



AG-523

Seat No. _____

B. Sc. (Sem. IV) Examination

March / April - 2019

Microbiology : MI - 204

(Microbial Diversity)

(Core Course)

Time : 3 Hours]

[Total Marks : 70

PART - A

Answer all questions :

10

- 1 Who among the following proposed the five kingdom concept of classification?
(a) Robert Whittaker (b) Karl. Woese
(c) Stanley Miller (d) Robert Hook
- 2 Archea are similar to other bacteria in which of the following aspects ?
(a) Phylogeny (b) Cell wall
(c) Cell membrane (d) Prokaryotic nature
- 3 Fluorescence microscopy uses which kind of light for illuminating specimen?
(a) Visible light (b) UV light
(c) Infra red light (d) none of the above
- 4 The Mole% G+C content of prokaryotes is :
(a) 23 to 75% (b) 30 to 80%
(c) 30 to 50% (d) none of the above

- 5 Which of the following is a component of cell wall of Mycobacteria?
- (a) Techoic acids (b) Glyoxalic acid
(c) Mycolic acids (d) Oxalic acid
- 6 Pleomorphic morphology exhibits which shape ?
- (a) Cocci (b) Bacilli
(c) Spiral (d) None of the above
- 7 Which of the following bacteria use elemental Sulphur as energy source ?
- (a) Thiobacillus thiooxidans
(b) Pseudomonas aeruginosa
(c) Nitrobacter
(d) Bacillus thuringiensis
- 8 Which of the following microorganisms escape the ultra membrane filters?
- (a) Bacteria (b) Mycoplasmas
(c) Fungi (d) Viruses
- 9 Which of the following is not an extremophile?
- (a) Thermophiles (b) Barophile
(c) Mesophile (d) Halophile
- 10 What is the basis for the classification of Fungi ?
- (a) Types of sexual spores
(b) Mode of nutrition
(c) Mode of respiration
(d) All of the above

PART - B

Answer any Five :

10

- 1 Define Evolution.
- 2 What is Hotspot of Biodiversity ?
- 3 Name two spore forming bacteria.
- 4 What is Quorum sensing ?
- 5 Give full form of MBGD and PCR.
- 6 Name two Archaeobacteria.
- 7 What are Prions ?

PART - C

Answer any Four of the following :

16

- 1 Discuss Species concept.
- 2 What are mega diversity countries ?
- 3 Name classes of Bacteriophages.
- 4 Describe microbial diversity of Phototrophs.
- 5 What is a capsule ? Mention its functions.
- 6 Write a note on Lichens.

PART - D

Answer any Four of the following : 16

- 1 Differentiate between SEM and TEM.
- 2 Discuss Stanley Millers Experiment.
- 3 Biodiversity of bacteria on the basis of Nutritional requirement.
- 4 Biodiversity of Extreme environment.
- 5 Economic importance of Algae.
- 6 Discuss use of rRNA sequencing in Biodiversity.

PART - E

Answer any Three of the following : 18

- 1 Discuss the impact of Biodiversity on human life.
 - 2 Discuss morphological diversity of Bacteria.
 - 3 Discuss Types of Light Microscopy.
 - 4 Briefly discuss various genetic methods to study Biodiversity.
 - 5 Discuss diversity of bacteria on the basis of oxygen requirement.
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