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GS-315

VI Semester B.Sc. Examination, May/June 2019

BIO-CHEMISTRY

BIO-CHEMISTRY-VII

(CBCS) (F+R) (2016-17 & Onwards)

Time : 3 Hours Max. Marks : 70

Instructions : *(i) This question paper has two parts : Part-A, Part-B.*
(ii) Answer any eight questions from Part-A.
(iii) Answers any five questions from Part-B.

PART - A

Answer **any eight** of the following. Each question carries **two** marks : **8x2=16**

1. Give the schematic representation of catabolism.
2. Write the reaction catalyzed by phosphofructokinase.
3. "TCA cycle is amphibolic in nature". Give reasons.
4. What is β-oxidation ? Mention the site of the actual pathway in the cell.
5. What are Ketone bodies ? Give an example.
6. Give any two functions of Cholesterol.
7. Write the conversion of tyrosine to L-DOPA.
8. What is hyperammonaemia ?
9. Mention the sources of nitrogen atoms in the biosynthesis of purine.
10. Define photosynthesis. Give its overall reaction.
11. What is transaldolation ?
12. Define denitrification.

P.T.O.

PART - B

Answer **any nine** of the following questions. Each question carries **six** marks : **9x6=54**

13. (a) Explain the two substrate level phosphorylation reactions of glycolysis. **4+2**
    (b) What is the anaerobic fate of pyruvate ? Write the reaction involved.

14. Explain Cori cycle with a neat labelled diagram. Add a note on its significance. **6**

15. (a) Explain any two reactions of TCA cycle using NAD^+ as the redox coenzyme. **4+2**
    (b) Give the significance of HMP pathway.

16. (a) Explain the transport of fatty acids in β-oxidation with a neat labelled diagram. **4+2**
    (b) Differentiate between fatty acid oxidation and fatty acid synthesis.

17. (a) Explain the β-oxidation of odd chain saturated fatty acids. **4+2**
    (b) What is Ketosis ? How is it caused ?

18. Explain the biosynthesis of cholesterol upto the formation of mevalonate. **6**

19. (a) Explain oxidative deamination of glutamate. **4+2**
    (b) Give the reaction catalyzed by SGPT.

20. (a) Discuss the biosynthesis of Cysteine. **4+2**
    (b) Mention the characteristics of PKU.

21. (a) Explain the decarboxylation of Histidine. Mention its significance. **4+2**
    (b) Give the importance of epinephrine.

22. (a) Explain non cyclic photophosphorylation. **4+2**
    (b) What is light reaction ?

23. (a) Write a note on C_4 pathway. **4+2**
    (b) What are nif genes ?

24. What is meant by N_2 fixation ? Discuss the stoichiometry of N_2 fixation. **6**

25. (a) Explain the synthesis of glycine from choline. **4+2**
    (b) How is GABA formed from glutamate ?

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