



**PBN-1603220001010500** Seat No. \_\_\_\_\_

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

**November / December - 2018**

**BI : 105 : Basics in Microbiology  
(New Course)**

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

[Total Marks : 70

**Instructions :**

- (1) All questions are compulsory.
  - (2) The right side figure indicates total marks of the question.
- 1 The following questions from Unit - 1. 14
- (a) Attempt the following objective questions. 4
    - (1) The Pioneer of antiseptics in surgery was \_\_\_\_\_.
    - (2) The protein coat of virus enclosing nucleic acid is called \_\_\_\_\_.
    - (3) Fermentation products is morphological features used for classification and identification of prokaryotes (True or False)
    - (4) What is the magnification of eyepiece ?
  - (b) Attempt any one of two from the following : 2
    - (1) Taxonomy
    - (2) Impact of microorganism on human.
  - (c) Attempt any one out of two from the following : 3
    - (1) Major areas in the field of microbiology.
    - (2) Dark field microscopy.
  - (d) Attempt any one out of two from the following : 5
    - (1) Characteristics of microorganism which required for taxonomy.
    - (2) Specimen preparation of TEM.
- 1 The following questions from Unit - 2. 14
- (a) Attempt the following objective questions : 4
    - (1) In the medium other than nutrients, if any substance is used in excess, that medium is \_\_\_\_\_.
    - (2) Generation time "g" is equal to \_\_\_\_\_.
    - (3) The condition required for autoclave \_\_\_\_ "C" at \_\_\_\_ psi above atmospheric pressure for \_\_\_\_ minutes.

- (4) You spread an inoculum of mixed bacteria across an agar plate so that individual cells will give rise to dispersed bacterial colonies. This process is specifically referred to as \_\_\_\_\_.
- (b) Attempt any one of two from the following : **2**
- (1) Lag phase
  - (2) Secondary metabolites.
- (c) Attempt any one out of two from the following : **3**
- (1) Handling of Micro-organism.
  - (2) Method used to measure the microorganism.
- (d) Attempt any one out of two from the following : **5**
- (1) Explain any 3 physical sterilization techniques.
  - (2) Define growth. Explain different phases of growth.
- 3** The following questions from Unit - 3 : **14**
- (a) Attempt the following objective questions : **4**
- (1) Rifampin is an antibiotic inhibiting cell wall synthesis. (True or False)
  - (2) Diphtheria is caused by which organism ?
  - (3) Antibiotics are a \_\_\_\_\_ metabolite.
  - (4) MDR stand for\_\_\_\_\_.
- (b) Attempt any one of two from the following : **2**
- (1) Bactericidal
  - (2) Difference between exotoxin and endotoxin.
- (c) Attempt any one out of two from the following : **3**
- (1) Hepatitis
  - (2) Describe Antibiotics affection on DNA/RNA Synthesis.
- (d) Attempt any one out of two from the following : **5**
- (1) How antibiotics affect Bacterial metabolism ? Explain with one example.
  - (2) Explain multidrug resistance of antibiotics in detail.
- 4** The following questions from Unit - 4 : **14**
- (a) Attempt the following objective questions. **4**
- (1) The most commonly used microorganism in alcohol fermentation is \_\_\_\_\_.
  - (2) Salting, as a preservative plasmolyzes bacteria and fungi. (True or False)
  - (3) In batch fermentation substrates are added to the system all at once and run until product is harvested. (True or False)
  - (4) Which virus is used as Biopesticides ?

- (b) Attempt any one of two from the following : **2**  
 (1) Properties of a useful industrial microbe.  
 (2) Difference between primary and secondary metabolites.
- (c) Attempt any one out of two from the following : **3**  
 (1) Describe fermentation technology and their merits and demerits.  
 (2) Explain bioremediation.
- (d) Attempt any one out of two from the following : **5**  
 (1) Explain fermentation process of ethanol.  
 (2) Factors affecting growth of microorganism in food.
- 5** The following questions from Unit - 5 : **14**
- (a) Attempt the following objective questions. **4**  
 (1) Phages that replicate only via the lytic cycle are known as \_\_\_\_\_.  
 (2) Which bacteria use as the host organism for the majority of work with recombinant DNA ?  
 (3) Who discovered penicillin ?  
 (4) Hemophilus influenza is a viral microorganism. (True or False)
- (b) Attempt any one of two from the following : **2**  
 (1) Describe *Salmonella* cause disease.  
 (2) Application of *Streptomyce*.
- (c) Attempt any one out of two from the following : **3**  
 (1) Biology of *sacharomycescervisiae*  
 (2) Explain *Bacillus thurengensis*.
- (d) Attempt any one out of two from the following : **5**  
 (1) Describe *E.Coli* in detail.  
 (2) Biology of *Bacteriophage*.
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