SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH

(A DEEMED TO BE UNIVERSITY)

M.B.B.S. PHASE – I Degree Examination – October -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 Two only) **2 X 10 = 20 Marks**

1. What are sulfur containing amino acids? What is SAM? Explain transmethylation with examples? Why homocysteine is dangerous to the body?
2. What is michaelis menten constant. Explain various factors affecting the enzyme activity.
3. What are the sources of purine bases? Describe the steps of purine synthesis with regulation.

SHORT ESSAY (Answer any Ten only) **10 X 5 = 50 Marks**

4. How Phenylalanine is converted in to tyrosine. Discuss two important inborn errors of tyrosine metabolism.
5. How urea is synthesized in the body and how it is regulated.
6. Define respiratory quotient. Describe its relations to major food substances.
7. Write briefly about Pyruvate dehydrogenase complex and mention its significance.
8. Enumerate the renal function tests and write in detail about creatinine clearance test.
9. Describe the catabolism of Heme.
10. Explain the mechanism of action of hormones having cell surface receptors.
11. What are Isoenzymes? and write any two important isoenzymes of clinical significance.
12. Explain the role of Oncogenes and Oncosuppressor genes.
13. Write in brief about fructose metabolism.
14. Write about the biologically important nucleotides.
15. Define BMR. Explain the factors influencing in BMR.

SHORT ANSWERS (No Choices) **10 X 3 = 30 Marks**

16. What are the essential fatty acids? What are the important products formed from arachadonic acid?
17. Significance of HMP pathway.
18 Co- enzyme forms of Vitamin A.
19. Seleno Cysteine.
20. Myoglobin.
21. Renin-Angiotensin System.
22. Biochemical functions of Vitamin C.
23. What is Apoptosis? Give its significance.
24. Renal Glycosuria.
25. What is Anion Gap and give its significance.

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Time : 3 Hrs. **[Max. Marks : 100]**

BIOCHEMISTRY - PAPER-I

Q.P Code : RS -205

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

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

1. What are enzymes? Describe mechanism of action of enzymes and its importance in clinical medicine.
2. Describe the sources, biochemical functions, normal requirement and deficiency manifestations of vitamin D?

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

3. Lipid peroxidation.
4. Functions of plasma proteins.
5. Digestion and absorption of carbohydrates.
6. Briefly outline the structure of biomembrane with the help of diagram.
7. Give diagrammatic representation of mechanism of steroid hormone action.
8. Classify lipoproteins and discuss any one of them.
9. Biological effects of glucocorticoids.
10. Mucopolysaccharides.
11. Factors influencing enzyme activity.
12. How will you classify amino acids on nutritional importance?

SHORT ANSWERS (No Choices) **10 X 3 = 30 Marks**

13. Synthetic nucleotides.
14. Renal glycosuria.
15. Precipitation of proteins.
16. Immobilized enzymes.
17. Glutathione.
18. Vitamin antagonists.
19. Liver function tests.
20. Applications of bioinformatics.
21. Cerebrosides.
22. Role of dietary fiber in the human body.

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M.B.B.S. PHASE – I Degree Examination – October-2017

Time : 3 Hrs. **[Max. Marks : 100]**

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. Describe the pathway for urea formation. Discuss the causes and mechanism of ammonia toxicity of brain.
2. What is recombinant DNA and process of recombinant technology? Give its applications.

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

3. Porphyrias.
4. Iron homeostasis in human body.
5. Explain the biochemical changes in the cell on malignant transformation.
6. Respiratory alkalosis.
7. Enumerate ketone bodies. How are they formed? Name conditions in which ketosis develops.
8. Regulation of blood glucose homeostasis.
9. Electron transport chain.
10. Formation and fate of acetyl CoA.
11. Oxidation of xenobiotics by cytochrome P_{450}.
12. Polyamines.

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

13. What is lesch-nyhan syndrome? Explain the biochemical bases.
14. Folate analogs and their use as anticancer agents.
15 Hypokalemia.
16. Hepcidin.
17. Alkali reserve.
18. Glycosuria.
19. Tumour suppressor genes.
20. Over hydration.
21. Regulation of serum calcium level.
22. Post transcriptional processing.

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