

PHYSIOLOGY

PAPER-II

Time: 3 hours PHY/D/20/36/II
Max. Marks:100

Important Instructions:

- ***You are provided with 5 answer sheet booklets. Each individual answer sheet booklet consists of 10 pages excluding the covering jackets.***
- ***Answers to all the questions must be attempted within these 5 answer sheet booklets which must be later tagged together at the end of the exam.***
- ***No additional supplementary answer sheet booklet will be provided.***
- *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. Describe nervous mechanisms which play important role in the integrated cardio-vascular regulation. Enumerate laws and principles of hemodynamics. 5+(3+2)

2. Describe the regulation of cardiac output. Write a note on Fick's principle and Dye dilution method of measuring cardiac output. 5+5

3. Describe the transport of CO_2 from cell to atmosphere including chloride shift and Haldane's effect. 6+4

4. Describe mechanism of secretion of hydrochloric acid (HCl) in stomach. What are the main stimuli for HCl secretion? 7+3

5. Describe the functions of GIT hormones - Cholecystokinin (CCK-PZ) and Gastrin. Write the stimuli which case stimulation of these hormones. 5+5

6. Describe events of cardiac cycle along with pressure and volume changes. What is the cause of 3rd heart sound and why it can be normally heard in pregnant women? 7+3

7. Evolution process of respiratory system in amphibian and mammalian species. 3+7

8. Describe Glomerular filtration from reptiles to animals. Briefly describe counter-current mechanism in humans. 5+5

9. Discuss pathophysiology of circulatory shock. What is irreversible shock? 5+5

10. Define pH & its importance in homeostasis. Describe the role of kidneys in acid base balance. Write a note in metabolic acidosis. 2+5+3

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