

Total No. of Questions : 5]

SEAT No. :

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P600

[5315] - 17

F.Y. B.Sc.

MICROBIOLOGY

Introduction to Microbiology

(2013 Pattern) (Paper-I)

Time : 3 Hours]

[Max. Marks : 80

Instructions to the candidates:

- 1) *All questions are compulsory.*
- 2) *Draw neat labelled diagrams wherever necessary.*
- 3) *Figures to the right indicate full marks.*

Q1) Attempt the following:

[16]

- a) What are Rickettsia?
- b) _____ bond is present between water molecules.
 - i) Covalent
 - ii) Hydrogen
 - iii) Ionic
 - iv) None of above
- c) Name any two proteins.
- d) Define pH.
- e) Match the following:

| | |
|---------------------------------|------------------|
| i) Single flagellum on one pole | a) Peritrichous |
| ii) Flagella all over cell | b) Monotrichous |
| iii) Flagella on both poles | c) Lophotrichous |
| iv) Many flagella on one pole | d) Amphitrichous |
- f) Name the enzyme present in carboxysome.
- g) _____ and _____ proposed the double helix model of DNA.
- h) Name the chemicals unique to bacterial endospore.

Q2) Attempt any four of the following:

[16]

- a) Give the principles of classification of viruses by ICTV.
- b) Explain in brief the theory of spontaneous generation.

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- c) Give the morphological characteristics of bacteria.
- d) Describe hallmark developments in Industrial Microbiology.
- e) Explain the formation of ionic bond with suitable example.
- f) Enlist distinguishing characters of algae.

Q3) Write short notes on any four:

[16]

- a) Bacterial capsule.
- b) Probiotic microorganisms.
- c) Redox potential.
- d) Developments in vaccination.
- e) Bioinoculants.
- f) Functions of lipids.

Q4) Attempt any two of the following:

[16]

- a) Give distinguishing characters of protozoa and their economic importance.
- b) With neat labelled diagram explain three jar experiment.
- c) State Koch's and River's postulates.
- d) With neat labelled diagram explain. Structure and function of endospore.

Q5) Attempt any one of the following:

[16]

- a) Describe in detail the structure and composition of bacterial flagella. Add a note on its function.
- b) What are carbohydrates? Explain the carbohydrates that occur in prokaryotes.

