given in detail below |

**As per NMC:**

- Clinical posting should continue in morning session
- Duration for elective course : 2 Weeks (Afternoon session)

**12. COURSE CONTENT:**

| SR NO | LECTURES/ SEMINARS | CLINICAL POSTING/ PRACTICALS/DEMONSTRATIONS |
|---|---|---|
| Day 1 | Universal Safety precautions | Visit to Microbiology lab , observe cleaning maintenance and performance of tests in Biosafety cabinets |
| Day 2 | Collection of samples and common pre-analytical errors | Observing sample receiving in Bacteriology. |
| Day 3 | Study of Bacteria (Grams Staining) | Preparation of Grams stain, Staining of smear with Grams Stain and Observation |
| Day 4 | Study of Bacteria (ZN Staining) | Preparation of ZN Stain, Staining and observation of ZN Stain |
| Day 5 | Study of bacteria (Wet Mount &Hanging Drop )<br>Study of Bacteria (Special Stains) | Wet Mount and hanging drop preparation and observation.<br>Preparation of Albert's Stain, Staining and observation of Albert's Stain |
| Day 6 | Sterilization by Dry heat | Usage of Hot Air Oven |
| Day 7 | Sterilisation by Moist Heat | Usage of Autoclave and Inspissator |
| Day 8 | Disinfection | Various disinfectants in Lab and visit to CSSD |
| Day 9 | Culture medias | Preparation of Blood agar, MacConkey's agar and Muller Hinton Agar. |
| Day 10 | Biochemical's | Observe and Prepare Biochemical's like Catalase, Coagulase , IMViC, Urease , Oxidase & TSI etc.<br>Learn inoculation and interpretation |
| Day 11 | Aerobic Culture Methods<br>Anaerobic Culture Methods | Observe and hands on practice for inoculation of aerobic Samples<br>Observe and prepare smears from RCM<br>Use of candle jar |
| Day 12 | Antibiotic Sensitivity test &<br>Antimicrobial stewardship<br>Feedback about the course | Hands on experience in performing Kirby Bauer Disc Diffusion test and its interpretation. |

**COURSE FACILITATORS**: All faculty members of Microbiology department& laboratory technician in microbiology.

~~ANNEXURE NO: 1C~~

**Annexure-17C of AC-46/2023**

**Mahatma Gandhi Mission's College.**
**N-6 CIDCO, Aurangabad – 431003**
**DEPARTMENT OF MICROBIOLOGY**

**FEEDBACK FORM II MBBS [BLOCK I ] FOR ELECTIVE COURSE**

**ADMISSION BATCH :**

**NAME OF ELECTIVE**

**DATE : FROM ……..TO ----------**

**NAME OF STUDENT:**

**NAME OF PRECEPTOR:**

**FEEDBACK ABOUT THE COURSE**

| **PARAMETER** | **REMARK** |
|---|---|
| Learning objectives of the course is achieved | YES /NO |
| Topic of this elective course is useful | YES /NO |
| Any suggestions | |

**Annexure-19A of AC-46/2023**

# Elective 1: Learning activity in Block 1

# (Elective in Microbiology, Navi Mumbai):

| **Name of the Block** | **Block 1** |
|---|---|
| Name of the elective | Lab diagnosis in Bacterial Infections |
| Location of Hospital lab or research facility | Microbiology Laboratory, MGM Medical College and Hospital Navi Mumbai |
| Name of Internal Percepters | Dr A Hodiwala<br>Dr K Chaudhary |
| Name of External Percepters | Nil |
| Learning Objectives of the elective | • This elective posting will provide efficient and balanced training to 2nd Year MBBS students in Laboratory Medicine especially in the field of Bacteriology ..<br>• Students will receive a stimulating, challenging and supportive academic experience.<br>• This course will help a MBBS graduate to work in various lab settings in future including Public Health Laboratories, Research and Development and Quality assurance companies.<br>• The course will also deal with Collection of Information needed, Sampling, Testing, Reporting and Documentation of these investigations. |
| Number of Students that can be accomodated | 5 |
| Prerequisite for elective | Students to be Vaccinated with Hepatitis B and SARS COV 2<br>Gloves and masks for students<br>Files for worksheets |
| Learning resources for students | Textbook of Microbiology by R Ananthnarayan and Paniker<br>Textbook of Microbiology- Baweja<br>Mackie McCartney practical Medical Microbiology by Colle JG, Fraser AG |

| | |
|---|---|
| List of activities in which students will participate | Attend Theory lecture<br>Present seminars<br>Observe various test procedures<br>Perform and interpret common tests |
| Portfolio entries required | Not required |
| Worksheets entries required | Documentation of all tests observed and performed in worksheets duly Signed by Teacher / demonstrator with a "Meets expectation" (M) Grade. |
| Assessment | **Formative** : Day to day assessment based on :<br>• Attendance (5Marks)<br>• Presentations (5Marks)<br>• Performance of assigned tasks (5 Marks)<br>• Completion of worksheets (5 Marks)<br><br>TOTAL: 20 Marks<br><br>Those scoring 15 and above will be graded as E- Exceeds expectations<br>Those scoring below 15 shall be graded as M- Meets expectation |
| Other comments | Course content and facilitators given in detail below |

**As per NMC:**

- Time Duration: 2 Weeks
- Clinical Postings should continue

## COURSE CONTENT:

| SR NO | LECTURES/ SEMINARS | CLINICAL POSTING/ PRACTICALS/DEMONSTRATIONS |
|---|---|---|
| Day 1 | Universal Safety precautions | Visit to Microbiology lab , observe cleaning maintainence and performance of tests in Biosafety cabinets.<br>Observe biomedical waste disposal and perform hand washing. |
| Day 2 | Microscopy | Use, Handling and Care of Microscope and observe different samples under microscope. |
| Day 3 | Collection of samples and common pre-analytical errors | Observing sample collection procedure. |

| | | |
|---|---|---|
| Day 4 | Study of Bacteria (Grams Staining)<br>Study of Bacteria (ZN Staining) | Preparation of Grams stain, Staining of smear with Grams Stain and Observation<br>Preparation of ZN Stain, Staining and observation of ZN Stain. |
| Day 5 | Study of bacteria (Wet Mount and Hanging Drop)<br>Study of Bacteria (Special Stains) | Wet Mount and hanging drop preparation and observation<br>Preparation of India Ink slide, observe the slides after staining |
| Day 6 | Sterilization by Dry heat | Usage of Hot Air Oven , Flaming |
| Day 7 | Sterilisation by Moist Heat | Usage of Autoclave and Inspissator and Visit to CSSD |
| Day 8 | Disinfection | Usage of various disinfectants in Lab and visit to CSSD |
| Day 9 | Culture medias | Observe preparation of BA, CA, MA, MSA and Muller Hinton Agar. |
| Day 10 | Biochemicals | Observe and Prepare Biochemicals like Urease, TSI, Citrate, MR and Peptone water. Learn inoculation and interpretation of various biochemical reactions |
| Day 11 | Aerobic Culture Methods<br>Anaerobic Culture Methods | Observe and hands on practice for inoculation of aerobic Samples<br>Observe and prepare smears from RCM .<br>Use of candle jar |
| Day 12 | Antibiotic Sensitivity test and Antibiotic stewardship | Hands on experience in performing Kirby Bauer Disc Diffusion test and its interpretation. Learn about antibiotic policy making |
| Day 13 | Feedbacks and solving doubts | |

**COURSE FACILITATORS**: Dr A.Hodiwala
Dr S.Samant
Dr H.Kar
Dr S.Pachpute
Dr D.Khiste
Dr N.Singh
Dr K. Chaudhari
Ms A.Kore
Ms B. Gharat
Ms A Warang
Ms J Gawali
Mr V Yadav
Microbiology Technicians
Microbiology PhD scholars
Microbiology MD residents

**Annexure-19B of AC-46/2023**

# Elective 2: Learning activity in Block 1

# (Elective in Microbiology, Navi Mumbai):

| **Name of the Block** | **Block 1** |
|---|---|
| Name of the elective | Molecular, Mycobacteriology, Parasitology, Mycology Techniques |
| Location of Hospital lab or research facility | Microbiology Laboratory, MGM Medical College and Hospital Navi Mumbai |
| Name of Internal Percepters | Dr S Samant<br>Dr K Chaudhary |
| Name of External Percepters | Nil |
| Learning Objectives of the elective | • This elective posting will provide efficient and balanced training to 2nd Year MBBS students in Laboratory Medicine especially in the field of Molecular biology. Mycobacteriology, Parasitology and Mycology techniques<br>• Students will receive a stimulating, challenging and supportive academic experience.<br>• This course will help a MBBS graduate to work in various lab settings in future including Public Health Laboratories, Research and Development and Quality assurance companies.<br>• The course will also deal with Collection of Information needed, Sampling, Testing, Reporting and Documentation of these investigations. |
| Number of Students that can be accomodated | 5 |
| Prerequisite for elective | Vaccinated with Hepatitis B and SARS COV 2<br>Gloves and masks for students<br>Files for worksheets |
| Learning resources for students | Textbook of Microbiology by R Ananthnarayan and Paniker<br>Textbook of Microbiology- Baweja |

| | |
|---|---|
| | Textbook of parasitology- Baweja<br>Mackie McCartney practical Medical Microbiology by Colle JG, Fraser AG |
| List of activities in which students will participate | Attend Theory lecture<br>Present seminars<br>Observe various test procedures<br>Perform and interpret common tests |
| Portfolio entries required | Not required |
| Worksheets entries required | Documentation of all tests observed and performed in worksheets duly Signed by Teacher / demonstrator with a "Meets expectation" (M) Grade. |
| Assessment | **Formative** : Day to day assessment based on :<br>• Attendance (5Marks)<br>• Presentations (5Marks)<br>• Performance of assigned tasks (5 Marks)<br>• Completion of worksheets (5 Marks)<br><br>TOTAL: 20<br><br>Those scoring 15 and above will be graded as E- Exceeds expectations<br>Those scoring below 15 shall be graded as M- Meets expectation |
| Other comments | Course content and facilitators given in detail below |

**As per NMC:**

- Time Duration: 2 Weeks
- Clinical Postings should continue

## COURSE CONTENT:

| SR NO | LECTURES/ SEMINARS | CLINICAL POSTING/ PRACTICALS/DEMONSTRATIONS |
|---|---|---|
| Day 1 | Wet mount and Iodine preparation and Concentration methods for stool examination for detection of parasites | Observe and perform any one stool concentration method and stool examination |
| Day 2 | Lab diagnosis of Malaria | Observe and prepare peripheral smears for Malarial parasite. Observe and interpret RMA test. |

| | | |
|---|---|---|
| Day 3 | Parasitic infections in immunocompromised | Observe and perform modified ZN method for detection of Cryptosporidium and Isosporidium |
| Day 4 | Lab diagnosis of Fungal infections | Observe inoculation on SDA, KOH mount preparation, India Ink preparation and slide culture. |
| Day 5 | Lab Diagnosis of Tuberculosis (conventional methods) | Observe Demonstration of sputum concentration and Culture on LJ medium and MGIT. Visit to DOTS centre |
| Day 6 | Lab Diagnosis of Tuberculosis (Molecular Methods) | Demonstration of GENE Xpert for tuberculosis . |
| Day 7 | Lab Diagnosis of Viral infections | Observing all serological tests performed in Microbiology lab and getting to know how to interpret them. |
| Day 8 | Polymerase Chain reaction | Observe Demonstration of GENE Xpert /RT PCR for viral infections. |
| Day 9 | ELISA | Visit to MGM Kalamboli hospital lab for Observation and Demonstration of ELISA test and Interpretation by calculating the cut off point |
| Day 10 | Lab Diagnosis of HIV | Demonstration in ICTC lab and learn pre and post test councelling |
| Day 11 | Viral Load | Observe Demonstration of HIV Viral load detection and visit to ART centre |
| Day 12 | Flowcytometry for CD4/ CD8 count | Observe demonstration of Flowcytometry for CD4 /CD8 count. |
| Day 13 | Feedbacks and solving doubts | |

**COURSE FACILITATORS**: Dr A.Hodiwala
Dr S.Samant
Dr H.Kar
Dr S.Pachpute
Dr D.Khiste
Dr N.Singh
Dr K. Chaudhari
Ms A.Kore
Ms B. Gharat
Ms A Warang
Ms J Gawali
Mr V Yadav
Microbiology Technicians
Microbiology PhD scholars
Microbiology MD residents

# ELECTIVES
# FORENSIC MEDICINE

Elective in Forensic Medicine

| | |
|---|---|
| Name of Block | Block 1 |
| Name of Elective | Clinical Forensic Medicine |
| Location of hospital lab or research facility | Emergency Room of _____Medical College & Hospital. |
| Name of internal preceptor(s) | Faculty of Forensic Medicine Department & On duty Casualty Medical Officer |
| Name of external preceptor (if any) | N/A |
| Learning objectives of the elective | 1. To make the student able to identify the cases having medico legal potential.<br>2. To make the student able to learn all the statutory requirements & duties to be carried out by a registered medical practitioner in medico legal cases brought by police/patient himself/relatives or any other person.<br>3. To make the student able to communicate to the competent authority (police) and relatives/kin of the patient in medico legal cases under supervision.<br>4. To make the student learn to record all the required details in the medico legal register and the OPD case sheet/book in medico legal cases under supervision.<br>5. To make the student learn to examine the injuries (with different etiologies)/poisoning cases and learn to prepare injury certificates under supervision.<br>6. To make the student learn collection, preservation & deposition of required samples/evidences in the injury (with different etiologies) /poisoning or any other medico legal cases with proper precautions for maintenance of chain of custody under supervision.<br>7. To make the student learn age estimation in medico legal cases as a collaborative exercise with other responsible departments like Radio-diagnosis, Dentistry and Obst. & Gynaecology.<br>8. To make the student learn examination of a drunk person & prepare drunkenness report along with statutory medico legal requirements under supervision.<br>9. To make the student learn examination of accused of sexual offences & prepare its report along with statutory medico legal requirements under supervision.<br>10. To make the student learn examination of victim of sexual offences & prepare its report along with statutory medico legal requirements under supervision of faculty of Obst. & Gynaecology. |

| | |
|---|---|
| | 11. To make the student able to record dying declaration under supervision. |
| Number of students that can be accommodated in this elective | 4 |
| Prerequisites for the elective | Basic Knowledge of different medico legal cases and relevant laws related to offences against human body. |
| Learning resources for students | Textbooks of Forensic Medicine, Literature and Format of certificate for documentation of medico legal cases |
| List of activities in which the student will participate | 1. Work daily with a supervisor by observing & assisting the handling of various medico legal cases.<br>2. Assist in maintaining the medico legal register & documents.<br>3. Observe the medico legal reports preparation done by the supervisor.<br>4. Participate in communication with the competent authority (police) and relatives/kin of the patient in medico legal cases under supervision.<br>5. Assist in collection, preservation & deposition of required samples/evidences in the injury (with different etiologies) /poisoning or any other medico legal cases with proper precautions for maintenance of chain of custody under supervision.<br>6. Case presentation of least 6 (Six) different medico legal cases. |
| Portfolio entries required | 1. Documentation of examined Medico legal cases.<br>2. Presentation of Documented Medico legal case. |
| Log book entry required | Completion of posting signed by preceptor & Head of the department with a “Meets the expectations ‘(M)’ grade” |
| Assessment | Formative:<br>1. Attendance<br>2. Day-to-day participation in Medico legal cases<br>3. Performance of assigned tasks in Medico legal case<br>4. Presentation of Medico-Legal cases |
| Other comments | 1. 75% attendance Mandatory<br>2. Student Must complete the assigned learning List of activities. |

| | |
|---|---|
| Name of Block | Block 1 |
| Name of Elective | Medical Jurisprudence |
| Location of hospital lab or research facility | Medical Record Department (MRD) & Forensic Medicine Department of _____ Medical College & Hospital. |
| Name of internal preceptor(s) | Faculty of Forensic Medicine Department |
| Name of external preceptor (if any) | N/A |
| Learning objectives of the elective | 1. CONSENT IN MEDICAL PRACTICE:<br>i. To make the student understand the types and importance of consent & its documentation in medical practice.<br>ii. To make the student learn various components of a valid consent.<br>iii. To make the student learn Indian laws relevant to consent in different scenario.<br>iv. To make the student able to analyse the consent forms for various procedures from the case files.<br>v. To make the student able to obtain procedure specific valid consent under supervision.<br>2. MEDICAL NEGLIGENCE:<br>i. To make the student learn various components of medical negligence.<br>ii. To make the student study the judgements given by Consumer Disputes Redressal Commissions in medical negligence cases.<br>iii. To make the student learn to opine in cases of medical negligence. |
| Number of students that can be accommodated in this elective | 4 |
| Prerequisites for the elective | Basic Knowledge of Consent and Medical negligence. |
| Learning resources for students | Textbooks of Forensic Medicine, Case files in the Medical Record Department, Compendium of CPA Medical Judgements |
| List of activities in which the student will participate | Morning Hours: (At the MRD)<br>1. Study the case sheets and consent forms from the case files at Medical Record Department selected by the Faculty of Forensic Medicine Department under supervision. |

| | |
|---|---|
| | 2. Study various components of a valid consent in the consent forms & validity of the consent forms as per Indian laws.<br>3. Design/formulate at least 5 procedure specific consent forms.<br>4. Observe & participate with the clinician in obtaining the consent for various procedures (at least once in a week by visiting the wards as per instructions from the faculty of Forensic Medicine).<br><br>AFTERNOON HOURS: (At Forensic Medicine department)<br><br>1. Study at least 8 cases of Medical negligence from the literature made available by the department of Forensic Medicine during 4 weeks.<br>2. Spend 2 days for studying the facts of the case and 1 day for case presentation & discussion per case. (2 cases per week)<br>3. Active participation in case discussion. |
| Portfolio entries required | 1. Documentation of examined case files and consent forms.<br><br>2. At least 2 procedure specific consent forms.<br><br>3. Documentation of studied cases of medical negligence. |
| Log book entry required | Completion of posting signed by preceptor & Head of the department with a "Meets the expectations '(M)' grade" |
| Assessment | Formative:<br><br>1. Attendance<br>2. Day-to-day participation in case files & consent forms.<br>3. Performance of assigned tasks with relation to obtaining the consent.<br>4. Active participation in case discussions of medical negligence. |
| Other comments | 1. 75% attendance Mandatory<br>2. Student Must complete the assigned learning List of activities. |

# Annexure-28 of AC-46/2023

~~Annexure 2~~

Academic calender CBME Batch 2019
Phase IV ( III MBBS Part II )

| | |
|---|---|
| Commencement of term- | 27-3-23 |
| Electives- | 27 March 23 to 23 Apr 23 |
| Clinical postings- | 24 Apr 23 to 17 Dec 23 |
| First term exam- | 25 Sept 23 to 28 sept 23 |
| No vacations in summer & winter | |
| Prelim- | 22 Dec 23 to 4 J an 24 |
| University exam- | Feb 24 |

# Annexure-29A of AC-46/2023

~~ANNEXURES 3 A~~

Block 2 Learning experience – Elective Posting

| | | |
|---|---|---|
| Name of Block | Block 2 | |
| Name of elective | DIABETES CLINIC | |
| Location of training | MGM Medical College, Navi Mumbai | |
| Name of internal preceptor | Dr. Sandeep Rai<br>Dr. Vandana Dandekar<br>Dr. Matti Sreeram Praveen | |
| Name of external preceptor | Not applicable | |
| Learning objectives of electives | At the end of this posting, the candidate<br>1. To be able to describe the presenting complaints and etiopathogenesis of patients of diabetes mellitus and to know what type of diabetes mellitus the patient is having.<br>2. To be able to analyse investigations and prescribe treatment to patients presenting with diabetes mellitus.<br>3. To be able counsel patients regarding diet to be taken in diabetes mellitus.<br>4. To be able to enumerate the indications and complications of diabetes mellitus.<br>5. To be able to manage a patient of diabetic ketoacidosis in an emergency room.<br>6. To be able to prescribe the type of medicines in patients of diabetes mellitus based on the blood investigations. | |
| Number of students that can be accommodated in this elective | Upto 5 | |
| Pre-requisites for this elective | Must have completed at least two Hepatitis B vaccination and covid vaccination. | |
| List of activities of student participation<br><br><u>Schedule of posting</u><br>• 1000 Hrs to 1300 Hrs – Observation and presentation<br>• 1300 Hrs – 1330 Hrs – Lunch break<br>• 1330 Hrs – 1400 Hrs – Summarising whatever was observed, discussed or performed. | Day 1 | To know what is diabetes mellitus and classification of diabetes mellitus. |
| | Day 2 | To describe the etiopathogenesis of diabetes mellitus. |
| | Day 3 | To analyse the investigations ordered for the above patients. |
| | Day 4 | Classification of oral hypoglycemic agents, adverse effects and dosage and combination of oral hypoglycemic agents. |

| | | |
|---|---|---|
| • 1400 Hrs - 1530 Hrs – Writing whatever was observed, discussed or performed in the logbook<br><br>• 1530 Hrs – 1600 Hrs – Logbook to be checked by preceptor. | Day 5 | To observe of different hypoglycemic agents are prescribed to the patients based on their blood investigations. |
| | Day 6 | Classification of insulins and mechanism of action of different insulins and duration of action of different insulins. |
| | Day 7 | Observe How insulins are prescribed to patients. |
| | Day 8 | Complications of diabetes mellitus. |
| | Day 9 | To observe emergency management of diabetic keto acidosis. |
| | Day 10 | Importance of fundus examination in cases of diabetes mellitus and how to do a fundus examination. |
| | Day 11 | Renal dose adjustments of oral hypoglycemic agents. |
| | Day 12 | Diet to be adviced in patients of diabetes mellitus. |
| | Day 13 | Importance of ketogenic diet. |
| | Day 14 | To observe the need of admission in patients of uncontrolled diabetes mellitis. |
| | Day 15 | Complete the logbook.<br><br>Logbook assessment by preceptor.<br><br>Feedback of performance by preceptor to candidate.<br><br>Feedback of session content and execution by candidate to preceptor. |
| Learning resources | 1. Harrison textbook of medicine<br>2. K.D.Tripathi textbook of pharmacology<br>3. Davidson textbook of medicine. | |
| Portfolio entries required | Assignments provided:<br>1. Four fully worked up case records that have been presented. | |
| Logbook entry required | Satisfactory completion of posting by a preceptor with an M grade ( meets expectation) | |
| Assessment | Attendance<br>Formative:<br>1. Participation of OP and IP rounds<br>2. Presentation of worked up cases<br>3. Portfolio entry<br>4. Logbook entry<br>5. Daily attendance. | |
| Other comments | | |

# Annexure-29B of AC-46/2023

~~**ANNEXURES 3 B**~~

Block 2 Learning experience – Elective Posting

| | |
|---|---|
| Name of Block | Block 2 |
| Name of elective | Gastroenterology |
| Location of training | MGM Medical College, Navi Mumbai |
| Name of internal preceptor | Dr. Raoshaheb Rathod<br>Dr. Mayur Garg<br>Dr. Junaid Ahmed |
| Name of external preceptor | Not applicable |
| Learning objectives of electives | At the end of this posting, the candidate<br><br>7. To be able to take detailed history, perform full physical examination and make a clinical diagnosis.<br>8. To be able to perform and interpret relevant investigations (Imaging and Laboratory).<br>9. To be able to diagnose gastroenterological illnesses in adults based on the analysis of history, physical examination and investigative work up.<br>10. To be able to plan and deliver comprehensive treatment for illness in adults using principles of rational drug therapy.<br>11. To be able to plan and advise measures for the prevention of gastroenterological diseases.<br>12. To be able to plan rehabilitation of adults suffering from chronic illness, and those with special needs.<br>13. To be able to identify or diagnose gastroenterological emergencies efficiently.<br>14. To be able to demonstrate communication skills of a high order in explaining management and prognosis, providing counseling and giving health education messages to patients, families and |

<table>
<tr><td></td><td colspan="2">communities.<br>15. To be able to describe the steps of ascitic taping, nasogastric tube insertion, upper GI endoscopy, sigmoidoscopy, colonoscopy and liver biopsy procedure under a supervised environment.</td></tr>
<tr><td>Number of students that can be accommodated in this elective</td><td colspan="2">Upto 5</td></tr>
<tr><td>Pre-requisites for this elective</td><td colspan="2">Must have completed at least two Hepatitis B vaccination and COVID vaccination.</td></tr>
<tr><td rowspan="5">List of activities of student participation<br><br><u>Schedule of posting</u><br><br>• 1000 Hrs to 1300 Hrs – Observation and presentation<br><br>• 1300 Hrs – 1330 Hrs – Lunch break<br><br>• 1330 Hrs – 1400 Hrs – Summarising whatever was observed, discussed or performed.<br><br>• 1400 Hrs - 1530 Hrs – Writing whatever was observed, discussed or performed in the logbook<br><br>• 1530 Hrs – 1600 Hrs – Logbook to be checked by preceptor.</td><td>Day 1</td><td>To observe the presenting complaints of patients assigned to each candidate.(Acute viral hepatitis, chronic hepatitis, cirrhosis of liver, hepatic encephalopathy).</td></tr>
<tr><td>Day 2</td><td>To describe the etiopathogenesis of the disease afflicting the patient assigned to each candidate.</td></tr>
<tr><td>Day 3</td><td>To analyse the investigations ordered for the above patients.<br><br>To observe prescription advised to each patient.</td></tr>
<tr><td>Day 4</td><td>To describe the anatomy of esophagus, stomach, small intestine and large intestine with their blood supply and venous and lymphatic drainage.<br><br>To describe anatomy of liver and hepatobiliary system.<br><br>To describe anatomy of pancreas.</td></tr>
<tr><td>Day 5</td><td>To observe the presenting complaints of patients assigned to each candidate. (upper and lower gastrointestinal bleed, acute abdomen, inflammatory bowel disease, abdominal</td></tr>
</table>

| | | |
|---|---|---|
| | | tuberculosis). |
| | Day 6 | To describe the etiopathogenesis of the disease afflicting the patient assigned to each candidate. |
| | Day 7 | To analyse the investigations ordered for the above patients.<br><br>To observe prescription advised to each patient. |
| | Day 8 | To observe and assist<br>1. Nasogatric tube insertion<br>2. Ascitic taping |
| | Day 9 | To observe Upper GI Endoscopy under supervision.<br><br>To observe colonoscopy under supervision.. |
| | Day 10 | To counsel patients regarding diet to be adhered to. |
| | Day 11 | Present a case of cirrhosis of liver during the posting. |
| | Day 12 | Present a case of acute viral hepatitis during the posting. |
| | Day 13 | Present a case of acute abdomen assigned during the posting. |
| | Day 14 | Present a case of upper/lower GI bleed assigned during the posting. |
| | Day 15 | Complete the logbook.<br><br>Logbook assessment by preceptor.<br><br>Feedback of performance by preceptor to candidate.<br><br>Feedback of session content and execution |

| | | |
|---|---|---|
| | | by candidate to preceptor. |
| Learning resources | 1. Harrison textbook of medicine<br>2. Diseases of the Liver & Biliary System- Sheila Sherlock | |
| Portfolio entries required | Assignments provided:<br>2. Four fully worked up case records that have been presented. | |
| Logbook entry required | Satisfactory completion of posting by a preceptor with an M grade ( meets expectation) | |
| Assessment | Attendance<br>Formative:<br>6. Participation of OP and IP rounds<br>7. Presentation of worked up cases<br>8. Portfolio entry<br>9. Logbook entry | |
| Other comments | Training sessions of resources which are not available in the college campus will be conducted in suitable pre-decided locations in Navi Mumbai, Mumbai or Thane. | |

~~ANNEXURES 3C~~ **Annexure-29C of AC-46/2023**

| | |
|---|---|
| Name of Block | Block 2 |
| Name of Elective | Clinical infectious disease |
| Location of hospital Lab or research facility | MGM Medical college hospital |
| Name of internal preceptor(s) | Dr. Apoorva Nirmal<br>Dr. Ahmed Khan |
| Name of external preceptor if applicable | N/A |
| Learning objectives of elective | 1. To function as part of an infectious disease team<br>2. To be able to approach and investigate infection outbreaks<br>3. Get hands on experience on contact tracing, community isolation measures, and use of technology to detect infectious diseases<br>4. To understand the principles of the management of community and hospital acquired infections<br>5. To understand the principles of antibiotics stewardship in order to prevent antibiotic resistance |
| Number of students that can be accommodated in this elective | 3-5 |
| Prerequisites for elective | Universal precautions and must have taken required immunizations; CPR training |

| | |
|---|---|
| List of activities of student participation | 1. Participate in inpatient and outpatient team rounds<br>2. Participate in emerging community outbreak infection control (eg COVID-19)<br>3. Counsel patients on correct precautions during outbreaks<br>4. Diagnose and understand the principles in the management of infectious diseases<br>5. Liaise with the laboratory in the diagnosis<br>6. Present at least one patient or outbreak investigation in the departmental meeting<br>7. Observe and record the cases of antibiotic resistance in the hospital setup. |
| Learning Resources | API textbook of medicine |
| Portfolio entries required | Case record of at least one patient<br>Record of patient counseling session or contact tracing done<br>Record of investigations done for infectious diseases |
| Log book entry required | Satisfactory completion of posting by preceptor |
| Assessment | Daily Attendance,<br>Successful verification of required portfolio entries,<br>Successful completion of the posting as certified in the log book with a “meets expectation ‘M’ grade”<br>Formative assessment<br>Feedback questionnaire |
| Other comments | |

~~ANNEXURE 3D~~ **Annexure-29D of AC-46/2023**

| | |
|---|---|
| Name of Block | Block 2 |
| Name of Elective | MICU |
| Location of hospital Lab or research facility | MGM Medical college hospital |
| Name of internal preceptor(s) | Dr. Badal Taori<br>Dr.Shripal Jain<br>Dr. Prashant Kaushik |
| Name of external preceptor if applicable | N/A |
| Learning objectives of elective | 6. To function as part of a critical care team<br>7. To learn the ICU bedside etiquettes including hand sanitization, barrier nursing and communication with non intubated patients<br>8. Monitor hemodynamics,oxygenation,blood chemistry and acid base balance in critically ill patient<br>9. Medical knowledge of drugs used in ICU<br>10. Clinical knowledge and management of various systems including respiratory, endocrine, neurology, nephrology, cardiovascular, hepatobiliary and git<br>11. Observe and assist in various procedure being performed in ICU<br>12. To observe CPR<br>13. Communication with relatives and breaking the bad news |
| Number of students that can be accommoda ted in this elective | 3-5 |
| Prerequisites for elective | Universal precautions and must havetaken required immunizations; CPR training |

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| List of activities of student participation<br><br>**SCHEDULE**<br><br>• 1000 Hrs to 1300 Hrs – Observation and presentation<br><br>• 1300 Hrs – 1330 Hrs – Lunch break<br><br>• 1330 Hrs – 1400 Hrs – Summarising whatever was observed, discussed or performed.<br><br>• 1400 Hrs - 1530 Hrs – Writing whatever was observed, discussed or performed in the logbook<br><br>• 1530 Hrs – 1600 Hrs – Logbook to be checked by preceptor. | | 1. Orientation of critical care and hemodynamic monitoring<br><br>2. Perform, assist, observe and interpret<br>a) Perform and analyses of ECG,Capillary blood glucose ,urine ketone by dip stick<br><br>b) Assist and interpret ABG<br><br>c) Observe procedures including ICD insertion (depending upon availability) Central venous catheter insertion, Arterial line, Endotracheal intubation<br><br>d) Observe and assist Ryle's tube and Foleys catheter, IV cannulation<br><br>e) Observe various oxygen therapy and Nebulization<br><br>f) Observe Mechanical ventilation(invasive and non invasive)<br><br>g) Observe CPR<br><br>3. Observe how to order a prescription and pharmacology of various drugs:<br>a) Antiarrhythmic<br>b) Anti hypertensives<br>c) Inotropes and Vasopressors<br>d) Antimicrobials<br>e) Antithrombotic and anticoagulation<br>f) Sedatives,analgesics &neuromuscular blockers<br><br>4. Management of shock and hypertensive urgency and emergencies and observe counselling with relatives<br><br>5. Diagnosis and management of various systems including cardiovascular,respiratory,neurology, |

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| | Day- 15 | nephrology,gastroenterology and endocrinology) and observe counselling with relatives<br><br>6. Observe counselling, daily update of patient's condition to relatives and breaking bad news to relatives<br><br>7. 2 Case presentations as ordered by the preceptors<br><br>• Complete the logbook.<br>• Logbook assessment by preceptor.<br>• Feedback of performance by preceptor to candidate.<br>• Feedback of session content and execution by candidate to preceptor. |

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| Learning Resources | Paul Marino's ICU Book<br>Harrison textbook of medicine<br>Wellington manual of ICU<br>ICU protocol<br>Sanjay Pandya's Textbook for fluid management |
| Portfolio entries required | Case record of 2 patients<br>Reflections of the various procedure and interpretation of ECG & ABG<br>Record of patient counseling session<br>Record of procedure done, assisted and observed |
| Log book entry required | Satisfactory completion of posting by preceptor with M grade |

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| Assessment | • Daily Attendance,<br>• Participation of ICU rounds<br>• Successful verification of requiredportfolio entries,<br>• Successful completion of the posting as certified in the log book with a “meets expectation ‘M’ grade”<br>• Formative assessment<br>• Feedback questionnaire |
| Other comments | |

Block 2 Learning experience – Elective Posting

| | | |
|---|---|---|
| Name of Block | Block 2 | |
| Name of elective | Stroke Unit | |
| Location of training | MGM Medical College, Navi Mumbai | |
| Name of internal preceptor | Dr. Virti Shah<br>Dr. Rahul Jankar<br>Dr. Manjari Shukla | |
| Name of external preceptor | Not applicable | |
| Learning objectives of electives | At the end of this posting, the candidate<br>16. To be able to take detailed history with emphasis on risk factors for stroke.<br>17. To be able to examine and elicit clinical signs in a stroke patient.<br>18. To be able to evaluate and interpret relevant investigations in a stroke patient.<br>19. To be able to interpret radiological findings in a stroke patient.<br>20. To be able to treat acute stroke and prescribe medications for preventing secondary stroke.<br>21. To be able to counsel relatives with emphasis on neurorehabilitation. | |
| Number of students that can be accommodated in this elective | Upto 5 | |
| Pre-requisites for this elective | None | |
| List of activities of student participation<br><br><u>Schedule of posting</u><br>• 1000 Hrs to 1300 Hrs – Observation and presentation<br>• 1300 Hrs – 1330 Hrs – Lunch break<br>• 1330 Hrs – 1400 Hrs – Summarising whatever was observed, discussed or performed. | Ward and MICU<br>(6 Days) | To observe detailed history taking in a stroke patient.<br>To observe detailed motor and sensory examination in a stroke patient.<br>To observe detailed cerebellar examination in a stroke patient.<br>To observe detailed cranial nerve examination in a stroke patient. |

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| • 1400 Hrs - 1530 Hrs – Writing whatever was observed, discussed or performed in the logbook<br><br>• 1530 Hrs – 1600 Hrs – Logbook to be checked by preceptor. | OPD<br>(2 Days) | To observe interpretation of-<br>3. Blood investigations<br>4. ECG in a stroke patient |
| | | To observe interpretation of CT and MRI findings in a stroke patient. |
| | | To observe the medicines prescribed for secondary prevention of stroke. |
| | | To counsel patient and relatives about care and rehabilitation in stroke. |
| | ER<br>(2 Days) | To observe treatment of acute stroke. |
| | Physiotherapy Department<br>(1 Day) | To observe neurorehabilitation in a stroke patient. |
| | Ward<br>(4 Days) | Present a case of acute ischemic stroke(anterior circulation) assigned during the posting. |
| | | Present a case of acute ischemic stroke (posterior circulation) assigned during the posting. |
| | | Present a case of haemorrhagic stroke assigned during the posting. |
| | | Present a case of haemorrhagic stroke assigned during the posting. |
| | | Complete the logbook.<br><br>Logbook assessment by preceptor.<br><br>Feedback of performance by preceptor to candidate.<br><br>Feedback of session content and execution by candidate to preceptor. |

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| Learning resources | 3. Bickerstaff's Neurological Examination in Clinical Practice<br>4. DeJong's Neurologic Examination<br>5. Caplan's Stroke-A Clinical Approach |
| Portfolio entries required | Assignments provided:<br>3. Four fully worked up case records that have been presented. |
| Logbook entry required | Satisfactory completion of posting by a preceptor with an M grade ( meets expectation) |
| Assessment | Attendance<br>Formative:<br>10. Participation of OP and IP rounds<br>11. Presentation of worked up cases<br>12. Portfolio entry<br>13. Logbook entry |
| Other comments | None |

# Annexure-29F of AC-46/2023

~~**ANNEXURE 3 F**~~

Block 2 Learning experience – Elective Posting

| | |
|---|---|
| Name of Block | Block 2 |
| Name of elective | Nephrology |
| Location of training | MGM Medical College, Navi Mumbai |
| Name of internal preceptor | Dr. Aditya Nayak<br>Dr. Supriya Bangar<br>Dr. Rohit Khapre |
| Name of external preceptor | Not applicable |
| Learning objectives of electives | 22. To describe the presenting complaints and etiopathogenesis of patients afflicted with Acute Kidney Injury (AKI), Chronic Kidney Disease (CKD), Nephrotic syndrome and Acute nephritis.<br>23. To analyse investigations and prescribe treatment to patients presenting with AKI, CKD, Nephrotic syndrome and acute nephritis.<br>24. To counsel patients regarding diet to be taken in CKD.<br>25. To observe hemodialysis and peritoneal dialysis sessions under supervision.<br>26. To observe pre-operative evaluation and post-operative care of a patient undergoing kidney transplantation.<br>27. To observe urinary catheterisation, temporary hemodialysis catheter insertion, long-term tunnelled hemodialysis catheter insertion and kidney biopsy procedure under a supervised environment.<br>28. To perform as a team member in a multi-disciplinary approach to management of chronic kidney disease. |
| Number of students that can be accommodated in this elective | 1 to 3 |

<table>
<tr><td>Pre-requisites for this elective</td><td colspan="2">Must have completed at least two Hepatitis B vaccination.</td></tr>
<tr><td rowspan="6">List of activities of student participation<br><br><u>Schedule of posting</u><br><br>• 1000 Hrs to 1300 Hrs – Observation and presentation<br><br>• 1300 Hrs – 1330 Hrs – Lunch break<br><br>• 1330 Hrs – 1400 Hrs – Summarising whatever was observed, discussed or performed.<br><br>• 1400 Hrs - 1530 Hrs – Writing whatever was observed, discussed or performed in the logbook<br><br>• 1530 Hrs – 1600 Hrs – Logbook to be checked by preceptor.</td><td>Day 1</td><td>To observe the presenting complaints of patients assigned to each candidate.(acute kidney injury, chronic kidney disease, nephrotic syndrome and acute nephritis).</td></tr>
<tr><td>Day 2</td><td>To describe the etiopathogenesis of the disease afflicting the patient assigned to each candidate.(AKI, CKD, Nephrotic syndrome and acute nephritis)</td></tr>
<tr><td>Day 3</td><td>To analyse the investigations ordered for the above patients.<br><br>To observe prescription advised to each patient.</td></tr>
<tr><td>Day 4</td><td>To describe the anatomy of arterial system and venous drainage of upper limbs and lower limbs.<br><br>To describe anatomy of kidneys, ureters and bladder.<br><br>To describe anatomy of peritoneum.</td></tr>
<tr><td>Day 5</td><td>To observe<br>5. Temporary hemodialysis catheter insertion<br>6. Long-term hemodialysis catheter insertion.<br>7. Peritoneal dialysis catheter insertion.<br>8. Kidney biopsy procedure.<br>9. Arteriovenous fistula surgery.</td></tr>
<tr><td>Day 6</td><td>To observe hemodialysis session under supervision.</td></tr>
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| | | To observe peritoneal dialysis session under supervision. |
| | Day 7 | To counsel patients on dialysis regarding diet to be adhered to.<br><br>To counsel patients regarding care of hemodialysis catheters and areterio-venous fistulae. |
| | Day 8 | To observe the pre-operative evaluation of kidney transplantation recipient. |
| | Day 9 | To observe the post-operative care of the patient undergoing kidney transplantation. |
| | Day 10 | The observe the functioning of a Water Treatment System used for hemodialysis |
| | Day 11 | Present a case of acute kidney injury assigned during the posting. |
| | Day 12 | Present a case of chronic kidney disease assigned during the posting. |
| | Day 13 | Present a case of nephrotic syndrome assigned during the posting. |
| | Day 14 | Present a case of acute nephritis assigned during the posting. |
| | Day 15 | Complete the logbook.<br><br>Logbook assessment by preceptor.<br><br>Feedback of performance by preceptor to candidate.<br><br>Feedback of session content and execution by candidate to preceptor. |
| Learning resources | 6. Schrier's Manual of Nephrology<br>7. Oxford Handbook of dialysis | |

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| Portfolio entries required | Assignments provided:<br>4. Four fully worked up case records that have been presented. |
| Logbook entry required | Satisfactory completion of posting by a preceptor with an M grade ( meets expectation) |
| Assessment | Attendance<br>Formative:<br>14. Participation of OP and IP rounds<br>15. Presentation of worked up cases<br>16. Portfolio entry<br>17. Logbook entry |
| Other comments | Training sessions of resources which are not available in the college campus will be conducted in suitable pre-decided locations in Navi Mumbai, Mumbai or Thane. |

~~ANNEXURE 6A~~

# ELECTIVE – COMPREHENSIVE THALESSEMIA CARE

| | | |
|---|---|---|
| 1 | Name of Book | Clinical |
| 2 | Name of elective | COMPREHENSIVE THALASSEMIA CARE |
| 3 | Location | Department of Pediatrics, Hospital Building,<br>MGM Hospital, Kamothe |
| 4 | Name of Internal Professor (5) | Dr. Bageshree Seth<br>Dr. Revati N.<br>Dr. Roshni Patingere |
| 5 | Name of External Professor | Dr. Ratna Sharma (CTC- PHO- BMT Centre, Borivali) |
| 6 | Learning objectives of the elective | 1. To diagnose thalassemia on the basis of clinical features and investigations<br>2. To describe the treatment and monitoring protocol in a thalassemia patient<br>3. To observe and participate in counseling parents of newly diagnosed thalassemia patient.<br>4. To observe and demonstrate the procedure of starting blood transfusion.<br>5. To enumerate and describe transfusion reactions and management<br>6. To enumerate methods for prevention of thalassemia in children<br>7. To observe the working of a bone marrow transplant center |
| 7 | Number of students that can be accommodated in the elective | 6 (six) |
| 8 | Pre – requisites for the elective | Vaccination against Hep. B infection |
| 9 | Learning resources for students | **Online resource:**<br>1. 2021 guidelines for the management of Transfusion dependent Thalassemia (TDT) (thalassemia. org).<br>2. Management of transfusion dependent Thalassemia by Dr. Anupam Sachdeva (Hand Book) |
| 10 | List of activities in which student will participate | 1. Attend indoor rounds with the unit<br>2. Present two cases of thalassemia<br>3. Observe and start blood transfusion in thalassemia patients.<br>4. Observed IV Cannulation and blood collection in thalassemia patients.<br>5. Make a poster /PPT / Video on Thalassemia awareness. |
| 11 | Portfolio entries required | • Case records of the cases presented<br>• Poster / PPT / Video on awareness reflections of BMT center visit. |
| 12 | Log book entry required | Satisfactory completion of posting authenticated by preceptor |
| 13 | Assessment | • Attendance<br>• Verification of portfolios entries. |

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| | | • Successful completion of posting as certified in log book with a 'M' meets expectation grade. |

Dr. Vijay Kamale
Prof & HOD
Department of Paediatrics

# ~~ANNEXURE 6B~~

ELECTIVE-PICU

| | | |
|---|---|---|
| 1 | Name of Book | Clinical |
| 2 | Name of elective | PEDIATRIC INTENSIVE CARE |
| 3 | Location | Department of Pediatrics, Hospital Building,<br>MGM Hospital, Kamothe |
| 4 | Name of Internal Professor (5) | Dr. Jeetendra Gavhane<br>Dr. Suhas Kharche<br>Dr. Priyanka Amonkar |
| 5 | Learning objectives of the elective | 8. Recognition of sick child on the bsais of initial impression, primary assessment and secondary assessment<br>9. Identify the problem leading to sick child and to know primary intervention<br>10. To observe and participate in management of common pediatric emergencies |
| 6 | Number of students that can be accommodated in the elective | 6 (six) |
| 7 | Pre – requisites for the elective | Vaccination against Hep. B infection |
| 8 | Learning resources for students | **Online resource:**<br>3. Roger's textbook of pediatric intensive care<br>4. IAP ALS handbook 2022 |
| 9 | List of activities in which student will participate | 6. Attend PICU rounds with the unit<br>7. Participate as a team member in management of sick child<br>8. Observe and understand procedures and interventions such as CPR intubation interosseous etc.<br>9. Make a PPT on management protocol for common pediatric emergencies. |
| 10 | Portfolio entries required | • Case records of the cases presented /participated<br>• PPT on management protocol for pediatric emergencies. |
| 11 | Log book entry required | Satisfactory completion of posting authenticated by preceptor |
| 12 | Assessment | • Attendance<br>• Verification of portfolios entries.<br>• Successful completion of posting as certified in log book with a 'M' meets expectation grade. |

# ~~ANNEXURE 6C~~

## Elective-NICU

| | | |
|---|---|---|
| 1 | Name of Book | Clinical |
| 2 | Name of elective | NEONATAL VENTILATION |
| 3 | Location | Department of Pediatrics, Hospital Building,<br><br>MGM WOMEN AND CHILD HOSPITAL, Kalamboli |
| 4 | Name of Internal Professor (5) | Dr. Vijay Kamale<br><br>Dr. Vikas Gupta<br><br>Dr. Rupali Jain |
| 5 | Name of External Professor | Dr. Prasanna Kulkarni (V. N Desai Hospital ) |
| 6 | Learning objectives of the elective | 1. Learn difference between Invasive and non invasive mode of ventilation.<br>2. Basics of NRP<br>3. Non invasive HHHFNC, Bubble Cpap, NIPPV, Airvo ventilation<br>4. Invasive mode ( PRVC/PC-AC/ SIMV/ VC – Mode)<br>5. High frequency ventilators<br>6. To observe and read Blood gases and to interpret the ABG<br>7. To observe various ventilators graph.<br>8. Monitor the babies on ventilator.<br>9. Suctioning the baby<br>10.To enumerate and describe complication of ventilators. |
| 7 | Number of students that can be accommodated in the elective | 6 (six) |
| 8 | Pre – requisites for the elective | Negative MRSA nasal swab and covid vaccination. |
| 9 | Learning resources for students | **Online resource:**<br><br>1. Textbook of neonatal resuscitation 8th edition.<br>2. Assisted ventilation of the neonate (Goldsmith) |
| 10 | List of activities in which student will participate | 1. Attend ICU rounds with the unit<br>2. Interpret 5 ABG<br>3. Perform NRP on a mannequin. |

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| | | 4. Observed intubation on a mannequin.<br>5. Umbilical catheterization on a mannequin. |
| 11 | Portfolio entries required | ● Case records of the cases presented |
| 12 | Log book entry required | Satisfactory completion of posting authenticated by preceptor |
| 13 | Assessment | ● Attendance<br>● Verification of portfolios entries.<br>● Successful completion of posting as certified in log book with a 'M' meets expectation grade. |

## ~~ANNEXURE 6D~~

Elective Posting-DEADDICTION PSYCHIATRY

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|---|---|
| Name of Block | Block 2 |
| Name of elective | DE-ADDICTION PSYCHIATRY |
| Location of training | De-addiction Speciality Clinic and Ward, Dept of Psychiatry , MGM Medical College, Navi Mumbai |
| Name of internal preceptor | Dr.Rakesh Ghildiyal (Prof & Head, Psychiatry) |
| Name of external preceptor | Not applicable |
| Learning objectives of electives | At the end of this posting, the candidate shall be able to demonstrate:<br><br>1. Knowledge on various types of addiction disorders prevalent in the region esp. Alcohol use disorder (AUD).<br>2. Providing primary care of Alcohol withdrawal.<br>3. Present details case formulation (using bio-psycho-social model) of AUD to subject experts.<br>4. Understand inter-disciplinary management of AUD.<br>5. Provide psycho-education to patient and family members on AUD management with emphasis on pharmacotherapy and non-pharmacotherapy approach to patient and relatives. |
| Number of students that can be accommodated in this elective | 2 |
| Pre-requisites for this elective | Good communication skills, empathy |
| List of activities and student participation | • Attending psychiatry OPD daily 9am to 1pm<br>• Attending speciality de-addiction OPD on Monday 2-4pm<br>• Attending grand rounds on Monday and Wednesday<br>• Attending C-L references for management of AUD along with PG residents<br>• Attending AA meeting on last Wednesday of the month.<br>• Participate in history-taking and examination of patient with AUD.<br>• Applying scales for assessment of alcohol withdrawal |

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| | • Observe and participate in psycho-education in AUD.<br>• Present at least 2 cases to preceptor<br>• Participate in a short research project / seminar presentation on the topic |
| Learning resources | 1. Niraj Ahuja textbook of psychiatry for UG<br>2. K.D.Tripathi textbook of pharmacology |
| Portfolio entries required | Assignments provided:<br>1. Two fully worked up case records that have been presented.<br>2. Management plan discussed |
| Logbook entry required | Satisfactory completion of posting with an M grade ( meets expectation) |
| Assessment | 75% Attendance<br>Formative:<br>1. Participation of OPD and IPD rounds<br>2. Attendance in speciality clinics<br>3. Presentation of 2 worked up cases<br>4. Portfolio entry<br>5. Logbook entry<br>6. Daily attendance.<br>7. Participation in seminar presentation |
| Other comments | |

# Annexure-32E of AC-46/2023

## ~~ANNEXURE 6E~~

Elective Posting- CHILD PSYCHIATRY

| | |
|---|---|
| Name of Block | Block 2 |
| Name of elective | CHILD PSYCHIATRY |
| Location of training | Psychiatry OPD, Child and adolescent Psychiatry speciality clinic |
| Name of internal preceptor | Dr Darpan Kaur,<br>Professor of Psychiatry<br>Child & Adolescent psychiatry clinic in-charge |
| Name of external preceptor | Nil |
| Learning objectives of electives | 6. To gain knowledge on various types of child and adolescent psychiatric disorders prevalent in the region<br>7. To learn primary care of child psychiatric disorders<br>8. To learn history taking, MSE and diagnostic formulation in child & adolescent psychiatry as per CAP clinic proforma<br>9. To learn to apply relevant rating scales in child psychiatry<br>10. To gain insights into paediatric psychopharmacology, psychological testing & psychotherapy<br>11. To learn multi-disciplinary management of child & adolescent psychiatric disorders and psychological problems. |
| Number of students that can be accommodated in this elective | 2 |
| Pre-requisites for this elective | Interest in child & adolescent psychiatry |
| List of activities and student participation | • Attending psychiatry OPD daily 9am to 1pm<br>• Attending speciality child & adolescent psychiatry OPD on Tuesday & Friday 2-4pm<br>• Attending grand rounds on Monday and Wednesday<br>• Attending CLP references from |

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| | department of paediatric and allied departments for management of child & adolescent psychiatric disorders along with PG residents<br>• Observing the application of Cap clinic detailed proforma.<br>• Participate in history-taking and mental status examination of a child & adolescent with psychiatric disorders.<br>• Applying scales relevant to child & adolescent psychiatry.<br>• Observing and participating in application of psychometric testing.<br>• Observe and participate in psycho-education and psychotherapy of children and adolescent and their parents/ caregivers.<br>• Present at least 2 cases to preceptor<br>• Participate in a short research project / seminar presentation on the topic relevant to child & adolescent psychiatry |
| Learning resources | 1. Niraj Ahuja textbook of psychiatry for UG (refer chapters relevant to child & adolescent psychiatry)<br>2. Lewis textbook of child & adolescent psychiatry<br>3. Synopsis of psychiatry (refer chapters relevant to child & adolescent psychiatry) |
| Portfolio entries required | Assignments provided:<br>1. Two fully worked up case records that have been presented.<br>2. Management plan discussed |
| Logbook entry required | Satisfactory completion of posting with an M grade ( meets expectation) |
| Assessment | 75% Attendance<br>Formative:<br>1. Participation of OPD and IPD rounds<br>2. Attendance in speciality clinics<br>3. Presentation of 2 worked up cases<br>4. Portfolio entry<br>5. Logbook entry<br>6. Daily attendance.<br>7. Participation in seminar presentation/ research work. |
| Other comments | |

# ~~ANNEXURE- 6F~~

Elective Posting- LEPROSY

| | | |
|---|---|---|
| 1 | Name of Block | 2 |
| 2 | Name of Elective | 1.Examination of Leprosy case<br>2.Preparation of slit skin smear |
| 3 | Location of Hospital lab or research facility | Dermatology opd/ward<br>MGM Medical college and Hospital, Kamothe |
| 4 | Name of Internal Preceptor | Dr. Shylaja Someshwar |
| 5 | Name of External Preceptor | Nil |
| 6 | Learning objectives of the elective | • To take detailed history of patient of leprosy<br>• To examine leprosy patient to check for clinical lesions, nerves, sensations, deformities, trophic ulcers and systemic examination<br>• To learn preparation of slit skin smear from resident/technician |
| 7 | Number of students that can be accommodated in this elective | 4-6 |
| 8 | Prerequisites for the elective | Universal precautions |
| 9 | Learning resource for the students | IADVL text book of dermatology , fourth edition, volume 3 , 2015<br>Section XX-Section Editor: P Narasimha Roa, pgs 3059-3219 |
| 10 | List of activities in which student will be participating | • Participate in history taking and clinical examination of a patient of leprosy<br>• Observe procedure of slit skin smear in opd/ward<br>• Participate in patient education and obtaining |

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| | | consent before taking slit skin smear<br>• Participate in postoperative care of the patient after taking slit skin smear<br>Present at least 2 cases of leprosy (fully worked) in teaching session |
| 11 | Portfolio entries required | • Assignments provided<br>• 2 worked up case records of leprosy<br>• Documentation of SDL viz summary, reflection |
| 12 | Log book entries required | Completion of posting signed by preceptor |
| 13 | Assessment | • Attendance 75% compulsory<br>• Satisfactory completion of posting signed by preceptor<br>• Formative participation in ward rounds & team activities.<br>• Presentation of worked up cases<br>• Documentation of attendance and required portfolio and logbook entries |
| 14 | Other comments | None |

# ~~ANNEXURE 6G~~

Elective Posting- STI

| | | |
|---|---|---|
| 1 | Name of Block | 2 |
| 2 | Name of Elective | 1. Examination of STI case<br>2. Preparation of gram stain |
| 3 | Location of Hospital<br>lab orresearch facility | Dermatology opd/ward<br>MGM Medical college and Hospital, Kamothe |
| 4 | Name of Internal Preceptor | Dr. Meghana Phiske |
| 5 | Name of External Preceptor | Nil |
| 6 | Learning objectives of theelective | • To take detailed history of patient of STI<br>• To examine STI patient to check for clinical lesions, lymph nodes and systemic examination<br>• To learn preparation of gram stain from resident |
| 7 | Number of students that can be accommodated in this elective | 4-6 |
| 8 | Prerequisites for the elective | Universal precautions |
| 9 | Learning resource for thestudents | IADVL text book of dermatology , fourth edition, volume 3 , 2015<br>Section XVIII-Section Editor- Jayadev Betkerur , pgs 2723-2928 |

| | | |
|---|---|---|
| 10 | List of activities in which student will be participating | • Participate in history taking and clinical examination of a patient of STI<br>• Observe procedure of gram stain in opd/ward<br>• Participate in patient education and obtaining consent before taking gram stain<br>• Participate in postoperative care of the patient after taking gram stain<br>Present at least 2 cases of STI (fully worked) in teaching session |
| 11 | Portfolio entries required | • Assignments provided<br>• 2 worked up case records of STI<br>• Documentation of SDL viz summary, reflection |
| 12 | Log book entries required | Completion of posting signed by preceptor |
| 13 | Assessment | • Attendance 75% compulsory<br>• Satisfactory completion of posting signed by preceptor<br>• Formative participation in ward rounds & team activities.<br>• Presentation of worked up cases<br>• Documentation of attendance and required portfolio and logbook entries |
| 14 | Other comments | None |