

U.G. 2nd Semester Examination - 2021

MOLECULAR BIOLOGY

[PROGRAMME]

Course Code : MBG-201-T-CC-4

(Microbiology)

Full Marks : 20

Time : 1 Hour

The figures in the right-hand margin indicate marks.

Candidates are required to give their answers in their own words as far as practicable.

1. Answer any **five** questions : 1×5=5
 - a) What is the function of fimbriae?
 - b) What is spirochaetes?
 - c) Write down the name of two chemical sterilizers.
 - d) What is lyophilization?
 - e) What is capsomer?
 - f) Write down a name of food-borne bacteria.
 - g) Give an example of monotrichous bacteria.
 - h) What are vibrioid bacteria?

2. Answer any **one** question: 5×1=5
 - a) Explain the Koch's postulates. What is the slime layer of bacteria? 3+2

- b) Differentiate the bacteria according to the tolerance of pH. 5
- c) Describe the procedure of Gram staining. What cell structure is responsible for the difference in staining detected by the Gram stain procedure? 5

3. Answer any **one** question: 10×1=10
 - a) What do you mean by synthetic and semi-synthetic media? How streak plate is done? Differentiate the bacteria according to the temperature. What is turbidostat? 2+2+5+1
 - b) How Yogurt is produced? Write down a name of chemical food preservative. Explain the canning process of food preservation. 6+1+3
 - c) Diagrammatically explain the various phases of bacterial growth. A bacterial culture has an initial density 0.5×10^3 cell/min. Its generation time is 20 min. What will be the cell density at 1 hour 20 min? 6+4

[Turn over]