

MANIPAL ACADEMY OF HIGHER EDUCATION
MD (EMERGENCY MEDICINE) DEGREE EXAMINATION – JULY 2023
PAPER I

Monday, July 03, 2023

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

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- ✍ **Answer ALL questions.**
- ✍ **Draw neatly labelled diagrams and algorithms wherever necessary.**
- ✍ **Please avoid padding your answers.**
1. Discuss the physiological effects of Positive Pressure Ventilation. Discuss Auto PEEP, its genesis, effects, detection, and management.
(5+5 = 10 marks)
 2. Discuss the Intracranial Pressure volume Curve and Monroe Kelly Doctrine. Enlist Factors affecting the Intracranial Pressure. Discuss how these factors are considered in the management of Intracranial Hypertension.
(3+3+4 = 10 marks)
 3. Discuss the cardiac action potentials. Tabulate the classification of antiarrhythmics.
(4+6 = 10 marks)
 4. Discuss the anatomy of a typical nephron. Discuss the Juxtaglomerular apparatus. Classify the diuretics and discuss briefly on diuretics commonly used in Emergency Medicine Department.
(3+2+5 = 10 marks)
 5. Discuss the Gas laws and their applications in ED. Write a brief note on Cylinder Safety.
(6+4 = 10 marks)
 6. Discuss the physiology of carbon dioxide transport in blood. Discuss the principle of capnometry. Describe a typical capnogram and usual variations.
(5+3+2 = 10 marks)
 7. Discuss the American Society of Anaesthesiology Difficult Airway algorithm and its limitations in full adaptation to ED Environment. Discuss Crash airway management and Vortex approach in brief.
(4+6 = 10 marks)

8. Discuss the medications available in managing hypertensive Emergencies in Emergency Medicine Department, their relevant pharmacology and side effect profiles. (10 marks)
9. Discuss the **microbiology** of Human Immunodeficiency virus. Discuss the **pharmacology** of medications available for HIV post exposure prophylaxis in accidental needle stick injury in a health care worker. (4+6 = 10 marks)
10. Discuss the image artefacts in Ultrasound. Discuss about the causation of each with at least one example of clinical importance. (4+6 = 10 marks)



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MANIPAL ACADEMY OF HIGHER EDUCATION
MD (EMERGENCY MEDICINE) DEGREE EXAMINATION – JULY 2023
PAPER II

Tuesday, July 04, 2023

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ **Answer ALL the questions.**

✍ **Draw neatly labelled diagrams and algorithms wherever necessary**

✍ **Please avoid padding your answers.**

1. Discuss the risk factors for increasing the likelihood of neonatal resuscitation. Write down the algorithmic approach for Neonatal Resuscitation. (10 marks)

2. Discuss the Microbiology, risk factors, pathophysiology, clinical features, differential diagnosis, complications, investigations, and ED management and disposition of necrotising fasciitis (10 marks)

3. Enlist the risk factors for pneumonia. Discuss the bacteriology clinical features, risk stratification and management options in community acquired pneumonia. (10 marks)

4. Discuss the causes, principles of evaluation, Emergency Medicine evaluation, and investigation work up, management and disposition of a 36-year-old man presenting with syncopal episode (10 marks)

5. Discuss the clinical features, differential diagnosis, and management of a case of scabies. (10 marks)

6. Discuss the indications, relevant anatomy, technique, and complications of supraclavicular brachial plexus block. (10 marks)

7. Discuss the pathophysiology clinical features, diagnostic criteria, investigative work up ED a management and disposition in hyperosmolar hyperglycaemic state. (10 marks)

8. Discuss the pathophysiology, risk behaviour, clinical features, and evaluation, Emergency Medicine management of injection drug users. Tabulate the possible infections in the IV drug abusers and probable causative organisms.

(6+4 = 10 marks)

9. Discuss the aetiopathogenesis, risk factors, clinical features, Emergency Evaluation and risk stratification and management of upper gastrointestinal bleed.

(10 marks)

10. Discuss the aetiological factors, pathophysiology, clinical features, diagnostic work up, Emergency Medicine Management and disposition of rhabdomyolysis

(10 marks)



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PAPER III

Wednesday, July 05, 2023

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ **Answer ALL questions.**

✍ **Draw neatly labelled diagrams and algorithms wherever necessary.**

✍ **Please avoid padding your answers.**

1. Discuss the classification of maxillofacial injuries. Discuss the guiding principles of management and Emergency Medicine implications of maxillofacial trauma.
(5+5 = 10 marks)
2. Discuss on clinical and Radiological features, classification, complications, Emergency Medicine management and disposition of supracondylar fracture humerus in children.
(10 marks)
3. Discuss the Emergency Medicine Department pathophysiology, clinical features, classifications, differential diagnosis, complications, investigations and Emergency Medicine Management and disposition of sickle cell crisis.
(10 marks)
4. Add a short note on Paediatric assessment Triangle. Discuss the Paediatric Post-Cardiac Arrest Care Checklist as per the guidelines of American Heart Association Guidelines for CPR and ECC.
(3+7 = 10 marks)
5. Discuss the wound healing by primary intention and factors affecting wound healing. Discuss relevant anatomy, pathophysiology clinical features and management eye lid lacerations.
(3+2+5 = 10 marks)
6. Tabulate the clinical features, venom characteristics, ED management and disposition of Snake bites pertaining to “Big Four” in India. Add a note on the pitfalls in management of Hump Nose Pit Viper bites (Hypnale hypnale).
(6+4 = 10 marks)
7. Discuss the implications, approach and management of a female student belonging to your own institution who is alleged victim of sexual abuse.
(10 marks)

8. **Enlist** the common oesophageal emergencies and differential diagnosis in an Emergency Medicine Department. Discuss the implications, clinical features and complications of management of ingested button battery in a specially abled young male of 20 years.
(4+6 = 10 marks)
9. Discuss the aetiopathogenesis, clinical features, lab work up, clinical management, risk assessment and Emergency Medicine management of patient with Acute Pancreatitis.
(10 marks)
10. Discuss the clinical features, initial stabilisation, Emergency Medicine evaluation, toxicokinetics, management and disposition of a case of acute paracetamol poisoning.
(10 marks)



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PAPER IV

Thursday, July 06, 2023

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

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- ✍ **Answer ALL the questions.**
 - ✍ **Draw neatly labelled diagrams and algorithms wherever necessary.**
 - ✍ **Please avoid padding your answers.**

1. Discuss the Automated CPR Devices and the current recommendation on their use.
(10 marks)
2. Discuss the DNR orders and their legal validity in India. Add a note on establishing the futility in ongoing CPR.
(5+5 = 10 marks)
3. Discuss the management of a 5-year-old boy with a suspected foreign body airway obstruction.
(10 marks)
4. Discuss microbiology, pathophysiology, differential diagnosis, management, and Emergency Medicine Disposition of an 11-month-old infant with bronchiolitis.
(10 marks)
5. Discuss the Emergency Medicine approach, clinical features, pathophysiology, complications a diagnostic evaluation, and management of a case of suspected amniotic fluid embolism in a referred case of primi immediate post-partum.
(10 marks)
6. Comment on the VICTAS Trial (Vitamin C, Thiamine and Hydrocortisone on Ventilator and vasopressin Free Days in patients with sepsis).
(10 marks)
7. Design a Quality Improvement Program for an audit report showing high incidence of skin flora contamination in the blood culture specimens sent from your ED.
(10 marks)

8. Discuss the need and how will you prepare, manage and operate a disaster management stockpile for your Emergency Medicine Department. Add a note on PAPR (Power Air Purifying Respirator).

(10 marks)

9. Define the dying declaration. Discuss the process of recording dying declaration in Emergency Medicine Department for a verbal patient presented with 95% burns.

(4+6 = 10 marks)

10. Discuss the risk factors, pathophysiology, clinical features, diagnostic work up, Emergency Medicine stabilisation and disposition of ectopic pregnancy.

(10 marks)

