

U.G. 4th Semester Examination - 2022**Molecular Biology****[PROGRAMME]****Generic Elective Course (GE)****Course Code : MBG-201-T-CC-4****(Microbiology)**

Full Marks : 40

Time : $2\frac{1}{2}$ Hours*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: $2 \times 5 = 10$
- a) What is synchronous growth?
 - b) Define Pasteur Effect.
 - c) Give two examples each of animal and plant viruses.
 - d) What are capsomeres?
 - e) State germ theory of disease.
 - f) What is meant by endosymbiont?
 - g) Compare between flagella and pili.
 - h) What are chemoorganotrophs? Give examples.

2. Answer any **two** questions: $5 \times 2 = 10$
- a) Explain the causative agent, symptoms and control measures for any two food borne infections. $2\frac{1}{2} + 2\frac{1}{2} = 5$
 - b) What is food spoilage? What are its causes? Mention the biochemical changes of food spoilage. $1 + 2 + 2 = 5$
 - c) What is diauxic growth of bacteria? How generation time is calculated from the growth curve? $1 + 4 = 5$
 - d) Write a detailed note on endospore formation with proper diagram. 5
3. Answer any **two** questions: $10 \times 2 = 20$
- a) Write the detail morphological characters and ultrastructure of virus. Differentiate between the lytic and lysogenic cycle of viral replication. $5 + 5 = 10$
 - b) How bacterial growth can be controlled by using physical methods? What are flagella? Briefly describe ideal bacterial flagella with proper diagram. $5 + 1 + 4 = 10$

[Turn Over]

c) What is cheese? What are the basic requirements for cheese fermentation? Briefly outline the industrial method for cheese production. Name the suitable microorganisms used for it.

$$2+3+4+1=10$$

d) How will you isolate pure culture by pour plate techniques? Differentiate between lag and log phase cells? Explain how microbes are divided into groups based on their oxygen requirement.

$$4+2+4=10$$
