

V.P & R.P.T.P SCIENCE COLLEGE

Vallabh Vidyanagar

Internal Test : 2018

Date: 03-10-18

B.Sc Vth Semester

Total Marks - 50

Time : 10:00 to 12:00 noon

Microbiology - US05CMIC03

Q.1 Multiple choice questions.

(08)

- The process in which water crosses the membrane in response to the concentration gradient of the solute is known as :
 - Passive diffusion
 - Facilitated diffusion
 - Active transport
 - Osmosis
- How many number of Na^+ & K^+ are exchanged across the membrane in Sodium – Potassium pump.
 - 1 Na^+ & 1 K^+
 - 2 Na^+ & 2 K^+
 - 3 Na^+ & 2 K^+
 - 3 Na^+ & 3 K^+
- Which of the following is a semi synthetic penicillin ?
 - Sulphonamide
 - D – cycloserine
 - Ampicillin
 - None of the above
- Which of the following is antiviral drug used against AIDS?
 - Acyclovir
 - AZT
 - Amantadine
 - None of the above
- The E.C. number of alcohol dehydrogenase is _____
 - 1:2:1:4
 - 1:1:1:1
 - 2:1:2:1
 - 1:1:2:2
- Purification process for UMP Synthase was set out by :
 - Ron Kaback
 - James Sumner
 - Kuhne
 - Mary Ellen Jones
- Which of the following kinetic parameter can be determined from intercept on Y axis of Line- Weaver Burk plot.
 - K_m
 - K_i
 - K_s
 - V_{max}
- Name the type of reaction in which Biotin is used as co-enzyme.
 - Carboxylation
 - Phosphorylation
 - Alkylation
 - Oxidation – Reduction





Q.2 Short Answer questions. (Attempt any Five) (10)

- 1) Explain the fluid mosaic model of Singer & Nicolson.
- 2) Explain Symport and Antiport.
- 3) Give the advantages of semi synthetic penicillin over natural penicillin.
- 4) List the morphological events takes place during sporulation.
- 5) What is active site ? List the salient features of active site.
- 6) Write Six classes of enzymes according to the IUB system of enzyme classification.
- 7) Explain first order reaction.
- 8) List the properties of allosteric enzyme.

Q.3 What is passive transport ? Discuss the passive transport processes of solute transport across the membrane. (08)

OR

Q.3 What is Siderophore ? Discuss the roles of siderophore in detail. (08)

Q.4 Explain the mode of action of : (08)
(i) Sulfonamides (ii) Penicillin (iii) Streptomycin

OR

Q.4 What is Endospore ? Discuss the process of Sporulation in detail. (08)

Q.5 Discuss various factors affecting Enzyme activity. (08)

OR

Q.5 Discuss the Following
(a) Specificity of enzymes. (03)
(b) Isoenzymes (05)

Q.6 What is K_m ? Derive the equation to calculate K_m value. (10)

OR

Q.6 Write on :
(a) Reversible inhibition (05)
(b) Covalent modification of Glycogen phosphorylase (03)

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