

SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION AND RESEARCH

(A Deemed to be University)

Post Graduate Examination October/November 2025

Time: 180 Minutes

Max Marks: 100 Marks

Emergency Medicine Paper I

QP CODE: P3020

Your answer should be specific to the question asked

Draw neat labelled diagrams wherever necessary

10X10 = 100

1. What are the levels of sedation and analgesia? Discuss the key principles of procedural sedation. Outline the step-by-step technique of procedural sedation, emphasizing preparation, patient monitoring, and post-procedural care? (2+8)
2. Write about START and SALT triage protocols in disaster management? Write about core principles of Mitigation phase in disaster planning? Discuss strategies for disaster risk reduction including hazard identification, risk assessment, and the implementation of preventive measures? (4+2+4)
3. Classify antiplatelet agents? Discuss the mechanisms of action, clinical indications, and adverse effects of Aspirin & Clopidogrel? Include the role of antiplatelet therapy in the management of cardiovascular diseases such as acute coronary syndrome and stroke? (2+6+2)
4. Define therapeutic hypothermia and explain its mechanism of action in mitigating brain injury after cardiac arrest? Discuss the concept of targeted temperature management (TTM) and the protocols for achieving and maintaining target temperatures? Review major trials on TTM, such as the TTM Trial and TTM2 Trial, highlighting their findings and implications for clinical practice? (4+4+2)
5. Define a randomized controlled trial (RCT) and explain its key features? What are the advantages of using an RCT in clinical research? Discuss the potential sources of bias that can affect the validity of an RCT? How do you ensure randomization and blinding in an RCT design? (2+2+4+2)
6. Draw a diagram illustrating the cerebral circulation, including the major arteries and venous drainage? Discuss the physiology of cerebral auto regulation? Elaborate on the different types of stroke and describe their clinical presentations, including the specific stroke syndromes associated with each type? (2+2+6)
7. Define hemodynamic monitoring and explain its significance in emergency care? Discuss the principles and applications of various hemodynamic monitoring methods used in the ER? Emphasize their role in diagnosing and managing shock? Include the indications, limitations, and examples of clinical conditions where advanced monitoring techniques are required? (2+2+2+4)
8. Explain the Henderson-Hasselbalch equation and its clinical application in assessing acid-base disorders?
Discuss the role of bicarbonate and pCO₂ in maintaining pH homeostasis?
Describe the differences between ABG & VBG in terms of parameters like pH, pCO₂, and oxygenation?
Discuss the indications, advantages, and limitations of both ABG and VBG in clinical practice? (2+2+2+4)

9. Define and differentiate depolarizing and non-depolarizing muscle relaxants based on their mechanism of action? Provide examples of each class and discuss their indications, side effects, and contraindications? Include a brief note on reversal agents for non-depolarizing agents? (2+5+3)
10. Classify haemorrhagic shock into its stages? Traumatic haemorrhagic shock -clinical features, investigation & treatment? Define Massive Transfusion Protocol (MTP) and explain its role in the management of haemorrhagic shock in trauma patients? (2+5+3)

SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION AND RESEARCH
(A Deemed to be University)

Post Graduate Examination October/November 2025

Time: 180 Minutes

Max Marks: 100 Marks

Emergency Medicine Paper II

QP CODE: P3021

Your answer should be specific to the question asked

Draw neat labelled diagrams wherever necessary

10X10=100

1. Enumerate the causes of lung abscess-investigations, POCUS IN lung abscess –ED management?
(2+3+5)
2. Discuss the approach to diagnosing headaches in the emergency department?
Differences between primary and secondary headaches?
What are the red flags in the history and clinical examination that suggest a secondary cause, and how would you investigate these cases? (3+3+4)
3. Define Status epilepticus? Write a brief note on approach and management of refractory status epilepticus in emergency department? (2+3+5)
4. AKI- define, stages, pathophysiology, clinical features and management in ED (1+2+2+2+3)
5. What are the classic clinical triad of a ruptured abdominal aortic aneurysm?
Describe the external signs of acute aortic rupture and outline the management strategies for acute aortic rupture? (2+3+5)
6. How will you evaluate a case of acute coronary syndrome in the emergency department?
Discuss the recent guidelines in the management of acute myocardial infarction? (5+5)
7. Describe the pathophysiology of septic shock. Discuss the clinical features, diagnosis and management of septic shock in emergency department? (2+3+2+3)
8. A 60-year-old lady, a known diabetic was brought to the emergency room with a history of increased thirst, abdominal pain, vomiting and breathlessness for one week. Investigations revealed CBG-454 mg/dl, pH-7.12, pCo₂ - 14, pO₂-80, HCO₃⁻ 12 with FiO₂-21%.
 - a) Discuss the patient's diagnosis and management?
 - b) Write about the complications of DKA? (4+4+2)

P.T.O

9. What are the inherited bleeding and clotting disorders? Discuss your approach to a patient with hemophilia who presents to the ED with bleeding. (3+7)
10. A 70-year-old diabetic, weight 66 kg, came with fever and chills 8 days, associated with hypotension (BP90/60), and tachycardia he had some redness and bullae over palms and foot, now O/E skin desquamation on these areas, he had a urine output of 260 ml/last 24 hours. What is your most probable diagnosis, how do you resuscitate this patient in ER, add a note about sepsis one-hour bundle? (3+4+3)

**SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION AND RESEARCH
(A Deemed to be University)**

Post Graduate Examination October/November 2025

Time: 180 Minutes

Max Marks: 100 Marks

Emergency Medicine Paper III

QP CODE: P3022

Your answer should be specific to the question asked

Draw neat labelled diagrams wherever necessary

10X10=100

1. A 52-year-old female with a 10-year history of ulcerative colitis presents to the emergency department with severe abdominal pain, diarrhoea (10-12 times per day), bloody stools, fever, and nausea. On examination, her abdomen is distended and tender in the lower quadrants, with signs of guarding. Her vital signs reveal hypotension (90/60 mmHg), tachycardia (110 bpm), and fever (38.5°C). 2+4+2+2
 - a) Give four differentials for the above case
 - b) Clinical features of Ulcerative Colitis and Crohn's disease.
 - c) Mention five extra intestinal manifestations of IBD
 - d) What is the role of cholestyramine in diarrhoea management in IBD
2. Proximal femur – classification, clinical features, diagnosis, ED management, complications (2+2+2+2+2)
3. A 55-year-old female is admitted to the emergency department following an extensive abdominal surgery for a ruptured abdominal aortic aneurysm. The patient has been stable post-operatively for the first 24 hours but now presents with increasing abdominal distension, decreasing urine output, and rising lactate levels. On examination, her abdomen is tense, and palpation elicits a firm, non-compliant feel. She is hypotensive and requires increasing doses of vasopressors. A bladder pressure measurement reveals a value of 30 mmHg. (3+3+4)
 - a) What is your probable diagnosis and write Pathophysiology of above condition including how it affects organ systems.
 - b) Initial assessment and diagnostic approach to confirm your diagnosis in the emergency department.
 - c) Management strategies including both conservative and surgical options.
4. Mention 3 anatomical and 3 physiological changes in pregnancy. What is the importance of these changes in trauma management? What is supine hypotension syndrome and how do you correct it? (3+2+2+3)
5. A 50-year-old male patient is admitted to the intensive care unit (ICU) with severe respiratory failure due to chronic obstructive pulmonary disease (COPD) exacerbation. He requires prolonged mechanical ventilation. 2+3+3+2
 - a) List the indications for tracheostomy & describe the benefits
 - b) Outline the steps involved in performing a tracheostomy with complications
 - c) Describe the risk factors and management strategies for each complication
 - d) Discuss the process of decannulation and weaning from mechanical ventilation in a patient with a tracheostomy.

P.T.O

6. A 60-year-old male presents to the emergency department with a history of vomiting large amounts of blood (hematemesis) and black, tarry stools (melena). The patient appears pale, tachycardic, and hypotensive. He has a history of alcohol use and chronic liver disease. On examination, he shows signs of shock, including a rapid heart rate and low blood pressure. A nasogastric tube is inserted, which aspirates blood. (2+8)
- Enumerate the possible causes of massive upper gastrointestinal bleeding in this patient.
 - Describe the steps you would take to evaluate, investigate, and manage this patient in the emergency department, focusing on immediate stabilization and subsequent diagnostic steps.
7. A 32-year-old woman at 34 weeks gestation presents to the emergency department with complaints of right upper quadrant pain, nausea, vomiting, and generalized fatigue for the past 24 hours. She has a history of mild hypertension during pregnancy. On examination, her blood pressure is 160/100 mm Hg, and she has significant tenderness in the right upper abdomen. Laboratory results show elevated liver enzymes (AST 180 U/L, ALT 160 U/L), thrombocytopenia (platelet count 90,000/ μ L), and a haemoglobin level of 10 g/dL. (2+2+6)
- Provide a concise explanation for the likely diagnosis in this clinical context.
 - What are the risk factors leading to this condition?
 - What is the immediate management for this patient, and what are the potential complications?
8. A 38-year-old female presents to the emergency department with a 5-day history of fever, chills, dysuria, and flank pain. On examination, she is febrile (39.2°C), with tenderness in the left flank. Urinalysis shows pyuria, and blood cultures reveal *Escherichia coli*. A contrast-enhanced CT scan of the abdomen and pelvis confirms a left-sided pyelonephric abscess. (3+4+3)
- Discuss the pathophysiology of pyelonephric abscess and its common risk factors.
 - Outline the surgical management options for a pyelonephric abscess, including indications for drainage and the methods of drainage.
 - Discuss the post-operative care and complications associated with the surgical management of pyelonephric abscess.
9. Write about NEXUS criteria and Canadian C spine rule with its application in suspected cervical spine injury victims. Discuss in detail about the use of REBOA in circulation management with algorithm. (1+2+4+3)
10. A 30-year-old female with 32 weeks of pregnancy presents with blunt abdominal trauma following a road traffic accident. Discuss the assessment and management. (5+5)

SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION AND RESEARCH
(A Deemed to be University)

Post Graduate Examination October/November 2025

Time: 180 Minutes

Max Marks: 100 Marks

Emergency Medicine Paper IV

QP CODE: P3023

Your answer should be specific to the question asked

Draw neat labelled diagrams wherever necessary

10X10=100

1. How do identify patients for palliative care? Write about discussing prognosis and setting plan of care? (4+6)
2. Frostbite - Risk factors, Pathophysiology, Clinical features, and Management? (2+2+3+3)
3. List the differential diagnosis of wheezing in a child above 2 years according to presenting signs and symptoms. Discuss the pathophysiology of asthma exacerbations, clinical features and management of acute severe asthma (3+3+4)
4. Describe the different methods of decontamination for patient with toxin ingestion? Write briefly about multi dose activated charcoal and urinary alkalization? (6+4)
5. Emergency Departments often face overcrowding, especially during peak times. Analyse the causes of ED overcrowding and suggest effective administrative strategies that can be implemented to mitigate this issue while ensuring timely care for patients (4+6)
6. Discuss the clinical presentation of various types of snake bites? How you would manage a case of a poisonous snake bite? What are the potential complications? (5+3+2)
7. What is status epilepticus? causes of seizures in the paediatric age group, discuss emergency department treatment of status epilepticus, and what are the indications of intubation in such cases (2+3+3+2)
8. What is SCIWORA? Describe the pathophysiology, clinical features, and management of SCIWORA in children. Write about its importance in early recognition in paediatric trauma? (2+2+2+2+2)
9. Discuss the clinical applications of TEG in the management of coagulopathies. Highlight the differences between TEG and traditional coagulation tests (e.g., PT, aPTT), and explain how TEG can guide therapeutic interventions in patients with trauma or surgery. (3+3+4)
10. Discuss the Tyramine reaction in the context of patients using monoamine oxidase inhibitors (MAOIs). describe mechanism of toxicity, clinical Features, management of tyramine reaction? (2+2+2+2+2)