



HDS-1603220001010500 Seat No. _____

**B. Sc. (Bioinformatics) (Sem. I) (CBCS)
Examination**

November / December - 2017

**BI - 105 : Basic in Microbiology
(New Course)**

Time : $2\frac{1}{2}$ Hours]

[Total Marks : 70

- 1 (A) Answer the following 4×1=4
- (1) What is Spontaneous Generation Theory ?
 - (2) 5X, 10X, 40X, 60x and 100X are the types of _____.
 - (3) Define Species.
 - (4) What are Mesosomes ?
- (B) Answer in brief : (Any One) 1×2=2
- (1) What is stain? What role does it play in Microbiology ?
 - (2) What are the limitations of methods of microbial identification based on morphology ?
- (C) Answer in brief : (Any One) 1×3=3
- (1) Discuss Ultra structure of algal cell
 - (2) What are Molecular Chronometers ?
- (D) Write a note on (Any One) 1×5=5
- (1) Ultra-structure of Fungal cell
 - (2) Compound light microscope
- 2 (A) Answer the following : 4×1=4
- (1) Define Pathogen.
 - (2) Lag, Log, Stationary and Decline are phases of _____.
 - (3) Define Sterilization.
 - (4) Enlist any three methods of microbial preservation.
- (B) Answer in brief : (Any One) 1×2=2
- (1) Explain Lyophilization.
 - (2) What is aseptic handling ?

- (C) Answer in brief : (Any One) **1×3=3**
- (1) Discuss various types of media for the growth of microorganisms.
 - (2) Discuss in brief various physical conditions required for the growth of microorganisms.
- (D) Write a note on : (Any One) **1×5=5**
- (1) Physical agents of Sterilization
 - (2) Growth curve of bacteria.
- 3** (A) Answer the following : **4×1=4**
- (1) Define Antibiotics.
 - (2) Hepatitis, Polio and Measles are the examples of diseases caused by _____.
 - (3) What is MDR ?
 - (4) What is toxin ?
- (B) Answer in brief : (Any One) **1×2=2**
- (1) Enlist different MDR proteins.
 - (2) What is the causative agent of Filariasis ? How does it transmit ?
- (C) Answer in brief : (Any One) **1×3=3**
- (1) Discuss mode of action of various antibiotics.
 - (2) Discuss in brief the pathogenesis, occurrence and symptoms of Hepatitis.
- (D) Write a note on : (Any One) **1×5=5**
- (1) Mechanism of MDR
 - (2) Microbial toxins.
- 4** (A) Answer the following : **4×1=4**
- (1) Define Fermentation.
 - (2) Rhizobium, Azotobacter and Chlorella are examples of _____ organisms.
 - (3) Define Secondary Metabolite.
 - (4) What is Bioremediation ?

- (B) Answer in brief : (Any One) 1×2=2
(1) What are Biopesticides ?
(2) Enlist different secondary metabolites and their sources.
- (C) Answer in brief : (Any One) 1×3=3
(1) Discuss Starter Culture.
(2) Discuss different methods of food preservation.
- (D) Write a note on : (Any One) 1×5=5
(1) Industrially important microbes.
(2) Fermentation of vitamin B-12.
- 5 (A) Answer the following : 1×4=4
(1) Define Bacteriophage.
(2) E-coli, Salmonella and Proteus are examples of _____ organisms.
(3) What is the economic importance of B. thuringiensis ?
(4) Name a disease caused by Helicobacter spp.
- (B) Answer in brief : (Any One) 1×2=2
(1) What is Saccharomyces cerevisiae ? What is its importance ?
(2) Enlist various types of single cell eukaryotes.
- (C) Answer in brief : (Any One) 1×3=3
(1) Discuss industrial importance of Penicillium spp.
(2) Discuss reproduction in Streptomyces.
- (D) Write a note on : (Any One) 1×5=5
(1) Biology of E.coli
(2) Biology of H.influenza.
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