

**AQ-111**

April-2017

**B.Sc., Sem.-II****CC-3 – 103 : Microbiology****Time : 3 Hours]****[Max. Marks : 70**

- Instructions :** (1) Draw figures wherever necessary.  
(2) Right side indicates marks.

1. Answer the following (any two) : 14
  - (a) Draw and describe structure and functions of cell wall of gram negative bacteria.
  - (b) Draw and describe ultra-structure of flagellum of gram negative bacteria.
  - (c) Write a note on bacterial chromosome.
  - (d) Draw and discuss the process of sporulation in gram positive bacteria.
2. Answer the following (any two) : 14
  - (a) Describe nutritional diversities of bacteria based on source of carbon and energy.
  - (b) Enlist and explain nutritional requirements of bacteria.
  - (c) Write a brief note on types of culture media.
  - (d) Enlist and explain colony characteristics of bacteria.
3. Answer the following (any two) : 14
  - (a) Describe use of UV rays and Gamma Rays for microbial control.
  - (b) Describe moist heat and dry heat as agents for microbial control.
  - (c) Explain with examples gaseous agents used to control microbes.
  - (d) Enlist various halogens and describe their applications for microbial control.
4. Write note on following (any two) : 14
  - (a) Binomial system of nomenclature of bacteria.
  - (b) Whittaker's five kingdom system of classification.
  - (c) Carl Woese system of classification of living organism.
  - (d) Bergey's manual of systematic bacteriology.

5. Answer in **one** or **two** sentences :

- (1) Draw palisade arrangement of rod shaped bacteria.
  - (2) What is the composition of volutin granules ?
  - (3) What do you mean of peritrichous flagella ?
  - (4) What is gliding motility ?
  - (5) Give one difference between autotroph and phototroph.
  - (6) Give one use of maintenance media.
  - (7) Name the source of carbon and nitrogen present in N-agar.
  - (8) What is pellicle growth ?
  - (9) What is incineration ?
  - (10) Give an example of triphenylmethane dye.
  - (11) Define cold sterilization.
  - (12) Give an example of bacteriological filter.
  - (13) Define : Monera.
  - (14) In which bacterial cell organelle, 16S rRNA is found ?
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