



MBF-003-006105

Seat No. _____

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

November / December – 2016

BI-105 : Basics in Microbiology

(Old Course)

Faculty Code : 003

Subject Code : 006105

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.

PART-A

1. Answer the following short questions: (ALL COMPULSORY) 20

1. Secondary metabolites are by-products of metabolism that are not important to microbe function (True or False)
2. Pasteurization is used to sterilize milk. (True or False)
3. Helicobacter pylori is a gram _____ bacteria
4. Salmonellae live in the ___ tracts of warm and cold blooded animals
5. Bacillus thuringiensis produce ___ protein act as insecticides.
6. ___ is used to make streptomycin sulfate
7. Coccus has shape of ___
8. How to write Scientific name of organism
9. Living, unstained cells and organisms can be observed best using which type of microscopy?
10. Scanning electron microscopy (SEM) is best used to study ___
11. The technique used to avoid all microorganisms is accomplished by
12. Separation of a single bacterial colony is called
13. Glassware are sterilized by
14. "g" is equal to ___
15. _____ is a causative agent of leprosy
16. Hepatitis is Bacterial disease (True or False)
17. MDR means
18. _____ is a antibiotics inhibiting cell wall synthesis
19. Bioremediation uses microorganisms' natural capacities to break materials down. (True or False)
20. The production of substances in industrial microbiology occurs in the sequence: inoculation, ____, downstream processing, removal of waste.

PART-B

2 (A) Explain any Three: [6]

- 1 Bactericidal
- 2 Bioremediation
- 3 Differential media
- 4 Gram Negative Bacteria
- 5 Lytic cycle of Bacteriophage
- 6 Microscope

(B) Explain any Three: [9]

- 1 Describe *salmonella sp*
- 2 Explain any two preservation technique
- 3 General characteristics of protozoa
- 4 Handling of Micro-organism
- 5 Hepatitis
- 6 Leprosy

(C) Attempt any Two: [10]

- 1 Define growth. Explain different phases of growth
- 2 Describe *E.Coli* in details
- 3 Explain any 3 physical sterilization techniques.
- 4 Explain any one parasitic disease which you have learnt.
- 5 Explain different modes of action of antibiotics. Give one example each.

3 (A) Explain any Three: [6]

- 1 Multiple drug resistance
- 2 Pasteurization
- 3 Pathogenesis of *Influenzae*
- 4 Properties of a useful industrial microbes
- 5 Biopesticides
- 6 Difference between primary and secondary metabolites

(B) Explain any Three: [9]

- 1 List out Industrial importance of microorganism explain any one in details
- 2 Microbes important in food microbiology
- 3 Scanning electron microscopy
- 4 Write detail of *Penicilum*
- 5 Different plating techniques for microbial culturing.
- 6 Explain Hepatitis

(C) Attempt any Two: [10]

- 1 Explain fermentation process of ethanol
- 2 Preservation of food
- 3 Structures external to cell wall
- 4 Ultrastructure of fungi with a neat diagram
- 5 Write detail on *Sachromyces cerevisiae*