

Roll No. \_\_\_\_\_

[Total No. of Pages : 2

**PGIVS-048 B-21**  
**M.Sc. IV Semester Degree Examination**  
**MICROBIOLOGY**  
**Fermentation Technology and Bioprocess Engineering**  
**Paper : HCT - 4.1**

**Time : 3 Hours**

**Maximum Marks : 80**

***Instructions to Candidates:***

Answer **all** sections.

**SECTION - A**

Write brief notes on any **Ten** of the following.

**(10×2=20)**

1. a. Solid state fermentation.
- b. Protoplast.
- c. Antifoaming agents.
- d. Racking.
- e. Baffles.
- f. IPR.
- g. Alexander Flamming.
- h. Azeotropic distillation.
- i. Bottom yeast.
- j. Brix meter.
- k. Must.
- l. SCP.
- m. Sulphite waste liquor.

**SECTION - B**

Answer any **Six** of the following.

**(6×5=30)**

2. Sterilization of Air.
3. Airlift fermentor.
4. Vinegar fermentation.

5. Drying as a product recovery method.
6. Isolation of organic acid producers.
7. Production of Protease.
8. Improvement of industrial strains.
9. Acetone - Butanol/production.

**SECTION - C**

Answer any **three** of the following.

**(3×10=30)**

10. Write a detailed account on raw materials used in the industries.
  11. Explain the steps involved in the production of Penicillin.
  12. Discuss the production of citric acid.
  13. Describe the production of wine.
  14. Explain the steps involved in the production edible mushrooms.
-

Roll No. \_\_\_\_\_

[Total No. of Pages : 2

**PGIVS-049 B-21**  
**M.Sc. IV Semester Degree Examination**  
**MICROBIOLOGY**  
**Medical Microbiology & Diagnostic**  
**Paper : HCT - 4.2**

**Time : 3 Hours**

**Maximum Marks : 80**

***Instructions to Candidates:***

Answer All sections.

**SECTION - A**

Write brief notes on any **Ten** of the following.

**(10×2=20)**

1. a. Homeostasis.
- b. Koch postulate.
- c. Virulence.
- d. Madurai foot.
- e. Commensals.
- f. Opportunistic Pathogens.
- g. Exotoxins.
- h. Endocrine system.
- i. Kirby Bauer Method.
- j. Sexually transmitted Diseases (STD).
- k. PUO.
- l. Rabies.
- m. Epidimiology.

**SECTION - B**

Write short notes on any **Six** of the following.

**(6×5=30)**

2. *Adenoviruses*.
3. Drug Resistance.
4. Pyogenic infections.

**PGIVS-049 B-21/2021**

**(1)**

**[Contd....**

5. Different portal of exit and entry of pathogens.
6. Transmission of communicable diseases.
7. *Covid - 19 delta virus*.
8. Toxoplasmosis.
9. Dental caries.

**SECTION - C**

Answer any **Three** of the following.

**(3×10=30)**

10. Briefly comment on the history and contribution of various scientists in Medical Microbiology.
  11. Give a detailed account of *Mycobacterium tuberculosis*.
  12. Explain the virulence mechanism of bacterial pathogens.
  13. Give an account of the pandemic *covid - 19*.
  14. Explain diagnosis, symptoms and control measures of *Hepatitis virus*.
-

Roll No. \_\_\_\_\_

[Total No. of Pages : 2

**PGIVS-050 B-21**  
**M.Sc. IV Semester Degree Examination**  
**MICROBIOLOGY**  
**(Agricultural Microbiology)**  
**Paper - SC - 4.4**

**Time : 3 Hours**

**Maximum Marks : 80**

***Instructions to Candidates:***

Answer **all** sections.

**SECTION - A**

1. Write brief note on any **Ten** of the following. **(10×2=20)**
- a. Winogradsky.
  - b. Cellulose decomposers.
  - c. Phyllosphere.
  - d. Nitrification.
  - e. Soil moisture.
  - f. Bunchy top of banana.
  - g. *Frankia*.
  - h. Synergism.
  - i. NIF genes.
  - j. Cyt proteins.
  - k. Green Manure.
  - l. Azotobacter.
  - m. Soil fertility

**SECTION - B**

Write note on any **six** of the following.

**(6×5=30)**

2. Plant growth promoting Rhizobacteria.
3. Role of microbes in Sulfur Cycle.
4. Non - symbiotic nitrogen fixation.

**PGIVS-050 B-21/2021**

**(1)**

**[Contd....**

5. Rust disease in plants.
6. *Trichoderma* as a biocontrol agent.
7. Phosphate solubilizing bacteria.
8. Structure and functions of nitrogenase.
9. Straight fertilizers and complex fertilizers.

**SECTION - C**

Answer any **three** of the following.

**(3×10=30)**

10. Describe the etiology, pathogenesis, symptoms and control measures of citrus cancer disease.
  11. Explain the construction, evaluation and field application of BT cotton. Write an account on its advantages and disadvantages.
  12. Discuss the mass production and method of field applications of algal biofertilizers with suitable example.
  13. Explain plant microbe interaction with special reference to mutualism, commensalism, amensalism and parasitism.
  14. Give an account on TMV and explain the structure of TMV with neat diagram.
-