USBCT-C02 - Biochemistry Paper-II : General Microbiology and Virology

P. Pages : 2

Time : Three Hours

8293

GUG/W/23/11541 (S)

Max. Marks : 50

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Notes :   1.   All questions are compulsory.
          2.   All questions carry equal marks.

1.   Discuss in detail the process of formation of endospore.   **10**

<div align="center">OR</div>

   a)   Describe the cell wall structure of Gram positive bacteria.   **2½**

   b)   Draw a well labeled diagram of flagella.   **2½**

   c)   Write a note on Slime layer and capsule.   **2½**

   d)   Write a note on different shapes and sizes of bacteria.   **2½**

2.   Give a detail account of lytic cycle of virus.   **10**

<div align="center">OR</div>

   a)   What are the different stages of lysogenic life cycle of λ phage?   **2½**

   b)   Explain the principle and technique of Gram staining.   **2½**

   c)   Draw a well labeled diagram of TMV.   **2½**

   d)   Discuss chromophore and auxochrome with example.   **2½**

3.   Discuss in details Synchronous cultures.   **10**

<div align="center">OR</div>

   a)   Describe continuous culture with the help of chemostat.   **2½**

   b)   Write a note on turbidostat.   **2½**

   c)   Classify microorganisms on the basis of gaseous requirements.   **2½**

   d)   Describe any one method for total cell count.   **2½**

4.   Discuss in detail Physical control methods for microbial control.   **10**

<div align="center">OR</div>

   a)   Explain the role of halogen and phenol as chemical microbial control method.   **2½**

b) What is the role of sulphonamides as chemotherapeutic agent? **2½**

c) Discuss the role of Antibiotics. **2½**

d) Write a short note on chemotrophs. **2½**

5. Solve **any ten** from following.

a) Draw generalized diagram of a typical bacterial cell. **1**

b) What is episomes? **1**

c) What are the different classes of plasmids? **1**

d) Define stain. **1**

e) The primary stain used in acid-fast staining is ……… **1**

f) Size of virus is same as like bacteria ----- True or false. **1**

g) Define generation time. **1**

h) What is growth rate? **1**

i) What happens during stationary phase of growth curve? **1**

j) What is incineration? **1**

k) Define antiseptic. **1**

l) Define sanitizer. **1**

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