

### Section - B

II. Write short notes on any **six** of the following :

(5×6=30)

1. Anatomy of skin in defense system
2. Antigenicity in streptococci
3. Mycobacterium culture methods
4. Antibiotic policy
5. Viral cultivation methods
6. Virulence factors
7. Swine flu
8. Leptospirosis

### Section - C

III. Answer any **three** of the following :

(3×10=30)

9. Write a detailed note on pathogenicity and symptoms of cholera
  10. Explain in detail on etiology, lab diagnosis control measures of malaria.
  11. Write a detailed note on nosocomial infection and their controls.
  12. Give a detailed account on classification and mode of action of antibiotics.
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**PGIVS - 1584 A - 16**  
**M.Sc. IVth Semester Degree Examination**  
**Microbiology**  
**(Bio Process Engineering & Fermentation Technology)**  
**Paper : 4.2**

Time : 3 Hours

Maximum Marks : 80

**Instructions to Candidates:***Answer all the sections***SECTION - A**

1. Write brief notes on any **ten** of the following **(10×2=20)**
- a) krausen beer
  - b) Proof
  - c) Yeast break
  - d) Fermentation efficiency
  - e) Pitching
  - f) Drying
  - g) Buffers
  - h) Surface fermentation
  - i) Ultra filtration
  - j) Nano biosensor
  - k) Monad model
  - l) Cross linkage method

**SECTION - B**

Write notes on any **six** of the following **(6×5=30)**

2. Strain development by mutation
3. Sterilization of media

4. Piezoelectric biosensor
5. Molasses
6. Inoculum development
7. Whole cell immobilization
8. Anticholesterol agent

### SECTION-C

Answer any **three** of the following

(3×10=30)

9. Discuss the energy yields in fermentation and respiration
  - 10 Explain the different methods used in the isolation of industrially important microorganisms
  - 11 Write a detailed account on the industrial production of Beer
  - 12 Explain the steps involved in the production of alcohol
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**PGIVS - 1585 A - 16**  
**M.Sc. IVth Semester Degree Examination**  
**Microbiology**  
**(Agricultural Microbiology)**  
**Paper : 4.4**

Time : 3 Hours

Maximum Marks : 80

**Instructions to Candidates :**

Answer all the questions

**SECTION - A**

1. Write a brief note on any ten of the following (10×2=20)
- a) Soil Profile
  - b) R/S Ratio
  - c) Phylloplane
  - d) Winogradsky Column
  - e) Green Manure
  - f) Saponins
  - g) Haustoria
  - h) Mildews of Grapes
  - i) Organic matter
  - j) Compost
  - k) Mycoplasma
  - l) Antagonism

**SECTION - B**Write short notes on **any six** of the following (6×5=30)

2. Late blight of potato
3. Phosphate solubilizing microorganisms
4. Carbon cycle

5. Fungal Fertilizers
6. NPV of heliothis
7. Significance of Biological control
8. Corn smut disease

### SECTION - C

Answer **any three** of the following

(3×10=30)

9. Discuss Phyllosphere, Rhizosphere and Mycchorizae
  10. Define biogeochemical cycle. Explain the nitrogen cycle
  11. Write an essay on distribution of Microorganisms in soil and their importance in soil fertility
  12. Discuss on the Mosquito control by Coelomomyces and Lagenidium
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