

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION DECEMBER 2018
(First Semester)

Branch - APPLIED MICROBIOLOGY

INTRODUCTORY MICROBIOLOGY.
MICROBIAL SYSTEMATICS & DIVERSITY

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

ALL questions carry EQUAL marks (10 x 1 = 10)

- 1 Who discovered antitoxins for diphtheria and tetanus?
(i) Von Behring & Kitasato (ii) Tyndall
(iii) Bassi & Lister (iv) none of the above
- 2 _____ is the time required to kill 90% of the microorganisms or spores in a sample at a specified temperature.
(i) TDT (ii) TDP
(iii) DRT (iv) Z value
- 3 Which of the following microscopy is used to study about chaperonin proteins & to map plasmids?
(i) Scanning probe microscopy (ii) Confocal
(iii) Atomic force microscopy (iv) All the above
- 4 Which of the following is a continuous culture system?
(i) Chemostat (ii) Turbidostat
(iii) both (i) & (ii) (iv) none of the above
- 5 Which of the following have distinctive antigenic properties?
(i) Morphovars (ii) Serotype
(iii) Serovar (iv) Biovar
- 6 _____ represents phylogenetic relationships but does not provide evolutionary path.
(i) Rooted tree (ii) Unrooted tree
(iii) Node (iv) Clade
- 7 The second edition of Bergey's manual has _____ volumes.
(i) 3 (ii) 10
(iii) 5 (iv) 6
- 8 Mycoplasma belongs to _____ class.
(i) Bacilli (ii) Proteobacteria
(iii) Mollicutes (iv) None of the above
- 9 Which of the following is called as Sac fungi?
(i) Zygomycetes (ii) Basidiomycetes
(iii) Ascomycetes (iv) Deuteromycetes
- 10 The infective form in protozoans is
(i) egg (ii) cyst
(iii) larva (iv) all the above

12 a Explain the principle and applications of Lyophilization.

OR

b Explain anaerobic culture techniques.

13 a Why rRNA sequencing is important?

OR

b What is Quorum sensing?

14 a List the salient features of Archeabacteria.

OR

b Brief on photosynthetic bacteria.

15 a Describe the structure of a algae cell.

OR

b Discuss the role of algae in sustainable environment.

SECTION -C (40 Marks!

Answer **ALL** questions

ALL questions carry **EQUAL** Marks (5 x 8 = 40)

16 a Explain Germ theory of diseases.

OR

b How sterilization is done in the industrial level?

17 a Discuss the major nutritional types of microorganisms.

OR

b Give an account on microbial type culture collection.

18 a Explain endosymbiotic hypothesis.

OR

b How molecular characteristics are useful in microbial taxonomy?

19 a Elaborate on the characteristic differences between Gram positive and Gram negative bacteria.

OR

b Give an account on methanogenic bacteria.

20 a Explain reproduction in Fungi.

OR

b Explain the characteristics of Phylum Sarcomastigophora. Add a note on its subphyla.