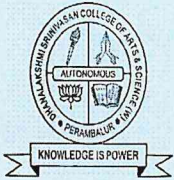


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**DHANALAKSHMI SRINIVASAN COLLEGE
OF ARTS & SCIENCE FOR WOMEN
(AUTONOMOUS)**

(For Candidates admitted from 2020-2021 onwards)



UG DEGREE EXAMINATIONS APRIL – 2021

B.SC - BIOTECHNOLOGY

MICROBIOLOGY

Time: 3 Hrs

Max.Marks: 75

PART – A

CHOOSE THE CORRECT ANSWER

(10*1=10)

1. Which among the following kingdoms were proposed by Whittaker?
 - a) Monera
 - b) Protista, Fungi
 - c) Plantae, Animalia
 - d) Monera, Protista, Fungi, Plantae, Animalia
2. According to Bergey's Manual of Systematic Bacteriology, prokaryotes that lack a cell wall belong to the group?
 - a) Gracilicutes
 - b) Firmicutes
 - c) Tenericutes
 - d) Mendosicutes
3. Which of the following is nutritional characterization of Escherichia coli?
 - a) Chemotrophic
 - b) Organotrophic
 - c) Autotrophic
 - d) Chemotrophic, Organotrophic, Heterotrophic
4. Which of the following ions are cofactors for various enzymes?
 - a) Potassium ion
 - b) Iron ion
 - c) Magnesium ion and Iron ion
 - d) Calcium ion
5. The dye eosinate of methylene blue belongs to which group?
 - a) Acidic dye
 - b) Basic dye
 - c) Neutral dye
 - d) Oxazine dye
6. Which of the following is the example of Gram-negative bacteria?
 - a) Lactobacillus
 - b) Escherichia coli
 - c) Staphylococcus aureus
 - d) Bacillus subtilis
7. Total Magnification is obtained by _____
 - a) Magnifying power of the objective lens
 - b) Magnifying power of eyepiece
 - c) Magnifying power of condenser lens
 - d) Magnifying power of both the objective lens and eyepiece
8. In light microscopy, which of the following is used as fixatives prior to staining technique?
 - a) Osmic acid
 - b) Glutaraldehyde
 - c) Heat
 - d) Osmic acid, glutaraldehyde, heat
9. Streptomyces orientalis produces which of the following antibiotics?
 - a) Cephalosporins
 - b) Cycloserine
 - c) Bacitracin
 - d) Vancomycin

10. Streptomycin is produced by which of the following organisms?

- a) *Streptomyces noursei*
- b) *Streptomyces nodosus*
- c) *Streptomyces fradiae*
- d) *Streptomyces griseus*

PART – B

ANSWER ALL THE QUESTIONS

(5×7=35)

11. a) Write the contributions of Robert Koch and Lwanovskyin the field of microbiology?

(OR)

b) Briefly explain the morphological features protozoa.

12. a) Discuss the factors affecting the microbial Growth.

(OR)

b) Describe the role of trace elements in Microbial enzymes.

13. a) Describe about structural staining?

(OR)

b) Distinguish between continuous and synchronous cultures.?

14. a) Short notes on numerical aperture and working distance in microscopy?

(OR)

b) List out applications of phase contrast microscope?

15. a) Explain about production of biopesticides?

(OR)

b) Short notes on commercially available biofertilizer?

PART – C

ANSWER ANY THREE QUESTIONS

(3×10=30)

16. Explain the influence of biological and Physical factors on the survival and spread of viruses.

17. Explain about microbial pathogens?

18. Write about enumeration of microorganism from water?

19. Describe the sample preparation for Phase Contrast Microscopy highlighting its principle and applications?

20. Explain about role of microbes in biogeochemical cycles?