

**F.Y.B.SC. SEM – I (CBCS - 2016 Course) : WINTER - 2018**  
**SUBJECT: MICROBIOLOGY: STRUCTURE OF PROKARYOTES & EUKARYOTES**

Day : Wednesday  
Date : 17/10/2018

**W-2018-0684**

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)**

- a) Group of bacteria which shows thick cell wall and excess peptidoglycan is called as \_\_\_\_\_
  - i) Gram positive bacteria
  - ii) Gram negative bacteria
  - iii) *Mycoplasma*
  - iv) Viruses
- b) Example of round shaped bacterium is \_\_\_\_\_
  - i) *Bacillus*
  - ii) *Vibrio*
  - iii) *Staphylococcus*
  - iv) *Spirillum*
- c) Causative agent of 'Q-fever' is \_\_\_\_\_
  - i) *Coxiella*
  - ii) *Mycoplasma*
  - iii) Algae
  - iv) Fungi
- d) The enzyme 'ribulose 1, 5 diphosphate carboxylase' is present in \_\_\_\_\_
  - i) PHB granules
  - ii) glycogen
  - iii) carboxysomes
  - iv) gas vacuoles
- e) An example of primary cell culture is \_\_\_\_\_
  - i) WI-38
  - ii) Vero cell line
  - iii) HeLa
  - iv) HL-8
- f) HIV is an example of \_\_\_\_\_
  - i) Complex symmetry
  - ii) Helical symmetry
  - iii) Circular symmetry
  - iv) Icosahedral symmetry

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

- a) Give economic significance of *Actinomycetes*.
- b) Give any two examples of DNA viruses.
- c) Give functions of bacterial capsule.
- d) Mention significance of metachromatic granules.
- e) Give any two examples of continuous cell culture.
- f) Which algae are used for commercial production of agar-agar?

**P.T.O.**

**Q.2** Write short notes on **ANY THREE** of the following: (12)

- a) Arrangement of flagella
- b) Diploid cell cultures
- c) Embryonated egg technique
- d) Bacterial ribosomes

**Q.3** Attempt **ANY FOUR** of the following: (12)

- a) Enlist the characteristics of viroids and mention their significance.
- b) Comment on cell membrane of bacteria.
- c) Describe general properties of fungi.
- d) With suitable diagram discuss structure of a typical bacterial cell.
- e) What is metachromatia? Giving suitable example mention the significance of metachromatic granules.

**Q.4** Attempt **ANY TWO** of the following: (12)

- a) Describe general characteristics of viruses.
- b) Draw a neat labeled diagram of bacterial flagellum and give its significance.
- c) Describe general properties and significance of mycoplasma.

**Q.5** Attempt **ANY TWO** of the following; (12)

- a) Giving suitable example, discuss complex symmetry of viral capsid.
- b) Describe different types of pili.
- c) Draw a neat labeled diagram of bacterial endospore and give its significance.

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