

**ASSIGNMENT - 1, DEC - 2016.**

**M.Sc. (PREVIOUS) FIRST YEAR DEGREE**

**MICROBIOLOGY**

**PAPER- I : INTRODUCTION MICROORGANISMS**

**Maximum : 30 MARKS**

**Answer ALL questions.**

- 1) Contributions of Leeuwenhoek.
  - 2) Differences between prokaryote and eukaryote.
  - 3) Mycoplasmas
  - 4) Bergey's systematic bacteriology
  - 5) Give an account on microbial biodiversity.
  - 6) Discovery of antibiotics.
  - 7) Write an essay on principles of bacterial taxonomy.
  - 8) Write about Rhizobium and Agrobacterium.
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**MICROBIOLOGY**

**PAPER- I : INTRODUCTION MICROORGANISMS**

**Maximum : 30 MARKS**

**Answer ALL questions.**

- 1) HIV
  - 2) Classification of Virus
  - 3) Economic importance of fungi
  - 4) Classification of Protozoa
  - 5) Write an essay about morphology and chemistry of viruses.
  - 6) Give an account on ultra structure and replication of T<sub>4</sub> phage.
  - 7) Explain reproduction in protozoa.
  - 8) Give a detailed account on classification of fungi.
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**PAPER- II : MICROBIOLOGICAL METHODS**

**Maximum : 30 MARKS**

**Answer ALL questions.**

- 1) TEM.
  - 2) Simple staining.
  - 3) Baiting technique.
  - 4) Gaspak.
  - 5) Give a detailed principle and application of phase contrast microscopy?
  - 6) Explain different staining methods used in bacteriology?
  - 7) Describe different methods used for isolation of bacteria?
  - 8) Describe maintenance and preservation of bacterial culture?
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**PAPER- II : MICROBIOLOGICAL METHODS**

**Maximum : 30 MARKS**

**Answer ALL questions.**

- 1) TLC.
  - 2) Plant tissue culture method of virus.
  - 3) Mass spectroscopy.
  - 4) Auto radiography.
  - 5) Write the differences between differential and density gradient centrifugation?
  - 6) Describe different methods of isolation and Purification of virus?
  - 7) Write about GM counter and LSC?
  - 8) Give a detailed account on two dimensional gel electrophoresis?
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**PAPER- III : MICROBIAL PSYISIOLOGY AND BIOCHEMISTRY**

**Maximum : 30 MARKS**

**Answer ALL questions.**

- 1) Nutritional types of bacteria.
  - 2) Measurement of cell number and cell mass.
  - 3) Anoxygenic bacteria.
  - 4) Sulfur Oxidisers.
  - 5) Describe the process of active transport and passive transport of ions.
  - 6) Describe different factors influencing bacterial growth.
  - 7) Describe light reaction of anoxygenic bacteria.
  - 8) Write an essay on Methylootrophs.
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**PAPER- III : MICROBIAL PSYIOLOGY AND BIOCHEMISTRY**

**Maximum : 30 MARKS**

**Answer ALL questions.**

- 1) Redox potential.
  - 2) Ethanol fermentation.
  - 3) Pyrimidines.
  - 4) Allosteric enzymes.
  - 5) Describe HMP pathway.
  - 6) Write an essay on Lactic acid fermentations.
  - 7) Explain the mechanism of enzyme catalysis.
  - 8) Describe the structure of DNA.
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**PAPER- IV : ENVIRONMENTAL AND AGRICULTURAL MICROBIOLOGY**

**Maximum : 30 MARKS**

**Answer ALL questions.**

- 1) Microbial propagules.
  - 2) Sewage treatment.
  - 3) Soil environment.
  - 4) Transformation of Iron.
  - 5) Describe different types of air sampling technique.
  - 6) Give an account on different types of water borne pathogens.
  - 7) Explain the process of carbon transformation in the soil.
  - 8) Describe different methods of isolation of soil microflora.
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**PAPER- IV : ENVIRONMENTAL AND AGRICULTURAL MICROBIOLOGY**

**Maximum : 30 MARKS**

**Answer ALL questions.**

- 1) PGPR.
  - 2) Azospirillum.
  - 3) Powdery mildew.
  - 4) Plant quarantine.
  - 5) Give a detailed account on mycorrhiza and its importance in agriculture.
  - b) Give a detailed account on bioinoculants.
  - 7) Give an account on different types of chemical control measures for plant diseases control.
  - 8) Give a detailed account on black stem rust of whert.
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