

Total No. of Questions :5]

SEAT No. :

[Total No. of Pages :2

**P686**

**[5217] - 7**

**F.Y.B.Sc.**

**BIOTECHNOLOGY**

**Bb-107: Microbiology**

**(2013 Pattern) (Semester - 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 right indicate full marks.*

**Q1)** Answer the following:

**[8×2=16]**

- a) Enlist the two characteristics of Eubacteria.
- b) Define the acidic stain with example.
- c) Write two functions of capsule of bacteria.
- d) Write the role of NaCl in microbial culture media.
- e) Write two contributions of Robert Koch.
- f) Write two characteristics of stationary phase.
- g) Write the biosafety measures for BSL1 laboratory.
- h) What are autotrophs give two examples.

**Q2)** Attempt any four of the following:

**[4×4=16]**

- a) Justify: Blood agar is a enriched and differential media.
- b) Write note on Blood staining.
- c) Justify: Viruses are obligate intracellular parasite.
- d) Explain filtration method used in sterilization.
- e) Write note on Binary fission in bacteria with neat labelled diagram.
- f) What is Breed count method? Write its advantages and disadvantages.

**P.T.O.**

**Q3)** Write self explanatory notes on any four of the following: **[4×4=16]**

- a) Bacterial growth curve.
- b) Flagella staining.
- c) Structure and functions of endospore.
- d) Spread plate technique.
- e) Cyanobacteria.
- f) Lichen.

**Q4)** Attempt any two of the following: **[2×8=16]**

- a) Write the principle and method for Acid fast staining.
- b) Write note on animal-microbe interactions with example.
- c) Explain any two methods used for long term preservation and maintenance of microbial culture.

**Q5)** Write note on instruments used in physical sterilization with respect to principle and working. **[16]**

OR

Describe the ultrastructure of cell wall of bacteria? And write significance of cell wall composition in Gram staining of bacteria. **[16]**

*EEE*