

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

MBBS Phase I Supplementary Examination November 2025

Time: 150 Minutes

Max Marks: 80 Marks

Physiology Paper I

QP CODE: C1021

Your answer should be specific to the question asked

Draw neat labelled diagrams wherever necessary

Long Essay

2 X 10 = 20 Marks

1. Describe the left ventricular pressure and volume changes during various phases of cardiac cycle with a neat labelled diagram
2. A male child, 3 years old was brought to a doctor with a complaint of bleeding from the nose, mouth, urinary tract, alimentary tract and skin after trivial injury. Sometimes swelling of joints with pain & fever was also noticed. The bleeding was not profuse, but it was persistent. A careful history revealed similar bleeding tendency in male relatives. Investigations revealed Bleeding time- 3 min, Clotting time-12 min
 - a) Mention the probable diagnosis (1)
 - b) Mention the cause for the above condition (1)
 - c) Define haemostasis. list the steps of haemostasis. (1+3)
 - d) Describe the intrinsic pathway of coagulation (4)

Short Essay

12 X 5 = 60 Marks

3. With a neat labelled diagram describe the characteristics features of the glomerular filtration membrane
4. Describe tubular handling of Sodium by the kidney.
5. Draw and label a graph showing Jugular venous pulsation. Mention the cause for each wave (3+2).
6. Describe the emotional, social, and psychological aspects of being a patient?
7. Secondary active transport uses energy indirectly. Justify.
8. Describe the process of acclimatization to high altitude.
9. Define dyspnoea and describe the concept of dyspnoeic index.
10. Define anaemia. Give the morphological classification with an example. (2+3)
11. A 45-year-old man met with an accident while riding his motor cycle and lost a lot of blood. He was administered first aid by the bystanders and shifted to the hospital for treatment.
 - a. Identify the type of circulatory shock suffered by the man. (2)
 - b. Describe the physiological changes occurring in his body because of blood loss. (3)

PTO

12. Mr Somu was told to get a health checkup for the fitness test who was 40 yrs and working in the quarry factory as he underwent the pulmonary function test there was decrease in the rate of maximal expiratory air flow and his vital capacity 800 ml FVC
- Define Vital capacity and give its normal value (2)
 - List one probable cause for decrease in forced vital capacity in the above patient (1)
 - Describe two factors influencing vital capacity (2)
13. Give reason for pernicious anaemia in gastric atrophy. Describe how it can be treated. (3+2)
14. Describe the physiological basis for oedema and impaired clotting mechanism in liver failure.

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MBBS Phase I Supplementary Examination November 2025

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Physiology Paper II

QP CODE: C1022

Your answer should be specific to the question asked

Draw neat labelled diagrams wherever necessary

Long Essay

2 X 10 = 20 Marks

1. Describe the functions of thyroid hormone. Diagrammatically represent the regulation of thyroid hormone.(8+2)
2. Mr. Jeevan had come to see his general practitioner. As he entered the room, the doctor noticed Mr. Jeevan stumbled while walking. He complained of stiffness in his joints. Doctor noticed that Mr. Jeevan took long time to take his seat and showed little facial expression when he spoke and his hands were shaking at rest. On examination he was found to have bradykinesia, Hypertonia, short shuffling gait but no paralysis. There were no associated arm movements while he was walking and his head was always bent down as if he searched something on floor.
 - a) Name the neurological disorder in Mr. Jeevan. (1)
 - b) Mention the neurological structure involved in this condition (2)
 - c) Describe the pathway involved in absent associated arm movements in the above patient (5)
 - d) Name the neurotransmitter likely to be deficient in Mr. Jeevan (2)

Short Essay

12 X 5 = 60 Marks

3. Describe the role and importance of family physician?
4. Give the physiological basis for non-fluent aphasia in lesion involving Broca's area.
5. List and explain the functions of middle ear
6. Draw a labelled diagram of taste pathway. Define ageusia
7. Mention the normal serum calcium levels. Explain Physiological actions of 1,25-dihydroxy cholecalciferol in regulation of serum calcium
8. Stimulation of gamma motor neuron increases sensitivity of muscle spindle. Explain the physiological basis.
9. Describe the role of Glucagon as a hyperglycaemic hormone
10. Hypothalamus acts as a thermostat in the body. Justify
11. An athlete participated in a 100 meter dash, which he completed in 10 seconds. Even after he stopped running, his respiratory rate remained high for a while. His sports physiologist informed him, this was due to his oxygen debt.
 - a. Define oxygen debt (1)
 - b. Explain the physiological basis for oxygen debt (4)

P.T.O

12. A homeless man who lived under a flyover was found dead by few people who were passing by. They informed the police who came to investigate. It was found the body was cold and stiff. It was difficult to move the limbs of the body.
- Mention the phenomenon that has made the body stiff (1)
 - Explain the physiological basis of this phenomenon (3)
 - Explain the medico legal significance of this phenomenon (1)
13. A 25-year-old lady gave birth to a healthy infant. She was advised to breastfeed her child soon after delivery.
- Mention the hormone involved in
 - Milk synthesis (1)
 - Milk ejection (1)
 - Draw a neat labelled diagram of milk ejection reflex. (3)
14. A newly married couple did not want to become parents for three years. They visited the local primary health centre (PHC) and consulted the physician for advice.
- Mention two contraceptive methods this couple can adopt.(2)
 - Explain the mechanism of action of these two contraceptive methods. (3)