

[55/A13]

Seat No : _____

No. of Printed Pages : 2

SARDAR PATEL UNIVERSITY
B.Sc. EXAMINATION, SEMESTER - 5
SUBJECT: MICROBIOLOGY, US05CMIC05
Paper Title: Microbial Diversity & Ecology

Date :20/11/ 2019
Wednesday,

Time:10:00 a m to 1:00 p m
Total marks: 70

Note: (1) All the questions are compulsory.
(2) Figures on the right indicate marks.

Q.1 Answer the following.

10

- 1 Vitamin –Riboflavin is obtained from _____, a filamentous yeast.
(a) *Aspergillus flavus* (b) *Ashby gossypii*
(c) *Saccharomyces cerevisiae* (d) *Saccharomyces ludwigii*
- 2 The hypha is a structural unit of the _____.
(a) spore (b) unicellular thallus
(c) mycelium (d) none of these
- 3 Holocarpic thallus is found in _____ genera of fungi.
(a) *Synchytrium* (b) *Olpidium*
(c) *Plasmodiophora* (d) all of these
- 4 Virusoids are formerly called _____.
(a) satellite RNAs (b) satellite DNA
(c) RNA (d) ds DNA
- 5 The initial stage of the latent period is called _____ in a phage infected bacteria
(a) eclipse period (b) burst size
(c) rise period (d) burst period
- 6 Prions are infectious agents that consist only of _____.
(a) carbohydrates (b) lipids
(c) proteins (d) lipopolysaccharides
- 7 Axial flagella is an important characteristic of _____.
(a) *Chlamydia* (b) *Mycoplasma*
(c) *Rickettsia* (d) *Spirochetes*
- 8 Mycoplasma are placed in taxonomic class _____.
(a) Gracilicutes (b) Mollicutes
(c) Tenericutes (d) Non of these
- 9 Except _____, all are known as negative interactions among microbes.
(a) amensalism (b) synergism
(c) parasitism (d) predation
- 10 Negative interactions of microbes act to maintain _____.
(a) ecological balance (b) atmospheric balance
(c) acid – base balance (d) weighing balance

(1)

(PTO)

Q.2	Answer the following questions. (Any ten)	20
1.	What is budding? Explain it with an example.	
2.	What is pseudoparenchyma? Give an example of fungi producing it.	
3.	What is sclerotium? Give an example of fungi producing sclerotia.	
4.	Describe the morphology of Pox virus with labelled diagram .	
5.	What is the difference between one step growth experiment and single burst experiment?	
6.	Give two examples of diseases caused by prions.	
7.	Describe the habitat of anoxygenic phototrophic bacteria.	
8.	Give names of non-cultivable bacterial genera metabolizing sulphur compounds.	
9.	Write two characteristics of Spirochaetaceae family .	
10.	What is the difference between mutualism and synergism ?	
11.	What is the difference between autochthonous and allochthonous population ?	
12.	Define the terms 'niche' and 'ecosystem'.	
Q.3	(a) Describe in detail sexual reproduction in fungi.	06
	(b) What is haustorium & appressorium? Draw the diagram and state functions of each.	04
	OR	
Q.3	(a) Write a note on negative role of fungi.	06
	(b) What are the different sources of essential elements required by fungi?	04
Q.4	(a) Write in detail on structural, non-structural and regulatory genes of HIV.	07
	(b) Write on structure and resistance of HIV.	03
	OR	
Q.4	(a) Enlist the types of Hepatitis viruses and describe in detail about HBV	07
	(b) Write in brief about viroids.	03
Q.5	(a) Write a note on <i>Mycoplasma</i>	06
	(b) Describe about Thermoacidophiles.	04
	OR	
Q.5	(a) Write in detail on <i>Rickettsia</i>	06
	(b) Write on <i>Chlamydia</i> .	04
Q.6	Explain with suitable examples: co-metabolism, syntrophism, fungal garden and bioluminescence.	10
	OR	
Q.6	What is negative interaction ? Write an essay on parasitism	10