

**SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH**

**(A DEEMED TO BE UNIVERSITY)**

**M.B.B.S. PHASE – I Degree Examination – August-2017**

**Time : 3 Hrs.**

**[Max. Marks : 100]**

**BIOCHEMISTRY**

**Q.P Code : RS -105**

*Your answers should be specific to the questions asked.*

*Draw neat labeled diagrams wherever necessary.*

**LONG ESSAY (Answer any 2 only)**

**2 X 10 = 20 Marks**

1. Describe the reactions of pentose phosphate pathway. Write the significance of this pathway. Add a note on glucose -6 phosphate dehydrogenase deficiency.
2. Describe the process of DNA replication. Enumerate the DNA repair mechanisms.
3. Write the causes and biochemical findings in metabolic acidosis. Explain the compensatory mechanisms.

**SHORT ESSAY (Answer any 10 only)**

**10 X 5 = 50 Marks**

4. Name the plasma proteins. List any four functions of them in the human body. Write the reference interval for plasma proteins.
5. Enumerate the liver function test. Explain the detoxification of bilirubin by the liver.
6. Write the biologically important products derived from glycine.
7. Write about the mechanism of active transport. Give examples.
8. What is a carcinogen. Give an account of tumor markers.
9. Define Porphyria. Give a brief account of porphyrias.
10. Define lipoprotein. List out different types of serum lipoproteins. What is good and bad cholesterol.
11. Give a brief account of cellulose and its physiological importance in human body.
12. Write about competitive inhibition and its clinical significance with two examples.
13. Define basal metabolic rate. List the factors affecting basal metabolic rate.
14. What is folate trap (Methyl Trap). Write about its significance.
15. List the components of electron transport chain. Add a note on inhibitors of respiratory chain.

**SHORT ANSWERS (No Choices)**

**10 X 3 = 30 Marks**

16. Describe fructose metabolism. Add a note on essential fructosuria.
17. What are isomerases? Give two examples.
18. Functions of phospholipids.
19. Detoxification by conjugation.
20. Okazaki fragments.
21. Deficiency manifestations of vitamin D.
22. Mechanism of steroid hormone action.
23. What is recombinant DNA? What is the role of restriction endonuclease in recombinant DNA technique.
24. Write about alkaptonuria.
25. Cori's cycle.

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**BIOCHEMISTRY PAPER-I**

**Q.P Code : RS -205**

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**LONG ESSAY**

**2 X 10 = 20 Marks**

1. What are the different types of enzyme inhibition? Explain with suitable examples.
2. Describe sources, biochemical functions, requirement and deficiency manifestations of pyridoxal phosphate.

**SHORT ESSAY**

**10 X 5 = 50 Marks**

3. Acute phase proteins.
4. What is cyclic AMP? what is its metabolic importance.
5. Methyl malonyl aciduria.
6. Define basal metabolic rate. What are the factors that affect BMR?
7. Describe the synthesis and secretion of thyroxin.
8. Enzyme profile in myocardial infarction.
9. Define isoelectric PH and give the importance.
10. Enumerate the salient features of active transport. Give two examples where drugs inhibit active transport.
11. Renal functional tests.
12. What are liposomes? Mention their users in biology and medicine.

**SHORT ANSWERS (No Choices)**

**10 X 3 = 30 Marks**

13. Folate antagonists.
14. Protein sparing effect of carbohydrate.
15. Tocopherol.
16. Antidiuretic hormone.
17. Epimerism.
18. Metalloenzyme.
19. Rancidity.
20. Explain why amylase can digest starch but not cellulose.
21. Give two examples of each of globular and fibrous proteins.
22. Biological antioxidants.

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**BIOCHEMISTRY PAPER-II**

**Q.P Code : RS -206**

*Your answers should be specific to the questions asked.*

*Draw neat labeled diagrams wherever necessary.*

**LONG ESSAY**

**2 X 10 = 20 Marks**

1. What is 'Fasting and post prandial' blood glucose level? Discuss in detail on 'Homeostasis of blood glucose'.
2. Discuss in detail metabolism of tryptophan. Add a note on 'Carcinoid syndrome'.

**SHORT ESSAY**

**10 X 5 = 50 Marks**

3. Explain 'Chemiosmotic theory' of 'Oxidative Phosphorylation'.
4. Discuss the role of LDL-cholesterol in 'Atherosclerosis'.
5. Rapaport leubering cycle.
6. Explain 'Respiratory acidosis'.
7. Biochemical mechanism involved in 'Sickle cell anemia'.
8. Obstructive jaundice.
9. Explain 'Non-oxidative deamination' with suitable example.
10. Gout.
11. Genetic codes and its salient features.
12. Initiation of protein synthesis in Prokaryotes.

**SHORT ANSWERS**

**10 X 3 = 30 Marks**

13. Give three examples for 'Inhibitor of DNA replication'.
14. Role of 'Rho' factor in termination of transcription.
15. Good cholesterol.
16. Give three examples for clinical condition in which cholesterol is elevated in blood.
17. Name three buffers present in erythrocyte.
18. Give three examples for 'Extracellular Anions'.
19. Give an example for enzyme containing a) Copper b) Selenium c) Zinc
20. Write three 'medical application' of polymerase chain reaction (PCR).
21. Give three examples for 'Oncosuppressor gene'.
22. Carcinoembryonic antigen (CEA).