

SEAT No. \_\_\_\_\_

No. of Printed Pages: 2

[98]

**SARDAR PATEL UNIVERSITY**

**B. Sc. Examination Semester – 5,**

**Subject Code: US05CMIC05**

**Subject Title: Microbial Diversity and Microbial Ecology**

Date: 30/12/2020

Time: 2.00pm to 4.00 pm

wednesday

Total marks: 70

**N.B: Figures on the right indicate marks.**

Q.1 Multiple Choice Questions.

[10]

- 1 \_\_\_\_\_ are thick-walled, resistant spores and released only after death of hyphae.  
(a) Conidiocspores (b) Chlamydo spores  
(c) Sporangiospores (d) (a) & (b) both
- 2 \_\_\_\_\_ is the intracellular absorptive structure developed by plant parasitic fungi.  
(a) Haustorium (b) Sclerotium  
(c) Stomata (d) Appressorium
- 3 \_\_\_\_\_ is used in brewing and baking industries.  
(a) *Aspergillus oryzae* (b) *Gibberella fujikuroi*  
(c) *Saccharomyces cerevisiae* (d) *Penicillium notatum*
- 4 \_\_\_\_\_ is the genetic material of HIV.  
(a) Two single(+sense)RNA (b) Two single(+sense)DNA  
(c) ds RNA (d) All of these
- 5 \_\_\_\_\_ are the infectious agents of potato spindle tuber disease .  
(a) Algae (b) Bacteria  
(c) Viruses (d) Viroids
- 6 The causative agent of small pox is \_\_\_\_\_  
(a) Vaccinia virus (b) Variola virus  
(c) (a) & (b) both (d) Hepatitis virus
- 7 Mycoplasma are placed in taxonomic class \_\_\_\_\_  
(a) Tenericutes (b) Mollicutes  
(c) Gracilicutes (d) None of these
- 8 \_\_\_\_\_ group contains Gram Positive filamentous bacteria.  
(a) Rickettsia (b) Mycoplasma  
(c) Actinomycetes (d) Chlamydia
- 9 Mycorrhizae is an example of \_\_\_\_\_ interaction.  
(a) Mutualism (b) Commensalism  
(c) Neutralism (d) Synergism
- 10 All of the following are examples of negative interactions among microbes except \_\_\_\_\_.  
(a) Predation (b) Parasitism  
(c) Amensalism (d) Mutualism

[1]

(P.T.O.)

**Q.2 Fill in the Blanks and True-False**

[08]

- 1 The aseptate, multinucleate mycelium is called \_\_\_\_\_.
- 2 The hypha is a structural unit of the mycelium. - T/F
- 3 Virusoids are formerly called \_\_\_\_\_.
- 4 The initial stage of the latent period is called eclipse period in a phage infected bacteria. - T/F
- 5 Family chloroflexaceae exhibits \_\_\_\_\_ motility.
- 6 *Rickettsia* are unable to make ATP. - T/F
- 7 Each population occupies a \_\_\_\_\_ (functional role) within the community.
- 8 The community and habitat are part of a larger system called ecosystem. - T/F

**Q.3 Short Questions (Attempt any ten)**

[20]

- 1 What is holocarpic and eucarpic thallus?
- 2 What is plasmodium in fungi?
- 3 Draw neat and labeled diagram of 9+2 structure of fungal flagella.
- 4 Give two examples of diseases caused by prion.
- 5 Draw neat and labeled diagram of HBV.
- 6 Enlist types of Hepatitis viruses.
- 7 How does *Rickettsia* differ from *Chlamydia*?
- 8 Write two differences between archaeobacteria and eubacteria?
- 9 Describe the habitat of anoxygenic phototrophic bacteria.
- 10 What is difference between autochthonous and allochthonous population?
- 11 What is rhizosphere effect?
- 12 What is antagonism?

**Q.4 Attempt (any four) from the following long questions**

[32]

- 1 Write in detail on sexual reproduction in fungi
- 2 Write in detail on nutrition in fungi.
- 3 Describe the morphology of HIV with labeled diagram and name the cells that are infected by HIV in human body.
- 4 Write in detail on POX viruses.
- 5 Write an exhaustive note on spirochaetes.
- 6 Describe in detail halophiles and thermophiles.
- 7 Write on commensalism interaction among microbes with different examples.
- 8 What is mutualism? Write in detail on any three examples of mutualism among microbes.

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[2]