U.G. 2nd Semester Examination - 2022

MOLECULAR BIOLOGY

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 :   2×5=10

   a) What happens during binary fission in bacteria?

   b) Name two endospore producing bacteria.

   c) Give two examples of each for animal and plant viruses.

   d) Define Capsomeres.

   e) What are fimbriae?

   f) Name the microorganisms involved in bread making procedure.

   g) What do you mean by generation time?

   h) What are photoheterotrophs? Give examples.

2. Answer any **two** questions: 5×2=10

   a) Write the important steps involved in manufacturing of cheese. Briefly describe about the different types of cheese.   3+2=5

   b) What is food spoilage? Mention its causes. Describe the biochemical changes during food spoilage.   1+2+2=5

   c) Define culture media. Describe about synthetic and complex media with examples.   1+4=5

   d) What are siderophores? Briefly discuss about different types of siderophores produced by microorganisms.   1+4=5

3. Answer any **two** questions: 10×2=20

   a) Define sterilization and disinfection. Classify methods of sterilization. Write about the principle, structure and uses of Autoclave.   2+2+6=10

   b) What are the different types of raw materials used for ethanol production? Describe the downstream process associated with fermentative production of ethanol. What should be the optimum pH in ethanol fermentation and how is it adjusted? Name the ethanol producing microorganisms.   2+5+1+2=10

c) How viruses are classified depending on their genetic material? What is a bacteriophage? How it can be cultivated? Describe the life cycle of λ phage. 2+1+2+5=10

d) Describe the different biological factors influencing the growth and survival of microorganisms? Enumerate the methods of food preservation. 5+5=10

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