

Seat No. : _____

NB-104

December-2015

B.Sc., Sem.-V

Core Course-301 : Biochemistry

(Metabolism)

Time : 3 Hours]

[Max. Marks : 70

1. (a) Discuss Glycolysis with reference to its reactions and regulation. **10**
(b) Calculate the ATP formation when glucose is completely oxidized. **4**

OR

- (a) Discuss degradation of Glycogen in detail. How is it different in liver and skeletal muscles and why ? **10**
(b) Describe Cori's cycle. **4**

2. (a) Discuss Deamination of amino acids. **12**
(b) Write the structure and role of creatine. **2**

OR

Discuss Urea cycle in detail with reference to its reactions, regulation and localization. **14**

3. (a) Discuss Catabolism (degradation) of PUFA. **7**
(b) List various ketone bodies and explain their formation. **7**

OR

- (a) Discuss synthesis of Lecithin and Cephalin. **9**
(b) State the differences between Fatty acid biosynthesis and degradation. **5**

4. (a) Discuss the oxidation reactions of TCA cycle. **8**
(b) Discuss Glyoxylate cycle with reference to its localization, reactions and regulation. **6**

OR

- (a) Discuss Aspartate Malate Shuttle. **4**
(b) Describe the complexes of Electron transport chain with their role. Draw a labelled diagram of it. **10**

5. Answer to the point : **14**
- (1) Define Uricotelic organism with an example. **2**
 - (2) What is the effect of Valinomycin on oxidative phosphorylation and why ? **2**
 - (3) Name two inhibitors of Electron transport chain. **1**
 - (4) Write complete reaction catalyzed by Glutamate Dehydrogenase. **2**
 - (5) Name two high energy compounds. **1**
 - (6) Define Gluconeogenesis. Where and under what conditions does it occur ? **2**
 - (7) Name the key enzyme in Glycogen synthesis and write its reaction. **2**
 - (8) What is the role of Carnitine in lipid metabolism ? **1**
 - (9) Name two in-born errors of lipid metabolism. **1**
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