

PHYSIOLOGY

PAPER-IV

Time: 3 Hours
Max. Marks: 100

PHY/D/19/36/IV

Important Instructions:

- Attempt all questions in order.
- Each question carries 10 marks.
- Read the question carefully and answer to the point neatly and legibly.
- Do not leave any blank pages between two answers.
- Indicate the question number correctly for the answer in the margin space.
- Answer all the parts of a single question together.
- Start the answer to a question on a fresh page or leave adequate space between two answers.
- Draw table/diagrams/flowcharts, wherever appropriate.

Write short notes on:

1. Discuss electromyography and its clinical applications. 6+4
2. Describe the physiological principles underlying:
a) Assisted reproductive technology. 5+5
b) Intraoperative neurophysiological monitoring.
3. a) Different modes of assisted ventilation. 5+5
b) Heart rate variability and its clinical uses.
4. a) Describe the circulatory dynamics of cardiogenic shock. 6+4
b) Explain the physiological basis of treatment of cardiogenic shock.
5. Explain the physiological application of:
a) Laplace's law. 5+5
b) Fick's principle.
6. a) Discuss the effects of acceleratory forces on body in aviation. 6+4
b) Add a note on physiological challenges of weightlessness.
7. Describe the different tests for assessment of lung function in a patient suffering from respiratory ailment. 10
8. a) Describe the mechanism of neuromuscular transmission in skeletal muscles. 4+6
b) Explain the physiology basis of diseases of neuromuscular junction and effects of various toxins.
9. Explain the physiological basis of drug treatment of gastritis. 10
10. a) Describe the bodily changes in menopausal women with their physiological basis. 6+4
b) Describe the hormonal replacement therapy in menopause.
