Question Paper Code:U1031

SRI DEVRAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH

(A DEEMED TO BE UNIVERSITY)

M.B.B.S Phase-I Degree Examination SEPTEMBER 2019

Time:3 hours **Max Marks:100**

BIOCHEMISTRY- PAPER 1

Your answer should be specific to the question asked
Draw neat and labeled diagrams wherever necessary

LONG ESSAY ***2 X 10 = 20 Marks***

1. Define Enzymes. Classify enzymes. Give two examples for each class and the reaction catalyzed by them. (1+5+4)
2. Mention dietary sources, RDA of Folic acid. Explain the role of Folic acid in one carbon metabolism. Add a note on deficiency manifestations of Folic acid. (1+1+5+3)

SHORT ESSAY ***10 X 5 = 50 Marks***

3. What are conjugated proteins? Give four examples and mention their functions. (1+4)
4. Define BMR. Mention the normal levels of BMR. Explain briefly the measurement of BMR. (1+2+2)
5. Name thyroid Hormones. How they are formed? Mention their functions. (1+2+2)
6. Classify fatty acids with examples. Explain the biomedical importance of Poly Unsaturated Fatty Acids (PUFA). (3+2)
7. Define Homopolysaccharides? Give examples with their composition and biomedical importance. (1+4)
8. Define Clearance test. Explain various renal clearance tests.
9. List the 5 types of immunoglobulins with their functions.
10. What are Disaccharides? Give two suitable examples with composition,sources and biomedical importance. (1+2+2)
11. What are steroids? Give the structure of cholesterol. Name the biologically important compounds derived from cholesterol. (1+2+2)
12. List the group I hormones. Explain the mechanism of action of group 1 hormone. (2+3)

SHORT ANSWERS ***10 X 3 = 30 Marks***

13. Mention three characteristic features of peptide bond.
14. List any two synthetic analogues of purine bases and mention its clinical application.
15. What is the normal reference range for serum Total Bilirubin? What is the difference between clinical and latent Jaundice?
16. Name two lysosomal disorders? Mention the biochemical defect associated with those disorders.
17. What is Nitrogen balance? Mention two conditions with negative nitrogen balance.
18. Mention three therapeutic uses of radioactive isotopes.
19. Write the biological reference interval for a) Serum Total Cholesterol b) Serum Triglycerides c) Serum HDL
20. What are reactive oxygen species? Name four disease states associated with excess production of reactive oxygen species. (1+2)
21. What are Ionophores? Give two examples
22. What are epimers? Give examples

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BIOCHEMISTRY- PAPER 2

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LONG ESSAY ***2 X 10 = 20 Marks***

23. Define pH. What is normal blood pH? Explain the mechanisms by which blood pH is maintained in the body. (1+1+8)
24. Define transcription. Describe in detail the steps involved in transcription. Add a note on inhibitors of transcription. (1+7+2)

SHORT ESSAY ***10 X 5 = 50 Marks***

25. What is Gout? Mention the clinical manifestations, biochemical alterations and add a note on treatment. (1+1+2+1)
26. What are high energy compounds? Classify them with examples. Explain the role of ATP as high energy compound.(1+2+2)
27. Name ketone bodies. Explain the pathophysiology of Ketoacidosis. (1.5+3.5)
28. Enumerate different sources of Ammonia. Mention its normal blood level. Explain why ammonia is toxic to brain.(2+1+2)
29. Write the WHO classification of Diabetes Mellitus. Explain the laboratory investigations in the diagnosis of diabetes mellitus? (2+3)
30. Write the dietary sources, Recommended daily allowance, functions and deficiency manifestations of zinc. (1+1+1.5+1.5)
31. Define Atherosclerosis. Briefly explain the biochemical markers used in the diagnosis of atherosclerosis. (1+4)
32. What are Phase II reactions of detoxification? Explain with suitable examples.
33. Describe in detail the synthesis and degradation of bilirubin in the body. (2.5+2.5)
34. Describe the mechanism of chemical carcinogenesis.

SHORT ANSWERS ***10 X 3 = 30 Marks***

35. Write purine ring. Label sources of its various elements.
36. Mention any three inhibitors of oxidative phosphorylation and indicate their site of action.
37. What are Chylomicrons? Mention its functions.
38. What is Hartnup's disease? Mention two clinical features.
39. Biochemical defect in essential fructosuria and hereditary fructose intolerance.
40. What is Sickle cell anemia? Mention the defect.
41. What are Protooncogenes? List two examples indicating their role.
42. What is McArdle's disease? Mention the enzyme defect and clinical feature.
43. What is osmosis? Mention its significance.
44. Mention three clinical conditions of altered serum phosphorus levels