(A-10) Seat NO: _____ No. of Printed Pages : 3 SC

SARDAR PATEL UNIVERSITY

T.Y.B.Sc EXAMINATION - SEMESTER-V (NC)

MICROBIOLOGY -- US05CMIC03

Microbial Physiology & Enzymology

Date: 12/05/2016 Time: 10:30 am to 01:30 pm

Day: Thursday Total marks: 70

N.B: Figures on the right indicate marks.

Q.1 M.C.Q. (01 - mark each) **10**

1 Which of the following is not a component of ,Binding protein transfer,nutrient transport mechanism?
(a) Lam B. (b) Maltose binding protein.
(c) Maltose permease complex. (d) All of the above.

2 Symport- permease transport nutrient in which of the following way ?
(a) One molecule in one direction. (b) One molecule in both direction.
(c) More than one molecules in both direction. (d) None of the above.

3 Sulfonamides affect synthesis of Folic acid by inhibiting activity of _____ enzyme.
(a) Di hydroxy Peteroate synthatase. (b) Enzyme-II.
(c) Enzyme-III. (d) None of the above.

4 Which of the following is not an example of semi-synthetic tetracycline?
(a) Amphicillin. (b) Amoxycillin.
(c) Oxacillin. (d) None of the above.

5 Which of the following is not a drawback of penicillin antibiotic?
(a) Inactivated by Gastric juice. (b) Inactivated by β-lactamase.
(c) Extracted by kidneys. (d) All of the above.

6 Give names of the class of enzyme which catalyse the non-hydrolytic removal of groups from the substrates.
(a) Ligases. (b) Hydrolases.
(c) Transferases. (d) Lyases.

7 When co-factor is an organic molecules,it is known as_____.
(a) Apoenzyme. (b) Coenzyme.
(c) Holoenzyme. (d) None of the above.

8 Epimerases are the enzymes which do not show _____ specificity.
(a) Substrate. (b) Reaction.
(c) Optical. (d) Group specificity.

9 In competitive inhibition,value of Vmax is _____.
(a) Increased. (b) Decreased.
(c) Unchanged. (d) Infinite.

10 Lineweaver Burk plot is drawn using _____.
(a) Vo→ [So] (b) 1/Vo → 1/[So].
(c) Vo → Vo/[So]. (d) [So]/Vo → [So].

(P.T.O.)

Q.2 **Give short answers to the following questions. (02 - marks each) (Any Ten)** **20**

1 Write few characteristics of Signal-peptides.

2 Give importance of Siderophores and also mention it's function.

3 Draw neat labeled diagram of fluid-mosaic model of cell membrane.

4 Write briefly about mode of action of Tetracycline antibiotic.

5 Enlist few disadvantages of Streptomycin antibiotic..

6 Enlist types of Bacterial movement.Also give examples of each.

7 Write about the classes of ligase.

8 What is activation energy?

9 What are Zymogens?

10 Derive the value of Km using M-M equation where Vo=1/2 Vmax.

11 What is Km?

12 Write salient features of Allosteric enzymes.

Q-3 Write short notes on:-

(A) Binding Protein transfer as nutrient transport process. **05**

(B) Siderophores. **05**

OR

Q-3 Write short notes on:-

(A) Write short note on:- Signal peptides. **06**

(B) Osmosis. **04**

Q-4 Write short note on:-

(A) Various mechanism of resistance to antibiotic. **05**

(B) Germination of Endospore. **05**

OR

Q-4 Write mode of action of following antibiotic:- **06**

(A) 1 Penicillin. 2 Streptomycin. 3.Polymyxins.

(B) Write on various mode of action of Chemotherapeutic agents. **04**

Q-5 Write short note on:-

(A) Enzyme specificity. 05

(B) Enlist general properties of Enzymes. 05

OR

Q-5 Write short note on:-

(A) Active site of Enzyme. 05

(B) Isoenzymes. 05

Q-6 Describe in detail Michaelis-Menten equation using equilibrium as well as steady state assumption. 10

OR

Q-6 Describe in detail about enzyme inhibition. 10

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