

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

**M.B.B.S. PHASE – I Degree Examination – January-2016**

**Time : 3 Hrs.**

**[Max. Marks : 100]**

**BIOCHEMISTRY**

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

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

*Draw neat labelled diagrams wherever necessary.*

**LONG ESSAY (Answer any Two)**

**2 X 10 = 20 Marks**

1. Write in detail about citric acid cycle-substrates, pathway and bioenergetics of the cycle. Add a note on the vitamins that are essential for citric acid cycle.
2. Write in detail about digestion and absorption, serum reference interval and regulations of homeostasis of calcium. Add a note on hypercalcemia and hypocalcemia.
3. Write in detail about replication of DNA. Add a note DNA repair mechanisms.

**SHORT ESSAY (Answer any Ten)**

**10 X 5 = 50 Marks**

4. Structure of collagen.
5. Restriction fragment length polymorphism.
6. Phases of metabolism of xenobiotics.
7. Von Gierke's disease.
8. Classify aminoacids based on polarity with examples.
9. Koshland's induced fit theory.
10. What are Ketone bodies? Describe the biochemical basis of diabetic ketoacidosis.
11. Hyperuricemia.
12. Phenylketonuria.
13. Lac operon.
14. Chylomicrons.
15. Features of genetic code.

**SHORT ANSWERS (No choices)**

**10 X 3 = 30 Marks**

16. Essential fatty acids.
17. Bioenergetics of anaerobic glycolysis.
18. Derivatives of cholesterol.
19. Renal glycosuria.
20. Name the enzymes defective in:  
i) Maple syrup urine disease ii) lesch Nyhan syndrome iii) Niemann Pick's disease.
21. What is Km value in enzyme kinetics?
22. Vandenbergh test.
23. Give reference interval for the following parameters:  
i) fasting blood glucose ii) serum amylase iii) serum lipase
24. Scurvy.
25. Significance of Hexose monophosphate pathway.