

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2019
(Second Semester)

Branch - MICROBIOLOGY

MICROBIAL DIVERSITY AND TAXONOMY

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(10 x 1 = 10)

- 1 _____ includes multicellular eukaryotes.
(i) Animalia (ii) Protista
(iii) Plantae (iv) Monera
- 2 Phylogenetic tree of life built using _____ sequences.
(i) ribosomal RNA (ii) messenger RNA
(iii) transfer RNA (iv) recombinant DNA
- 3 Which one of the following organism is an example for green non-sulphur bacteria?
(i) Heliobacterium sp (ii) Chloroflexus sp
(iii) Chlorobium sp (iv) Rhodospirillum rubrum
- 4 Prochlorophyta acts as bridge between
(i) Cyanophyta and Bacillariophyta (ii) Cyanophyta and Chlorophyta
(iii) Cryptophyta and Cyanophyta (iv) Phaeophyta and Chlorophyta
- 5 _____ infected persons causes Typhus fever.
(i) Chlamydiae (ii) Spirochetes
(iii) Rickettsias (iv) Mycoplasma
- 6 Which microorganism colonies the characteristics of 'fried-egg' appearance?
(i) Mycoplasma (ii) E.Coli
(iii) Vibrio Cholerae (iv) Pasteurella
- 7 Thermus aquaticus is active at _____.
(i) 20°C (ii) 15°C
(iii) 30°C (iv) 80°C
- 8 The ribosomes of Halobacterium requires high _____ ions for stability.
(i) Ca⁺ (ii) K⁺
(iii) P⁺ (iv) Na⁺
- 9 The complete assembly of the infectious particle is known as
(i) Virusoids (ii) Virion
(iii) Satellite RNA (iv) Viroids
- 10 Who discovered the bacteriophage?
(i) Ernest Hankin (ii) Twort
(iii) Gamaleyev (iv) MaxDelbruck

Cont..

SECTION - B (35 Marks)

Answer **ALL** Questions

ALL Questions Carry **EQUAL** Marks (5 x 7 = 35)

- 11 a Bring out the five kingdom concept.
OR
b Classify the phylogenetic tree.
- 12 a Compare the green sulphur and green non-sulphur bacteria;
OR
b Explain the general characteristic features of photosynthetic bacteria.
- 13 a Analyse the classification of Actinomycetes.
OR
b Summarize the characteristic features and classification of mycoplasma.
- 14 a State the general characteristic features of Thermophilic archaea.
OR
b Narrate the unique phenotypic features of methanogenic archaea.
- 15 a Describe the classification of Animal DNA viruses.
OR
b Sketch the structure of Bacteriophage. «

SECTION - C (30 Marks)

Answer any **THREE** Questions

ALL Questions Carry **EQUAL** Marks (3 x 10 = 30)

- 16 Discuss the major characteristic used in microbial taxonomy.
- 17 Elucidates account on classification of cyanobacteria.
- 18 Examine the characteristic features of Enterobacteriaceae and Vibrionaceae.
- 19 Highlight the habitat, physiological adaptation and molecular applications of halophilic archaea.
- 20 Categorize the classification of plant RNA viruses.

Z-Z-Z

END