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MANIPAL ACADEMY OF HIGHER EDUCATION
MD (EMERGENCY MEDICINE) DEGREE EXAMINATION – JANUARY 2025
(REGULAR)
PAPER I

Tuesday, January 14, 2025

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. Describe the metabolic origins and fate of lactic acid. Add a note on the classification of Lactic acidosis. Explain the Emergency Medicine significance of Lactate considering current Surviving Sepsis Campaign Guidelines.
(3+3+4=10 marks)
2. Describe the relevant aspects of Ventilatory graphics in EDCrit Unit.
(10 marks)
3. Describe Cerebral Autoregulation. Enlist the factors affecting the autoregulation. Add a note on Circle of Willis and explain the applied anatomy relevant to Emergency Medicine.
(3+3+4=10 marks)
4. Describe the neurohumoral control of Breathing. Add a note on the abnormal patterns of ventilation observed in Emergency Medicine.
(6+4 =10 marks)
5. Describe the distribution of water in the body in various compartments. Explain the mechanisms interplaying in water balance in the body.
(4+6=10 marks)
6. Describe the development and functional anatomy of human placenta. Describe the mechanism of gas exchange and acid base balance across placenta.
(5+5=10 marks)
7. Enlist the functions of liver. Describe the rationale of various liver function tests and their interpretation in various Hepatic pathologies. Add a note on normal metabolism of Paracetamol and the pharmacological basis of the antidotes in paracetamol toxicity.
(2+4+2+2= 10 marks)

8. Describe the oxygen dissociation curve. Enumerate various factors affecting the oxygen dissociation curve. Describe the variations in ODC between variants of hemoglobin and abnormal hemoglobins.

(5+5=10 marks)

9. Define functional residual capacity. Outline the functions of the functional residual capacity and the factors affecting it.

(4+6=10 marks)

10. Discuss the excitotoxicity of brain. Discuss the various pharmacological aspects and side effect profiles of 4 anticonvulsant drugs from different classes used in Emergency Medicine Departments.

(4+6 = 10 marks)



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MANIPAL ACADEMY OF HIGHER EDUCATION
MD (EMERGENCY MEDICINE) DEGREE EXAMINATION – JANUARY 2025
(REGULAR)
PAPER II

Wednesday, January 15, 2025

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 indication, contraindication, positioning and technique, pharmacological prescription and complications of femoral nerve block planned for a 45 year 75 kg man with fracture midshaft of femur.
(10 marks)
2. Discuss the importance and components of effective resuscitation team dynamics in cardiopulmonary resuscitation.
(10 marks)
3. Write a note on AKIN, and RIFLE Classification. Discuss the pathophysiology of Acute kidney injury.
(5+5=10 Marks)
4. Discuss the Berlin Criteria for establish the diagnosis of ARDS. Plan the prone position ventilation for a female patient aged 45 years with severe SARS COVID 19, Novel Corona Virus infection with ARDS with stable hemodynamics.
(5+5=10 Marks)
5. Discuss the Emergency Medicine Evaluation and Management of a poorly controlled diabetic patient presenting with cellulitis of the right lower limb with features of hemodynamic instability.
(10 marks)
6. Discuss the aetiology, clinical features, differential diagnosis, definitive emergency medicine management and disposition of a case of Exfoliative dermatitis.
(10 marks)
7. Discuss the approach for support, evaluation and management of a 25-year-old female with suicidal depression presenting to emergency medicine department.
(10 marks)
8. Discuss the indication, contraindication, pre-requisites, procedure and report analysis in Lumbar Puncture in Emergency Medicine department.
(10 marks)
9. Discuss the pathophysiology, clinical features, differential diagnosis and management and disposition of Cortical Venous Thrombosis in the setting of a 25-year-old woman presenting to Emergency Medicine Department.
(10 marks)
10. Discuss the classification, pathophysiology, differential diagnosis, definitive and supportive emergency medicine management and disposition of hepatorenal syndrome.
(10 marks)



MANIPAL ACADEMY OF HIGHER EDUCATION
MD (EMERGENCY MEDICINE) DEGREE EXAMINATION – JANUARY 2025
(REGULAR)
PAPER III

Thursday, January 16, 2025

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, clinical features, imaging, reduction techniques, management, and disposition of glenohumeral joint dislocation.
2. Describe the microbiology, clinical features, differential diagnosis, complications investigations and ED management and disposition of orbital cellulitis.
3. Discuss the aetiopathogenesis, differential diagnosis, complications investigations and Emergency Medicine management and disposition of Toxic Epidermal Necrolysis.
4. Discuss the clinical features, differential diagnosis, decontamination and definitive and supportive Management of a 25-year-old female with ingestion of organophosphorus compound presenting to Emergency Medicine Department.
5. Enlist the heat related emergencies and add a note on clinical features, differential diagnosis, complications, and management of Heat Stroke.
6. Discuss the Emergency approach for evaluation and management of penetrating neck injury in 34-year-old male following an altercation.
7. Describe the Emergency Medicine Department support, evaluation, laboratory work up, treatment and disposition of a 20 year old female victim of sexual abuse.
8. Discuss the aetiopathogenesis, clinical features, common laboratory findings, and Emergency management of a case of tumour lysis syndrome.
9. Discuss the aetiology, clinical features, microbiology, complications and emergency evaluation and management of malignant otitis externa.
10. Discuss the clinical features, differential diagnosis diagnostic work up and management of acute upper abdominal pain in a 75 year old male.

(10 marks x 10 = 100 marks)



MANIPAL ACADEMY OF HIGHER EDUCATION

MD (EMERGENCY MEDICINE) DEGREE EXAMINATION – JANUARY 2025 (REGULAR) PAPER IV

Friday, January 17, 2025

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 approach, pathophysiology, clinical features, differential diagnosis, complications, investigations and ED management and disposition of diabetic ketoacidosis in paediatric age group.
(10 marks)
2. Describe the physiological changes in pregnancy and their implications. Discuss the management of postpartum haemorrhage presenting with shock and disseminated intravascular coagulation.
(10 marks)
3. Understand the approach, microbiology, pathophysiology and differential diagnosis, investigations and ED management of meningitis in child with VP shunt.
(10 marks)
4. Understand the pathophysiology, clinical features, diagnostic work up, ED management and disposition of ovarian torsion.
(10 marks)
5. Understand risk factors pathophysiology, clinical features, diagnostic work up, ED management and disposition of cortical venous thrombosis in pregnancy. Write a short note on Vaccine induced Thrombocytopenia.
(7+3 = 10 marks)
6. Describe the triaging using Emergency Severity index. Describe the disaster scenario triage using Global Sorting and SALT Triage.
(10 marks)
7. Enlist the measures of central tendency in biostatistics with definitions and examples with appropriate diagrams.
(10 marks)
8. Describe the difference between Discharge on Request, Discharge against medical advice, Left against medical advice and ED elopement/ Absconded and the implications of each.
(10 marks)
9. Discuss the stepwise approach for inter hospital transport of a critically ill patient with hemodynamic instability and airway compromise.
(10 marks)
10. Discuss the management of life-threatening abdominal-pelvic and junctional haemorrhage using resuscitative endovascular balloon occlusion of aorta.
(10 marks)

