

**F.Y.B.SC. SEM – I (CBCS - 2016 Course) : SUMMER - 2019**  
**SUBJECT : MICROBIOLOGY : STRUCTURE OF PROKARYOTES & EUKARYOTES**

Day : Saturday  
Date : 04/05/2019

**S-2019-0802**

Time : 11.00 A.M TO 02.00 PM  
Max. Marks : 60

**N. B. :**

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.

**Q. 1 A) Select the correct option and rewrite the sentences: (06)**

- i) Bacteria containing thick cell wall and which lacks lipopolysaccharides in the cell wall are called as \_\_\_\_\_
  - a) Gram positive bacteria
  - b) Gram negative bacteria
  - c) Viruses
  - d) *Mycoplasma*
- ii) Example of round shaped organism is \_\_\_\_\_
  - a) *Micrococcus*
  - b) *Bacillus*
  - c) *Shigella*
  - d) *Treponema*
- iii) An infective form of *Chlamydia* is called as \_\_\_\_\_
  - a) Elementary body
  - b) Carboxysomes
  - c) Reticulate body
  - d) Metachromatic granules
- iv) An example of continuous cell culture is \_\_\_\_\_
  - a) WI-38
  - b) HL-8
  - c) HeLa
  - d) Vero cell lines
- v) Poly  $\beta$  hydroxybutyrate (PHB) granules acts as source of \_\_\_\_\_
  - a) Nitrogen
  - b) Phosphorus
  - c) Carbon
  - d) Helium
- vi) Capsid present in 'Tobacco Mosaic Virus' is \_\_\_\_\_
  - a) Icosahedral
  - b) Helical
  - c) Complex
  - d) Circular

**B) Attempt the following: (06)**

- i) Which disease is caused by *Coxiella burnetii*?
- ii) Give any two examples of RNA viruses.
- iii) Mention significance of bacterial capsule.
- iv) Which type of ribosome is present in bacteria?
- v) Give any two examples of the diseases caused by protozoa.
- vi) What are bacteriophages?

**P. T. O.**

- Q. 2** Write short notes on **ANY THREE** of the following: **(12)**
- a) Arrangement of flagella
  - b) Primary cell cultures
  - c) Carboxysomes
  - d) Significance of *Rickettsias*
- Q. 3** Attempt **ANY FOUR** of the following: **(12)**
- a) Draw a neat labelled diagram of 'T<sub>4</sub> Bacteriophage'.
  - b) Differentiate between cell wall of Gram positive bacteria and Gram negative bacteria.
  - c) Describe the structure and functions of bacterial cell membrane.
  - d) Comment on 'Metachromatic granules'.
  - e) Give the general properties of *Mycoplasma*.
- Q. 4** Attempt **ANY TWO** of the following: **(12)**
- a) With the help of neat and labelled diagram describe structure of bacterial endospore.
  - b) What are viroids? Explain their characteristics.
  - c) Explain virus cultivation using 'Embryonated Egg Technique'.
- Q. 5** Attempt **ANY TWO** of the following: **(12)**
- a) Discuss general characteristics of viruses.
  - b) What are prions? Explain the mechanism of development of diseases by prions.
  - c) Describe general properties and significance of fungi.

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