

4th May, 13

Bio-chemistry - II Sem - IV (Regular)

4/5/13

Sem - IV (Rev.) Reg. Bio-chemistry - II

20 : 1st half. 13-shilpa(f)

Con. 2373-13.

(REVISED COURSE)

DC-7087

(2 Hours)

[Total Marks : 40

- N.B. :** (1) Questions No. 1 is **compulsory**.
(2) Attempt any **four** questions out of remaining **six** questions.

1. (a) Discuss Glycolysis in general (along with structures, enzymes and co-factors). Explain how it differs in RBCs ? **6**
(b) Calculate energy in terms of ATP for complete metabolic degradation of fatty acid with formula $20 : 4$ **2**
2. Give the names and structures of the substrate and products of the following enzyme reactions :- (any **four**) **8**
 - (a) β - keto acyl ACP reductase
 - (b) Aldolase
 - (c) Lactate dehydrogenase
 - (d) Adenylsuccinate synthetase
 - (e) β - hydroxyacyl CoA dehydrogenase
 - (f) Glucose 6 - phosphate dehydrogenase
 - (g) Transketolase.
3. (a) "Energy of the universe is conserved though transfer of one form to other form of energy in living organism is possible", Justify. **4**
(b) What is the role of various organs in absorption and distribution of lipids in the body ? **4**
4. (a) If lipid profile of a person shows high LDL and cholesterol levels, suggest a suitable drug and discuss its effect on biochemical process / enzyme(s) involved. **4**
(b) Describe biosynthesis of pyrimidine base pair of RNA (CTP). **4**
5. (a) Describe TCA cycle and explain why it is called as open cycle ? **6**
(b) Differentiate between oxidative phosphorylation and photophosphorylation. **2**
6. (a) "ATP as a carrier of energy" Justify. What is oxidation ? State on carbon in carbondioxide ? **4**
(b) Write a note on Ketogenesis. **4**
7. Write the structures of the given starting material as well as product and name the enzymes required for the conversion (any **four**) :- **8**
 - (a) Squalene to squalene epoxide
 - (b) Xanthine to uric acid
 - (c) Malonyl CoA to Malonyl ACP
 - (d) α -D-Ribose- 5- phosphate to 5 - Phosphoribosyl- α -pyrophosphate (PRPP)
 - (e) L - methylmalonyl CoA to succinyl CoA
 - (f) Pyruvate to oxaloacetate.
