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M.Sc. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2022.

First Semester

Microbiology – Core

GENERAL MICROBIOLOGY AND DIVERSITY

(For those who joined in July 2021 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Agar-agar is obtained from Red algae used for the solidification of media was discovered by _____.
- (a) Fenny Hesse
 - (b) Louss Pasteur
 - (c) Robert Koch
 - (d) Anton Von Leevonhock

2. Largest bacterium known presently _____.
- (a) Thiomargarita magnifica
 - (b) Thiomargarita namibiensis
 - (c) Eupulofisum fishelsoni
 - (d) Sorrangium cellulosum
3. In fuorescemce microscopy the samples absorbed light in particular wavelength and emits at _____.
- (a) Higher wavelength
 - (b) Lower wavelength
 - (c) Same wavelength
 - (d) None of the above
4. What is the types of the electron beam that are reflected from the sample by elastic scattering in scanning electron microscopy?
- (a) Transmitted electrons
 - (b) Secondary electrons
 - (c) Black-scattered electrons
 - (d) None
5. The radiation used for disinfecting enclosed areas such as entry ways, operation theaters and laboratories is _____.
- (a) Infra red rays
 - (b) Gamma rays
 - (c) Ultraviolet rays
 - (d) Cosmic rays

6. Sterilization by Autoclave kills the microorganisms by _____.
- (a) denaturation of protein
 - (b) coagulation of protein
 - (c) denaturation of amino acids
 - (d) denaturation of nucleic acid
7. _____ mushroom is called fool's cap.
- (a) Amanita Muscaria
 - (b) Amanita virosa
 - (c) Amanita Verna
 - (d) Amanita Phalloides
8. Fungi day is observed on _____.
- (a) October - 2
 - (b) December - 1
 - (c) November 14
 - (d) April - 1
9. Algae are abundant in places with enough _____.
- (a) CO₂ and organic matter
 - (b) Inorganic salt
 - (c) Moisture and Sunlight
 - (d) Humus

10. Chlorella, Chlamydomonas, Chlorococcum, Protosiphon and oedogonium are The most _____ algae found in soil.
- (a) Green
 - (b) Pink
 - (c) Yellow
 - (d) Brown

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Describe about Bergey's Manul of systemic bacteriology.
- Or
- (b) Illustrate DNA homology methods used for microorganism classification.
12. (a) List the major important microscopes used in microbiology laboratory? Cite the principle and applications of Bright field microscopy.
- Or
- (b) Discuss about principle and staining procedure of a fungi.
13. (a) Compare moist heat sterilization and dry heat sterilization.
- Or
- (b) Explain about the principle and applications of lyophilizer?

14. (a) Differentiate mold and yeast.

Or

(b) List the general character, morphology and reproduction of a fungi.

15. (a) Illustrate general character and Thallus structure of an algae.

Or

(b) State the general characters of a protozoa.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Recommend some techniques for determining microbial taxonomy and phylogeny.

Or

(b) Analyse evolution of microorganisms and microbiology.

17. (a) Discuss in detail about phase contrast microscopy.

Or

(b) Explain the principle and procedure for Gram's staining method.

18. (a) Explain in detail about the indicator microorganisms for sterilization process.

Or

(b) Record the important enriched media used in microbiology laboratory.

19. (a) Explain the general character, morphology, nutrition and metabolism of oomycetes.

Or

(b) Describe in detail about general characters and economic importance of Lichens.

20. (a) Tell about the general character, locomotion, nutrition and reproduction of *Eutamoeba histolytica*.

Or

(b) Tabulate distribution, general characters, Thallus structure of BGA.