

SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION AND RESEARCH

(A Deemed to be University)

MBBS Phase I Examination September 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

$2 \times 10 = 20$ Marks

1. Describe the transport of carbon dioxide in blood. Explain Haldane's effect.
2. On supine position the blood pressure of Seethamma aged 70years is 120/80mm of Hg. On immediate standing her SBP dropped to 90 mm of Hg.
 - a. Name the condition (1)
 - b. Mention one possible cause for this condition (1)
 - c. List and Describe three mechanisms of short-term regulation of blood pressure. (3+5)

Short Essay

$12 \times 5 = 60$ Marks

3. Describe the role of calcium ion in the intrinsic & extrinsic pathways of blood coagulation.
4. With a neat labelled diagram describe the characteristics features of the glomerular filtration membrane.
5. Describe the mechanics of normal tidal inspiration.
6. Describe the emotional, social, and psychological aspects of being a patient?
7. Secondary active transport uses energy indirectly. Justify.
8. Describe why pepsinogen does not digest the layers of stomach
9. Describe the events in the various phases of Deglutition
10. Describe the role of B cells in immunity.
11. Define anaemia. Give the morphological classification with an example. (2+3)
12. A young woman met with an accident while riding her scooter and lost a lot of blood. She was administered first aid by the bystanders and shifted to the hospital for treatment.
 - a. Identify the type of circulatory shock suffered by the young woman. (1)
 - b. Describe the physiological changes occurring in her body because of blood loss. (4)
13. Mr Girish had a routine health check-up done and his ECG shows a heart rate of 96 beats per minute.
 - a) Mention normal heart rate (1)
 - b) Define sinus rhythm (1)
 - c) Describe the factors that regulate heart rate (3)
14. Mr Suman complaints of excessive micturition
 - a) Mention normal urine output (1)
 - b) Identify one condition that may be causing it (1)
 - c) Mention the afferent & efferent limb of micturition reflex arc (3)

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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

$2 \times 10 = 20$ Marks

1. Mention the normal serum calcium level in the body. Describe the hormonal regulation of calcium. Add a note on tetany. (1+6+3)
2. A 55-year-old man suffering from advanced Tabes dorsalis due to syphilitic infection was asked by the neurologist to stand with his toes and heels together with his eyes closed. He immediately started to sway to the sides. The nurse standing nearby prevented him from falling at the ground.
 - a) Name and trace the neural pathway that is abnormal in this patient from the extremities to the cortex. (1+6)
 - b) List the sensations carried by the pathway that is abnormal in this patient (3)

Short Essay

$12 \times 5 = 60$ Marks

3. Describe how attitude helps to build rapport with the patient?
4. Describe the benefits of yoga on cardiovascular system.
5. Describe two temporary methods of contraception in females. (2.5+2.5)
6. Draw a labelled diagram of taste pathway. Define ageusia (4+1)
7. List the functions of thalamus. Mention the cause and symptoms of thalamic syndrome. (2+1+2)
8. Explain why appendicitis pain is felt at the umbilical region.
9. Describe the special features of basilar membrane.
10. Compare and contrast thyroid dwarf and pituitary dwarf.
11. Give physiological basis for following clinical features of Diabetes mellitus.
 - a. Hyperglycemia (1)
 - b. Glycosuria (1)
 - c. Polyuria (1)
 - d. Polydypsia (1)
 - e. Polyphagia (1)
12. A 35-year-old man was brought to the hospital with complaints of severe muscle weakness and difficulty in swallowing. His face was expressionless and he had droopy eyelids. He was treated with an inhibitor of acetylcholine esterase, which relieved his muscle weakness to some extent.
 - a. Mention the clinical condition. (1)
 - b. Justify your answer with mechanism that lead to this condition. (2)
 - c. Explain the physiological basis for the use of an acetylcholine esterase inhibitor. (2)

13. A 20-year-old male met with an accident where he developed a peripheral nerve injury in his upper limb. He gradually developed numbness and prickling or tingling in his hands. His Orthopedician told him his nerve was undergoing Wallerian degeneration.
 - a. Define Wallerian degeneration. (1)
 - b. Describe the features of Wallerian degeneration with the help of a diagram. (4)
14. A couple who has been married for two years and were unable to conceive consulted a fertility specialist for advice. The doctor suggested to track the woman's ovulation.
 - a. Define ovulation. (1)
 - b. Mention the hormone that triggers ovulation. (1)
 - c. Mention three tests of ovulation. (3)