

(A-10) Seal No: \_\_\_\_\_

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SARDAR PATEL UNIVERSITY

SEMESTER-V (NC)

B.Sc. EXAMINATION MICROBIOLOGY

US05CMIC05

(Microbial Diversity and Ecology)

Date: 14/05/2016

Time: 10:30 a.m. to 1:30 p.m.

Day :

Saturday

Total marks: 70

N.B: Figures on the right indicate marks.

Q.1 Select the correct answer for each question from the given options. (10)

- 1 Takadiastase is isolated and prepared from\_\_\_\_\_.  
(a) *Penicillium notatum* (b) *Aspergillus oryzae*  
(c) *Saccharomyces cerevisiae* (d) None of the above
- 2 Aflatoxin - a potent carcinogenic agent was isolated from\_\_\_\_\_.  
(a) *Alternaria solani* (b) *Mucor mucedo*  
(c) *Aspergillus flavus* (d) *Penicillium notatum*
- 3 Root like aggregation of somatic hyphae are called\_\_\_\_\_.  
(a) Rhizomorph (b) Plectenchyma  
(c) Pseudoparenchyma (d) None of the above
- 4 The mean number of phage particles liberated per infected bacterium is known as\_\_\_\_\_.  
(a) Burst time (b) Burst number  
(c) Burst size (d) None of these
- 5 The color of Anoxygenic photosynthetic bacteria determined by\_\_\_\_\_pigment.  
(a) BChl (b) caotenoid  
(c) chromophore (d) plastoquinone

1/3

(P.T.O.)

(1)

- 6 *Ureaplasma* require \_\_\_\_\_ for their growth.
- (a) Urea (b) Alcohol  
(c) Uric acid (d) Cholesterol
- 7 Family Chloroflexaceae exhibits \_\_\_\_\_ motility.
- (a) brownian (b) swimming  
(c) gliding (d) None of the above
- 8 In Doermann's experiment \_\_\_\_\_ is measured as phage DNA equivalents.
- (a) 5-HMC (b) Adenine and Cytosine  
(c) Cytosine (d) Guanine and Cytosine
- 9 Co-metabolism is an example of \_\_\_\_\_.
- (a) Commensalism (b) Mutualism  
(c) Synergism. (d) None of the above
- 10 Negative relationship is observed in \_\_\_\_\_ of the following situation.
- (a) At high population level. (b) At low nutrition level.  
(c) At limited space. (d) All of the above

Q.2 Give short answers to the following questions. (Attempt Any Ten) (20)

- 1 What is plasmodium?
- 2 Draw the diagram of haustorium and state its functions.
- 3 What is the importance of *Claviceps purpurea* in medicine?
- 4 What are the clinical manifestations of a patient suffering from AIDS ?
- 5 What are the physical properties of POX virus?
- 6 What is the difference between one step growth experiment and single burst experiment ?
- 7 Describe the habitat of Anoxygenic phototrophic bacteria.
- 8 Give four names non-cultivable genera metabolizing sulfur compounds.
- 9 Explain the differences between Archaeobacteria and eubacteria.
- 10 Enlist few amensalistic products produced by microorganisms.
- 11 Define:-Mycorrhizae and Rhizosphere effect.

12 Define:- community and ecosystem.

- Q.3 (A) Explain in brief about thallus. (4)  
(B) Explain sexual reproduction in fungi. (6)

OR

- Q.3 (A) Write a short note on septal pore. (4)  
(B) Enlist the various modifications of fungal hyphae and describe any two in detail (6)

- Q.4 What is parasitism? Discuss bacterial plant pathogens with life cycle of *Agrobacterium tumefaciens*. (10)

OR

- Q.4 Write an exhaustive notes on mutualism interaction. (10)

- Q.5 (A) Describe the life cycle of HIV. (5)  
(B) Explain :How does variola and vaccinia virus differ ? (5)

OR

- Q.5 (A) Describe the morphology of pox virus with a help of labeled diagram. (4)  
(B) Write notes on single burst experiment and its significance. (6)

- Q.6 Write notes on following:  
(A) Actinomycetes (6)  
(B) Characteristics of genera Spirochaetes. (4)

OR

- Q.6 Write notes on following:  
(A) Extreme halophiles and Thermoacidophiles (6)  
(B) Chlamydias (4)

3/3

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3