



Time: 3 Hrs.

[Max. Marks: 100]

PHYSIOLOGY - PAPER I (Revised Scheme)

QP Code: 1053

Your answers should be specific to the questions asked.

Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 9 = 18 Marks

1. Describe in detail the mechanism of Antigen recognition and activation of specific immune response in both humoral and cell mediated immunity. How does HIV disease compromise immunity?
2. Describe the properties of cardiac muscle.

SHORT ESSAY

10 X 5 = 50 Marks

3. Describe the type of movements of large intestine and their functions.
4. What is meant by Goldblatt hypertension? Explain the underlying mechanism of hypertension.
5. Define renal plasma clearance of a substance. Give the formula for clearance and explain its utility in the study of renal functions.
6. Describe the factors maintaining fluidity of blood in the intact vascular system and the factors favoring tendency for clot formation.
7. Describe the process of fat reabsorption in the small intestine.
8. Draw the diagram of left ventricular pressure-volume loop and explain the causation of component segments.
9. In which type of hypoxia oxygen therapy is most helpful? What are the effects of excess oxygen administration (oxygen toxicity)?
10. Describe the mode of propagation of cardiac impulse over the heart.
11. Describe the composition and functions of pancreatic secretion.
12. Describe the causes and treatment of decompression sickness.

SHORT ANSWERS

16 X 2 = 32 Marks

13. What is facultative reabsorption of water and the effect of its defect?
14. What is 'peptic ulcer'? Mention two causes for it.
15. How does heparin act as an anticoagulant?
16. What is Haldane effect? How is it beneficial?
17. What are 'J' receptors? How are they stimulated and their reflex effects?
18. Give an example of primary active transport in the cell membrane. What is its function?
19. Name the bile salts and their functions.
20. How and where chylomicrons are formed and their functions?
21. How macrophages are derived and what are their function?
22. Outline the structure of mitochondria and its function.
23. What is the effect of vitamin K deficiency on coagulation?
24. What is meant by filtration fraction and how is it calculated?
25. Name the synthetic functions of kidney.
26. Describe anaemic hypoxia.
27. What is positive pressure breathing and its application?
28. How is alveolar ventilation calculated? Give the formula.

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