

PHYSIOLOGY

PAPER-II

Time: 3 Hours

Max. Marks: 100

PHY/D/19/36/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:

1. Enumerate the primary determinants of cardiac output. Explain the physiological basis of changes in cardiac output: 2+4+4
 - a) After a meal.
 - b) Change of posture from lying to standing.
2. Explain the physiological mechanism underlying: 5+5
 - a) Sinus arrhythmia.
 - b) Rise of blood pressure during exercise.
3.
 - a) Describe the role of kidney in regulation of blood pressure.
 - b) Add a note on Goldblatt hypertension.5+5
4.
 - a) Describe the renal mechanisms for dilution and concentration of urine.
 - b) Describe the methods used for assessment of renal diluting and concentrating ability.7+3
5.
 - a) Enumerate various neural regions that are part of neural network for regulation of the respiration.
 - b) Describe the mechanism for generation of respiratory rhythm.5+5
6.
 - a) Outline the principles and procedure to calculate caloric requirement of an individual.
 - b) Explain specific dynamic action of food.7+3
7.
 - a) Enumerate with example, different type of rhythms in human body.
 - b) Explain the mechanism of entrainment of circadian rhythms with day-night cycle.4+6
8. Describe the enteric nervous system and its role in different function of the gastrointestinal tract. 10
9. State the composition, function and phases of pancreatic secretion. 10
10.
 - a) Define and classify hypoxia.
 - b) Describe the bodily effects of hypoxia.
 - c) Describe the physiological basis of treatment of each type of hypoxia.2+5+3
