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M.B.B.S. PHASE - I Degree Examination - DECEMBER 2015

Time: 3 Hrs.

PHYSIOLOGY - PAPER I (Revised Scheme)

[Max. Marks: 100]

QP Code: 1053

Your answers should be specific to the questions asked. Draw neat labeled diagrams wherever necessary.

LONG ESSAY

- 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

- 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

- 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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16 X 2 = 32 Marks

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10 X 5 = 50 Marks

 $2 \times 9 = 18$ Marks