

## SCOPE OF KNOWLEDGE FOR EMERGENCY MEDICINE MEDICAL SPECIALIST PRE-ENTRANCE EXAMINATION

1. The scope of knowledge that is assessed in this examination aligns with the National Postgraduate Medical Curriculum for Emergency Medicine.
2. Examination Format
  - a. The examination consists of two sections:
    - i. Section A: One Correct Answer – 40 Questions.
    - ii. Section B: One Best Answer – 20 Questions.
  - b. Each question has four answer options.
  - c. There will be no negative markings for incorrect answers.
  - d. The duration of the examination is 2 hours.
3. Scope of knowledge
  - a. The scope of knowledge encompasses basic sciences (applied anatomy, pharmacology and pathophysiology) and management of common emergency conditions (Table 2).
  - b. The knowledge level expected for each topic is defined below (Table 1).

<b>TABLE 1: KNOWLEDGE LEVELS</b>			
<b>LEVEL</b>	<b>KNOWLEDGE</b>	<b>CLINICAL PATIENT MANAGEMENT</b>	<b>EMERGENCY MEDICAL SYSTEMS AND SERVICES</b>
K1	Knows basic concepts	Able to describe the pathogenesis, recognize typical presentations. List differential diagnoses, basic investigations and standard treatment.	Able to state the general principles and working definitions.
K2	Understands the concepts	Able to explain the clinical manifestations by relevant basic science concepts. Able to distinguish between unstable and stable clinical features. Knows the principles of and reasons for the investigations and treatment.	Able to discuss the factors or elements to be considered, explain their importance, and discuss the methods, types or principles.
K3	Knows general and applied knowledge	Given a clinical problem, able to determine illness severity, select appropriate investigations and treatment based on established guidelines.	Given a scenario, able to use or select the appropriate methods or approaches (including available established guidelines, algorithms or protocols) to solve problems.

<b>TABLE 2: SCOPE OF KNOWLEDGE</b>	
<b>TOPICS</b>	<b>LEVEL</b>
<b>CARDIORESPIRATORY EMERGENCIES</b>	
Chest pain, dyspnoea, shock, palpitations, wheezing, cough, oedema, haemoptysis, syncope, choking, stridor, airway obstruction, cardiorespiratory arrest	K2
Asthma	K3
Chronic obstructive pulmonary disease	K3
Pneumonia	K3
Pneumothorax	K3
Acute coronary syndrome	K3
Heart failure	K3
Cardiac arrhythmias	K3
Hypertensive urgency and emergency	K3
Pulmonary embolism	K3
Anaphylaxis	K3
Acute respiratory distress syndrome	K2
Aortic aneurysm and aortic dissection	K2
Pleural effusion and empyema	K2
Pericardial effusion and cardiac tamponade	K2
Pericarditis	K2
Infective endocarditis	K2
Paediatrics (acute epiglottitis, foreign body inhalation, croup, bronchiolitis)	K2
Obstetrics (shock in antepartum and postpartum haemorrhage and ruptured ectopic pregnancy, pre-eclampsia, HELLP syndrome)	K2
Morbidly obese (obstructive sleep apnoea, obesity hypoventilation syndrome)	K2
<b>ABDOMINAL AND GENITOURINARY EMERGENCIES</b>	
Abdominal pain, abdominal swelling and ascites, altered bowel habit, vomiting, gastrointestinal bleed, jaundice, abdominal mass, ascites, anal/rectal pain, dysuria, haematuria, testicular pain, urinary retention, vaginal discharge, abnormal vaginal bleeding, dysmenorrhoea, menorrhagia	K2
Peptic ulcer disease	K3
Perforated viscus	K3
Acute pancreatitis	K3
Bowel obstruction	K3

Acute appendicitis	K3
Acute gastroenteritis	K3
Urinary tract infection and pyelonephritis	K3
Acute kidney injury	K3
Diverticulitis and diverticular disease	K2
Acute mesenteric ischaemia	K2
Hepatobiliary diseases	K2
Acute liver failure	K2
Hernia	K2
Anorectal disorders (abscess, haemorrhoids)	K2
Spontaneous bacterial peritonitis	K2
Renal calculi	K2
Testicular emergencies (torsion, rupture, epididymo-orchitis)	K2
Paediatric (volvulus, intussusception)	K2
Gynaecologic (twisted and ruptured ovarian cyst, uterine fibroid, uterine malignancies, pelvic inflammatory disease)	K2
<b>NEUROLOGICAL EMERGENCIES</b>	
Syncope and presyncope, seizure, altered mental status (coma, confusion, decreased level of consciousness, delirium), neurological deficit, ataxia, paralysis, headache, dizziness, vertigo	K2
Status epilepticus	K3
Stroke and transient ischaemic attack	K3
Intracranial haemorrhage	K3
Central nervous system infection	K2
Myasthenia gravis	K2
Guillain-Barre syndrome	K2
Parkinson's disease	K2
Cavernous sinus thrombosis	K2
Obstetrics (eclampsia)	K2
<b>ENDOCRINE EMERGENCY</b>	
Fever, hypothermia, lethargy, altered mental status, shock, dyspnoea, vomiting and diarrhoea, abdominal pain, palpitations, polyuria and polydipsia, agitation	K2

Diabetic emergencies (hypoglycaemia, uncontrolled diabetes, diabetic ketoacidosis, hyperosmolar hyperglycaemic state)	K3
Electrolyte imbalance	K3
Acid-base disorders	K3
Thyroid emergencies (myxoedema coma, thyroid storm, thyrotoxicosis)	K2
Adrenal crisis	K2
<b>TRAUMA</b>	
Airway obstruction, respiratory distress and failure, bleeding and shock, abdominal pain, reduced conscious level, pain and deformity of the extremities	K2
Traumatic brain injury	K3
Thoracic injury	K3
Abdominal injury	K3
Head and neck injury	K2
Maxillofacial injury	K2
Pelvic and genitourinary injury	K2
Limb injury	K2
Spinal injury	K2
Burns and inhalational injury	K2
Trauma in the elderly	K2
Trauma in pregnancy	K2
Trauma in children (including non-accidental injury)	K2
Trauma in morbidly obese patients	K2
<b>HEAD AND NECK EMERGENCIES</b>	
Eye pain/redness, headache, decreased visual acuity, diplopia, sudden vision loss, ear pain, sudden hearing loss, tinnitus, epistaxis, dizziness and vertigo, sore throat, difficulty/painful swallowing, stridor, vomiting, dental pain	K2
Acute glaucoma	K2
Ocular, orbital and periorbital infection	K2
Foreign body	K2
Retropharyngeal and peritonsillar abscess	K2
Abscesses	K2
Angioedema	K2
Cranial nerve palsy	K2
Benign paroxysmal positional vertigo, vestibular neuronitis	K2
Avulsed or fractured tooth	K2

Nasal fracture	K2
Facial bone injuries	K2
Temporomandibular joint dislocation	K2
Otitis media and otitis interna	K2
Ear pinna injuries	K2
Tracheostomy emergencies	K2
<b>HAEMATO-ONCOLOGY EMERGENCIES</b>	
Lethargy, shortness of breath, fever, pain, bleeding, bruising, joint pain and swelling	K2
Transfusion reaction	K2
Anaemia	K2
Disseminated intravascular coagulopathy	K2
Thrombocytopenia (thrombotic thrombocytopenic purpura, immune thrombocytopenic purpura, haemolytic uraemic syndrome)	K2
Acute leukaemia	K2
Sickle cell crisis	K2
Acute cord compression	K2
Superior vena cava compression	K2
Neutropenic sepsis	K2
Tumour lysis syndrome	K2
<b>INFECTIOUS DISEASES</b>	
Fever, sepsis, rashes, arthralgia and myalgia, haemoptysis, bleeding tendency, spasms	K2
Sepsis and septic shock	K3
Dengue	K3
Malaria	K2
MERS coronavirus	K2
Leptospirosis	K2
Rabies	K2
Tetanus	K2
Tuberculosis	K2
Human immunodeficiency virus	K2
Paediatric (neonatal sepsis, fever without focus)	K2
<b>ENVIRONMENTAL EMERGENCIES</b>	
Pain, swelling, trauma and injuries, altered mental status, dyspnoea	K2
Heat-related illness	K2

High altitude and dysbarism	K2
Envenomation and toxins	K2
Bites and stings	K2
Industrial chemical agents	K2
Electrical and lightning injury	K2
Blast injury	K2
Drowning	K2
Decompression sickness	K2
Radiation injury	K2
<b>MUSCULOSKELETAL AND LIMB EMERGENCIES</b>	
Acute limb pain, acute back pain, acute hot swollen joint	K2
Septic arthritis and other acute arthritis	K2
Spinal infection	K2
Prolapsed intervertebral disc	K2
Cauda equina syndrome	K2
Acute ischaemic limb	K2
Deep vein thrombosis	K2
Paediatric (limping child)	K2
<b>EMERGENCY MEDICAL SYSTEM AND SERVICES</b>	
Emergency department triage	K1
Mass casualty triage	K1
Disaster response	K1

4. The following is a list of suggested references.

<b>Basic Sciences Textbooks</b>	
1.	Textbook of Medical Physiology - Guyton and Hall
2.	Physiology - Linda Costanzo
3.	The Physiology Viva - Kerry Brandis
4.	Pharmacology - Rang & Dale
5.	Pathologic Basis of Disease - Robbins & Cotran
6.	Anatomy - any standard clinically applied anatomy textbooks
<b>Emergency Medicine Textbooks</b>	
1.	Tintinalli's Emergency Medicine: A Comprehensive Study Guide

2.	Rosen's Emergency Medicine: Concepts and Clinical Practice
3.	Textbook of Adult Emergency Medicine - Peter Cameron
4.	Harwood-Nuss' Clinical Practice of Emergency Medicine
5.	Emergent Management of Trauma - Balitz, Bokhari, Scaletta, Schaider

**Manuals and others**

1.	Advanced Cardiovascular Life Support
2.	Advanced Trauma Life Support
3.	Paediatric Advanced Life Support
4.	Advanced Paediatric Life Support
7.	Textbook of Neonatal Resuscitation - American Academy of Paediatrics and American Heart Association
8.	Drugs in Anaesthesia and Intensive Care Martin Sasada