Seat No. : _____

ZD-123

May-2014

B.Sc., Sem.-II

MI-103 : Microbiology

Time : 3 Hours] **[Max. Marks : 70**

Instructions : (1) Draw neat labelled diagram when needed.

(2) Write question and sub-question number.

(3) **All** questions carry equal marks.

1. Attempt any **two** of the following : **14**

   (1) Describe the ultra structure of flagella of bacteria with a neat labelled diagram.

   (2) Explain the structure of gram positive bacteria's cell wall.

   (3) Write a brief note on bacterial chromosome.

   (4) Describe the ultra structure of bacterial endospore.

2. Discuss any **two** of the following : **14**

   (1) Nutritional diversities of bacteria based on electron, energy and carbon source.

   (2) Nutritional requirements of bacteria.

   (3) Differential media and selective media used for cultivation of microbes.

   (4) Cultural characters of bacteria in broth media.

3. Describe any **two** of the following giving suitable examples : **14**

   (1) Fractional sterilization.

   (2) Radiation as an agent for control of microbes.

   (3) Halogens and their application in controlling the microbial population.

   (4) Gaseous agents used to control microbes.

4. Write a brief note on any **two** of the following : **14**

(1) Nomenclature of bacteria with suitable examples.

(2) Whittaker's system of classification.

(3) Classification of organism based on 16sRNA.

(4) Bergey's manual of systematic bacteriology.

5. Answer in **one** or **two** sentences : **14**

(1) Give two names of Cocci.

(2) What is the difference of prostheca and stalk ?

(3) What is the chemical nature of capsule of bacteria ?

(4) Give the name of bacteria producing endospore.

(5) What is oligodynamic effect ?

(6) Which organism produces agar-agar ?

(7) What is thermal death time ?

(8) What is disinfection ?

(9) Give two examples of surfactants.

(10) Give one major difference of archaea and eubacteria.

(11) What is osmotic pressure ?

(12) What is 'species' ?

(13) List the taxanomic ranks starting from domain to species.

(14) Correct the name 'bacilus Sbutilis'.

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