

PHYSIOLOGY
PAPER – II

Time : 3 hours
Max. Marks : 100

PHY/D/17/36/II

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:

- Cardiovascular reflexes involved in regulation of blood pressure 7+3
 - Resetting of baroreceptors in chronic hypertension
- Pressure gradients and flow in coronary vessels during various phases of cardiac cycle 6+4
 - ECG findings and their physiological basis in ischemic heart disease.
- Systemic regulation of cardiovascular mechanisms by neurohumoral agents. 4+4+2
 - Triple Response
 - Endothelium-derived relaxing factor
- Alveolar ventilation and perfusion ratio (VA/Q) under following headings: 2+2+3+3
 - Definition and normal value
 - Effects of alteration in VA/Q ratio
 - Affects of gravity on it
 - Significance
- Physiological basis of problems which occur when an individual ascends back rapidly to sea level after sufficient exposure to high atmospheric pressure in deep sea. 6+4
 - What are the preventive and curative measures for the same?
- Carbon dioxide transport in blood 6+4
 - Effects of hypoxia and hydrogen ion concentration on CO₂ response curve

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| 7. | Cardiac arrhythmias under following headings: | 3+3+4 |
| | a) Types | |
| | b) Mechanism of development | |
| | c) ECG changes | |
| 8. | Cardiovascular adjustments that occur in an untrained individual during moderate exercise. | 10 |
| 9. | a) Define functional residual capacity and give its normal value. | 2+3+5 |
| | b) What is the significance of functional residual capacity? | |
| | c) Measurement of functional residual capacity. | |
| 10. | a) Define hypoxia. | 1+6+3 |
| | b) What are the different types of hypoxia and their causes? | |
| | c) Give the role of oxygen therapy in each type | |
