



AAK-5706

Seat No. _____

B. Sc. (Sem. II) Examination

April / May - 2018

Microbiology : Paper - MB - 02

(Fundamentals of Bacteriology)

Time : 3 Hours]

[Total Marks : 70

PART - A

Multiple choice questions :

10

- (1) Capsule is mainly composed of _____.
 - (A) Protein
 - (B) Lipid
 - (C) Polysaccharide
 - (D) Lipopolysaccharide (LPS)
- (2) _____ is spiral shaped bacteria.
 - (A) Clostridium
 - (B) Spirogyra
 - (C) Treponema
 - (D) Salmonella
- (3) Photoorganotrops use _____ as source of energy.
 - (A) Light
 - (B) Organic chemicals
 - (C) Inorganic chemicals
 - (D) CO₂
- (4) An agent that reduces the microbial population to safe level as judged by authorities is called
 - (A) Disinfectant
 - (B) Sanitizer
 - (C) Antiseptic
 - (D) Sterilizer

- (5) Bacteria that can grow at low temperature are known as _____.
 - (A) Halophilic
 - (B) Mesophilic
 - (C) Psychrophilic
 - (D) Thermophilic
- (6) Joseph Lister used to spray _____ to control infection while operations.
 - (A) 70% Alcohol
 - (B) Phenol
 - (C) Formaldehyde
 - (D) Chloroform
- (7) In taxonomy, A group of similar species is called _____.
 - (A) Genus
 - (B) Class
 - (C) Order
 - (D) Family
- (8) Who proposed third kingdom- Protista ?
 - (A) Carl Linnaeus
 - (B) R.H. Whittaker
 - (C) George Bergey
 - (D) E. H. Haeckel
- (9) HEPA filters are the part of _____.
 - (A) Laminar air flow
 - (B) Autoclave
 - (C) Hot air oven
 - (D) Incubator
- (10) _____ is(are) dual purpose media.
 - (A) Mac Conkey's agar
 - (B) EMB agar
 - (C) Both (A) and (B)
 - (D) None of the above

PART - B

- Give the answer in short : (any five) **10**
- (1) Classify bacteria on the base of pH and temperature requirement.
 - (2) What is 'Chemically define media' ? Give the example of it.
 - (3) List out the various shapes and arrangement exhibited by bacteria.
 - (4) Mention the functions of Cell membrane.
 - (5) Mention two characteristics of agar as solidifying agent.
 - (6) Name the two gaseous agents used for microbial control. <https://www.hnguonline.com>
 - (7) What is the difference between capsule and slime layer ?

PART - C

- Give the answer in brief : (any four) **16**
- (1) Structure and function of Capsule and Slime layer.
 - (2) Bacteriological media ingredients.
 - (3) Characteristics of an ideal antimicrobial chemical agents.
 - (4) Whittaker's five kingdom concept.
 - (5) Cell wall of Gram positive v/s Gram negative bacteria.

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[Contd...

PART - D

- Write short notes on : (any four) **16**
- (1) Cultivation techniques for Anaerobes.
 - (2) Membrane Filtration method.
 - (3) Bergey's manual.
 - (4) Bacterial Growth curve.
 - (5) Spore and Sporogenesis.

PART - E

- Give the answer in detail : (any three) **18**
- (1) Arrangement, Ultra structure and functions of Flagella.
 - (2) Various modes of cell division bacteria.
 - (3) Classification of Microbiological media.
 - (4) Various chemicals used for microbial control.
 - (5) Nutritional diversity of bacteria.

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