

(6 pages)

Reg. No. :

Code No. : 11728 E Sub. Code : : SMBO 41

B.Sc. (CBCS) DEGREE EXAMINATION, APRIL 2019.

Fourth Semester

Botany – Main

MICROBIOLOGY AND TECHNIQUES IN BIOLOGY

(For those who joined in July 2017 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. One of the following is a method of asexual reproduction in bacteria
 - (a) Chlamydospore
 - (b) Endospore
 - (c) Aplanospore
 - (d) Zoospore

2. Whittaker is famous for
 - (a) two kingdom classification
 - (b) four kingdom classification
 - (c) five kingdom classification
 - (d) distinguishing in bacteria and blue green algae.
3. The genetic material present in the T4 bacteriophage is
 - (a) Double stranded DNA
 - (b) Single stranded DNA
 - (c) Double stranded RNA
 - (d) Single stranded RNA
4. A virion is a
 - (a) Without protein coat
 - (b) Eucleated virus
 - (c) Prions
 - (d) Virus
5. Cholera is caused by
 - (a) Vibrio cholera
 - (b) Salmonella
 - (c) Aspergillus
 - (d) Puccinia

6. The methods of food preservation by using ionizing radiation is also called
- Hot sterilization
 - Cold sterilization
 - Lycophilisation
 - Dehydration
7. Choose the complementary filter for blue coloured solution.
- Blue filter
 - Green filter
 - Red filter
 - Yellow filter
8. Spectrometer measures
- Optical density
 - pH
 - Acidity
 - Alkalinity
9. Vertical gel electrophoresis is ideal for separation of _____
- Proteins
 - Vitamins
 - Lipids
 - Carbohydrates

10. The other name of x-ray crystallography is _____
- X-ray diffraction crystallography
 - x-ray diffraction
 - x-ray crystallisation
 - 'a' and 'b'

PART B — (5 × 5 = 25 marks)

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

Each answer should not exceed 250 words.

11. (a) Write the microbiology contributions of Robert Koch and Louis Pasteur.
- Or
- (b) Write short notes on media preparation.
12. (a) Explain the structure of HIV.
- Or
- (b) Write about the properties of virus.
13. (a) Give a brief account on water pollution due to bacteria.
- Or
- (b) Write about food preservation.

14. (a) Write the uses of ECG.

Or

(b) Write short notes on Centrifuge.

15. (a) Write short notes on iso electric focussing.

Or

(b) Write the applications of X-ray crystallography.

PART C — (5 × 8 = 40 marks)

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

Each answer should not exceed 600 words.

16. (a) Explain the ultra structure of bacterial cell.

Or

(b) Write an essay about pure culture technique.

17. (a) Discuss the structure and reproduction of T4 Bacterio phage.

Or

(b) Write short notes on

(i) viroids

(ii) Virions

(iii) Mycoplasma

18. (a) What is meant by food spoilage? How it is brought about by microorganism?

Or

(b) Write an essay about food poisoning.

19. (a) Explain the principle and applications of UV spectrometer.

Or

(b) Give a brief account on MRI scan.

20. (a) Write an essay about Agarose gel electrophoresis.

Or

(b) Write an essay about X-ray crystallography.