

2nd TERMINAL EXAMINATION OF MBBS 2025 BATCH

PHYSIOLOGY, KGMU, LUCKNOW

(23rd April, 2026)

Time: 03 hrs

Maximum Marks: 100

Note: Attempt all questions in serial order. Illustrate your answer with suitable diagram where required. Figures in parenthesis indicate marks allotted to a question.

- Q.1.** A 30-year-old male is brought to the emergency department following a road traffic accident with significant blood loss. He appears restless and complains of intense thirst. On examination, he has cold, clammy skin, delayed capillary refill, and reduced urine output. His pulse rate is 130 beats per minute and blood pressure is 80/50 mmHg. Hemoglobin is 14 g/dL.
- What is the most likely diagnosis? *hypovolemic* (2)
 - Classify the types of shock (3)
 - Describe the pathophysiology of shock (4)
 - Explain the compensatory mechanisms involved in shock (6)
- Q.2.** A 22-year-old male presents with polyuria, polydipsia, vomiting, abdominal pain and generalized muscle weakness. He is drowsy and dehydrated. Breath has a fruity odor. Investigations are as follows: pH 7.15, HCO_3^- 10 mEq/L, K^+ 6.5 mEq/L, PaCO_2 25 mmHg, blood glucose 420 mg/dL, ketones positive
- What is your Probable Diagnosis? (3)
 - Give the justification in favour of your diagnosis (3)
 - Reason for generalized muscle weakness (3)
 - Explain the compensatory mechanism by which kidney correct acid-base disorder (6) ✓
- Q.3.** a) Define Immunity. Classify it and briefly discuss about Humoral Immunity. (10x3=30)
- Draw a well labelled diagram of Neuro-muscular junction and briefly discuss about myasthenia gravis.
 - Describe the composition and function of pancreatic juice and write briefly about digestion and absorption of fats.
- Q.4. Write short notes on:** *SP, AP, cond. and blood vessel.* (5x4=20)
- Regulation of coronary blood flow
 - Infertility
 - Chemical regulation of respiration
 - Functions of plasma protein
- Q.5. Differentiate between:** (5x4=20)
- Hypertrophy & Hyperplasia
 - Cortical nephron and Juxtamedullary nephron
 - Myocardial contractility and Force of contraction
 - Vital capacity and Timed vital capacity