

**SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH**  
**(A DEEMED TO BE UNIVERSITY)**

**M.B.B.S. PHASE – I Degree Examination – January-2015**

**Time : 3 Hrs.**

**[Max. Marks : 100]**

**BIOCHEMISTRY**

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

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

**LONG ESSAY**

**2 X 10 = 20 Marks**

1. Name the plasma lipoproteins. Explain the general structure of lipoprotein and the lipid transport plasma lipoproteins.
2. Explain the reactions, regulation, inhibitors and energetic of aerobic glycolysis.

**SHORT ESSAY**

**10 X 5 = 50 Marks**

3. Transcription in prokaryotes.
4. Blood glucose regulation.
5. Heme biosynthesis and describe the structure of heme.
6. Henderson- Hasselbalch equation.
7. Km value.
8. Special products from cholesterol.
9. Phenylketonuria.
10. Respiratory acidosis.
11. Absorption and storage of Iron.
12. Liver functions tests.

**SHORT ANSWERS**

**10 X 3 = 30 Marks**

13. Chondroitin sulphate.
14. RDA and deficiency of thiamine.
15. Mechanism of action of growth hormone.
16. Saponification.
17. Applications of PCR.
18. Hypocalcemia.
19. HMG CoA.
20. Ribosomes.
21. Dietary fiber.
22. Internal quality control.

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

**2 X 10 = 20 Marks**

1. Explain the chemiosmotic theory of oxidative phosphorylation. Describe the proton pump and mechanism of ATP Synthesis.
2. Describe the  $\beta$  oxidation of fatty acids. Explain its energetics and defects.
3. Define gluconeogenesis. What are the key gluconeogenic enzymes? What is the significance of gluconeogenesis? How it is regulated?

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

**10 X 5 = 50 Marks**

4. What are the different types of structure of protein? Describe in detail the secondary structure of protein.
5. Enumerate the liver function tests.
6. What are the biochemical functions of sulfur containing vitamins?
7. What are the biological important products derived from Glycine?
8. Explain Heteropolysaccharides in detail.
9. Explain the digestion, absorption of lipids.
10. Explain the mechanism of action of steroid hormones.
11. What are micronutrients? Discuss the importance of Zinc and Selenium.
12. What is translation? Discuss the important post translational modifications.
13. What is the biological importance of Endoplasmic reticulum and peroxisomes.
14. Describe the synthesis and significance of polyamines.
15. Describe the oxygen dissociation curve.

**SHORT ANSWERS**

**10 X 3 = 30 Marks**

16. What is carnitine? Mention its biochemical importance.
17. Lysosomes.
18. Energetics of TCA Cycle.
19. Clinical importance of Isoenzymes.
20. Functions of tRNA.
21. Sorbitol path way.
22. Meisters Cycle.
23. Melationin.
24. PEM.
25. What is telomere and give the functions of telomerase.

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