



PPD-1659

Seat No. \_\_\_\_\_

**B. Sc. (Sem. II) Examination**

**April / May - 2016**

**Microbiology : Paper - MB - 02**

*(Compulsory) (Fundamentals of Bacteriology)*

Time : 3 Hours]

[Total Marks : 70

**PART - A**

Attempt any five :

10

\_\_\_\_\_ is composed of Home or Hetero polysaccharide.

- (A) Cell wall
- (B) Capsule
- (C) Spore
- (D) Flagella

\_\_\_\_\_ is gram positive cocci.

- (A) Escherichia coli
- (B) Bacillus cereus
- (C) Staphylococcus aureus
- (D) Pseudomonas aeruginosa

\_\_\_\_\_ use light as source of energy and H<sub>2</sub>S are e<sup>-</sup> donor.

- (A) Photo-lithotrophs
- (B) Photo-organotrophs
- (C) Chemo-lithotrophs
- (D) Chemo-organotrophs

Some bacteria can grow only on living cell or host, they are

- (A) Fastidious bacteria
- (B) Obligate parasites
- (C) Strict anaerobes
- (D) Mixotrophs

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[Contd...]

- 5 Drinking water is purified by derivatives of \_\_\_\_\_
  - (A) Chlorine
  - (B) Iodine
  - (C) Heavy metal
  - (D) Alcohols
- 6 Sterilization of heat sensitive-biological fluids can be achieved by
  - (A) Ultra sonication
  - (B) Membrane filtration
  - (C) Steam sterilization
  - (D) Osmotic pressure
- 7 In taxonomy, a group of similar species is called \_\_\_\_\_
  - (A) Class
  - (B) Order
  - (C) Genus
  - (D) Family

**PART - B**

Give the answers in short : (any five)

- 1 Define : Plasmolysis
- 2 Enlist various patterns of flagellar arrangement bacteria.
- 3 Define: Chemically defined media.
- 4 Name the volumes of Bergay's manual of systematic bacteriology.
- 5 Classes of bacteria based on Temperature requirements
- 6 Mention two characteristics of pili (pilus)
- 7 Mention two applications of filtration method.

**PART - C**

- Give the answers in brief : (any four) **16**
- 1 Functions of cell wall and cell membrane of bacteria.
  - 2 Applications of Dyes and Detergents as antimicrobial agent.
  - 3 Structure and function of bacteria spore.
  - 4 Various modes of cell division in bacteria.
  - 5 Nutritional diversity of bacteria.

**PART - D**

- Write short notes on : (any four) **16**
- 1 Cell wall of Gram negative bacteria
  - 2 Characteristics of an ideal antimicrobial chemical agent
  - 3 Bacteriological filters and membrane filters
  - 4 Function and composition of capsule.
  - 5 Define : Type strain, Protoplast, Cysts, Binary fission.

**PART - E**

- Give the answers in detail : (any three) **18**
- 1 Various methods of classifying bacteria.
  - 2 Size, shapes and arrangement of bacteria.
  - 3 Nutritional classification of bacteria.
  - 4 Types of bacteriological media.