

First half of 2015

S. Y.B. Pharm

Biochem - I

QP Code : 13422

(3 Hours)

[Total Marks : 70]

N.B.: (i) All questions are compulsory.

1. (a) Define "Glycolysis." 1
 (b) The key regulatory enzyme of cholesterol biosynthesis is _____. 1
 (c) How many NADH molecules are produced after 6 turns of β -oxidation pathway. 1
 (d) Name the components involved in ETC cycle. 1
 (e) Total ATP produced for 1 molecule of glucose under aerobic condition is 48. True or false. 1
 (f) Draw the structure of purines. 2
 (g) Name any two drugs inhibiting Telomerase. 2
 (h) Enlist the changes required for converting hnRNA to Active mRNA. 2
 (i) Define glycogenesis and gluconeogenesis 2
 (j) Name any two diseases due to disorders of purine metabolism. 2
2. (a) Explain in brief Embden-Meyerhof pathway. 4
 (b) Describe the process of protein synthesis proper and give any two drugs inhibiting the same. 4
 (c) Draw the salvage pathway of purine nucleotide synthesis. 3
3. (a) Give the name and structures of the substrate and products of the following enzyme reactions (any two) 4
 (i) Succinate dehydrogenase
 (ii) Glucuronolactone hydrolase
 (iii) Enoyl CoA hydrolase
 (b) Write the structures of the given substrate and product and name the enzyme catalyzing the reaction (any two) 4
 (i) Glyceraldehyde 3-phosphate \rightarrow fructose 6 phosphate.
 (ii) Phosphatidic acid \rightarrow 1,2-Diacylglycerol
 (iii) Adenylsuccinate \rightarrow Adenosine monophosphate
 (c) Explain method for DNA sequencing 3
4. (a) Explain proton motive force 2
 (b) Enlist ketone bodies and draw structure of any one 2
 (c) Explain β -oxidation of saturated even number fatty acid. 3
 (d) Explain peptide sequencing by Edman method. 4

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| 5. | (a) Explain oxidative phosphorylation with example
(b) Describe the process of DNA replication in prokaryotes.
(c) Write a short note on post transcriptional modification of protein. | 3
4
4 |
| 6. | (a) Explain the terms DNA polymorphism and SNPs and its involvement in disease state.
(b) Discuss briefly solid phase peptide synthesis
(c) Explain the metabolic pathway for the synthesis of pyrimidine nucleotides. | 3
4
4 |