

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION DECEMBER 2019
(Second Semester)

Branch - **BIOCHEMISTRY**

MICROBIOLOGY

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** marks

(10 x 1 = 10)

- 1 The refractive index of air is _____.
(i) 0.50 (ii) 0.75
(iii) 1.00 (iv) 1.25
- 2 Electrons of Scanning Electron Microscope are reflected through
(i) glass funnel (ii) specimen
(iii) metal-coated surfaces (iv) vacuum chamber
- 3 Which of the following has peptidoglycan as a major constituent of cell wall?
(i) Gram-negative bacteria (ii) Gram-positive bacteria
(iii) Fungi (iv) Virus
- 4 Which of the following does not contain protein?
(i) Pili (ii) Flagellum
(iii) Lipoteichoic acid (iv) Porin
- 5 Which of the following is a dangerous intestinal disease that spreads by-polluted water containing bacteria?
(i) Typhoid (ii) Dysentery
(iii) Amoeba (iv) Hepatitis
- 6 When a virus enters a cell but does not replicate immediately, the situation is called _____.
(i) Isogeny (ii) fermentation
(iii) symbiosis (iv) synergism
- 7 Smallpox virus is also known as _____.
(i) VZU (ii) Variola virus
(iii) Ebola (iv) Herpes virus
- 8 Bacteriophage are readily counted by the process of _____.
(i) Immunoassays (ii) ELISA
(iii) Plaque assays (iv) Tissue cell culture
- 9 An example of a symbiotic nitrogen fixer is _____.
(i) Azotobacter (ii) Beijerinckia
(iii) Clostridium (iv) Rhizobium
- 10 The chemical oxygen demand measures the _____.
(i) amount of oxygen required for growth of microorganism in water
(ii) amount of oxygen that would be removed from the water in order to oxidize pollution
(iii) amount of oxygen required to oxidize the calcium present in waste water
(iv) amount of oxygen required to oxidize the magnesium present in waste water

SECTION - B (35 Marks)

Answer **ALL** Questions

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

- 11 a Discus the principle and uses of electron microscope.
OR
b Explain the microbial growth curve with a neat sketch.
- 12 a Narrate the cell wall structure of Gram positive and Gram negative bacteria.
OR
b Elaborate the characteristic features of fungi.
- 13 a Explain the normal human microflora and its importance.
OR
b Discuss the causes, immunization and control measures of Tetanus.
- 14 a Bring out the different types of cultivation of viruses briefly.
OR
b Outline the importance of SV 40.
- 15 a Narrate the various steps involved in nitrogen cycle.
OR
b Summarize the different process of waste water treatment.

SECTION -C (30 Marks)

Answer any **THREE** Questions

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

- 16 Summarize the control of microorganisms by physical and chemical methods with suitable examples.
- 17 Elucidate the life cycle of yeast cells briefly.
- 18 Describe the aetiology, pathogenesis, symptoms and prevention of poliomyelitis.
- 19 Enumerate the principle, procedure and applications of plaque assay.
- 20 Elucidate how penicillin is produced by microbial fermentation.

Z-Z-Z

END