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TRIVANDRUM

**Fifth Semester B.Sc. Degree Examination, February 2021**

**First Degree Programme Under CBCSS**

**Zoology**

**Core Course VIII**

**ZO 1543 : PHYSIOLOGY AND BIOLOGICAL CHEMISTRY**

**(2018 Admission – Regular)**

Time : 3 Hours Max. Marks : 80

I. Answer the following questions (In one or two sentences. **1** mark each).

1. Isoenzymes
2. Deamination
3. Quaternary structure of protein.
4. Prostaglandins
5. Ketohexoses
6. Diabetes mellitus
7. Testosterone
8. Myopia
9. Neurotransmitters
10. Hypercapnia

**(10 × 1 = 10 Marks)**

P.T.O.

II. Answer **any eight** of the following (Not to exceed one paragraph. Each carries **2** marks).

11. How do hormones regulate digestion?

12. What are the functions of Agranulocytes?

13. What is SA node? What is its function?

14. Describe Oxygen-haemoglobin curve.

15. What is the role of kidneys in osmoregulation?

16. What is oxygen debt?

17. With the help of a diagram describe simple muscle twitch.

18. Classify neurons based on structure and function.

19. What are the symptoms of Parkinson's disease?

20. Distinguish rods from cones.

21. What are the major physical changes at the onset of puberty in girls?

22. What are the hormones produced by adrenal gland?

23. What are the biological functions of carbohydrates?

24. Why amino acids are known as Zwitterions?

25. What is HMP shunt?

26. What is the importance of ES complex in enzyme catalysis?

**(8 × 2 = 16 Marks)**

III. Answer **any six** of the following (Not to exceed **120** words. Each carries **4** marks).

27. Discuss the factors affecting enzyme activity.

28. Discuss beta oxidation.

29. Discuss the cyclic events in Urea synthesis.

30. Discuss the basic structure of proteins and the important biological functions of proteins.

31. Compare the structures of starch, cellulose and glycogen and add notes on their functions.

32. How do you justify the name Master gland for pituitary gland?

33. Discuss the disorders in man related to thyroid gland.

34. Explain menstrual cycle in humans.

35. With the help of a suitable diagram explain how Sound is transmitted from the environment to the internal ear.

36. Illustrate the ultrastructure of striated muscle fibre.

37. Discuss various renal disorders.

38. Discuss respiratory disturbance with examples.

**(6 × 4 = 24 Marks)**

IV. Answer **any two** of the following (Each carries **15** marks).

39. Discuss the physiological and biochemical events in muscle contraction.

40. Discuss various cardiovascular diseases in man and add notes on angiogram and angioplasty.

41. With the help of suitable diagrams explain nerve impulse propagation. Add a note on synapses.

42. Compare olfactory and gustatory systems in Man. Use suitable diagrams.

43. With suitable examples explain mechanism of hormone action. Add a note on major endocrine organs of man.

44. Derive Michaelis - Menten equation. What is its significance?

**(2 × 15 = 30 Marks)**

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