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No. of Printed Pages: 02

SEAT No._____

[33]

Sardar Patel University

M. Sc. Integrated Biotechnology Examination, Fourth Semester
Thursday, 12th April, 2018
10:00 a.m. to 01:00 p.m.
PS04CIGB02: Biochemistry – II

Total Marks: 70

Notes: - (1) Figures to the right indicate marks.
(2) Draw neat and labeled diagram, wherever necessary.

Q.1 **Choose the Correct Answers of the Following.** [08]

1. _____ catalyze the non-hydrolytic removal of groups from substrate, often leaving double bond.
   (a) Hydrolases (b) Oxidoreductases (c) Lyases (d) Isomerases
2. The term enzymes are coined by____.
   (a) Pasteur (b) Kuhne (c) Miller (d) Buchner
3. Continuous bleeding from an injured part of body is due to deficiency of ___.
   (a) Vitamin A (b) Vitamin B (c) Vitamin K (d) Vitamin E
4. The disease pellagra is due to a deficiency of _____.
   (a) Pantothenic acid (b) Nicotinic acid (c) Biotin (d) Folic acid
5. Which out of the following is required as a coenzyme for the transamination reactions?
   (a) pyridoxal phosphate (PLP) (b) Folic acid (c) tyrosine (d) Cobalamine
6. Which of the following is a common compound shared by the TCA cycle and the Urea cycle?
   (a) Succinyl CoA (b) Fumarate (c) α – Keto glutarate (d) β – proline
7. Phenylketonuria (PKU) is caused by decreased activity of _____.
   (a) Phenylalanine transaminase (b) Phenylalanine reducatse
   (c) Phenylalanine hydroxylase (d) Phenylalanine phosphorlyase
8. _____ is not inherited diseases caused due to defect in metabolism.
   (a) Alkaptonuria (b) tyrosinaemia (c) galactosaemia (d) Aniridia

Q.2 **Answer the following in short. (Attempt Any Seven)** [14]

1. Define : Coenzyme, Holoenzyme and apoenzyme.
2. Any two examples of oxidoreductase.
3. Vitamin like compound Choline.
4. Biological functions of Vitamin D.
5. Enlist the importation of fatty acids.
6. What is protein turnover?
7. Which are the different sources of amino acid?
8. Write the diagnosis and treat of Alkaptonuria.
9. Narrate the signs and symptoms of GOUT Disease.

[P.T.O.]

Q.3 (A)	What is anabolism and catabolism? Explain energy coupling reaction.	[06]
(B)	Explain the Classification for Transfarases enzyme with examples.	[06]
	OR	
(B)	Explain the Classification for Hydrolases enzyme with examples.	[06]
Q.4 (A)	Describe chemistry, functions & deficiency manifestations of Vitamin A.	[06]
(B)	Explain β-oxidation in detail.	[06]
	OR	
(B)	Describe chemistry, functions and deficiency manifestations of Vitamin B1.	[06]
Q.5 (A)	Explain Urea cycle in detail.	[06]
(B)	Explain transamination reaction in detail with example.	[06]
	OR	
(B)	Write down biosynthesis of amino acid derived from α-ketoglutarate.	[06]
Q.6 (A)	Write an Explanatory note on Phenylketonuria (PKU).	[06]
(B)	Write an explanatory note on Galactosemia.	[06]
	OR	
(B)	Write a note on Fatty acid oxidation defects.	[06]

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