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**Reg. No. : .....**

**Code No. : 30832 E      Sub. Code : SMBO 41**

B.Sc. (CBCS) DEGREE EXAMINATION, APRIL 2021.

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. Who proposed Five Kingdom Classification?
  - (a) Whittaker
  - (b) Bergey
  - (c) Fritsch
  - (d) Charles

2. Who identify the staining method for bacteria?
- (a) Christian                      (b) Bergey  
(c) Charles                      (d) Whitaker
3. HIV is
- (a) Virus                      (b) Bacteria  
(c) Fungi                      (d) All of the above
4. Tadpole and Head containing bacteriophage is
- (a) T<sub>4</sub>                      (b) T<sub>5</sub>  
(c) T<sub>3</sub>                      (d) T<sub>2</sub>
5. Pasteurization method was coined by
- (a) Pasteur                      (b) Root  
(c) Rohit                      (d) Bergey
6. Goliform bacteria are seen in
- (a) Water                      (b) Fire  
(c) Soil                      (d) Air

7. ECG is used for
- (a) Heart (b) Eye  
(c) Nose (d) Ear
8. \_\_\_\_\_ is used to separate cell organelles
- (a) Centrifuge (b) ECG  
(c) MRI (d) Sonography
9. PAGE represents
- (a) Protein (b) DNA  
(c) Lipid (d) All of the above
10. X-ray studies are used for \_\_\_\_\_.
- (a) DNA (b) Protein  
(c) Lipid (d) All of the above

PART B — ( $5 \times 5 = 25$  marks)

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

Each answer should not exceed 200 words.

11. (a) Write down the structure of Bacteria.

Or

- (b) List out the Gram Staining.

12. (a) Comment on Transmission of Virus.

Or

(b) With suitable diagram explain  $T_4$  bacteriophage.

13. (a) What did you mean by Food Spoilage?

Or

(b) Write a note on Purification of Water.

14. (a) Explain about ECG.

Or

(b) With suitable diagram explain Positron Emission Tomography.

15. (a) What do you mean by Electrophoresis?

Or

(b) Write a note on Gel Documentation.

PART C — (5 × 8 = 40 marks)

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

Each answer should not exceed 600 words.

16. (a) Describe the outline of Bergey Classification.

Or

- (b) Write in detail about Media Preparation.

17. (a) Describe the structure and reproduction of HIV.

Or

- (b) Explain about the Purification of Virus.

18. (a) Write an essay on Food Preservation.

Or

- (b) Explain the concept “Bacteria in Milk”.

19. (a) Describe about the UV Spectrometer.

Or

- (b) Explain the concept of Centrifuge.

20. (a) With diagrams explain the types of Electrophoresis.

Or

- (b) Explain about the X ray Crystallography.
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