D 73711 (Pages : 2) Name.....

Reg. No.....

SECOND YEAR B.Sc. DEGREE (PARAMEDICAL COURSES) [SUPPLEMENTARY] EXAMINATION, NOVEMBER 2019

Medical Microbiology

Paper IX—INDUSTRIAL AND PHARMACEUTICAL MICROBIOLOGY

(2012 Admissions)

Time : Three Hours Maximum : 100 Marks

Answer **all** *questions.*
Draw diagrams wherever necessary.

Section A (Industrial Microbiology)

Essay :

1. Discuss the design of a typical batch fermenter. Add a note on different types of impellers and spargers used in fermenters.

(1 × 10 = 10 marks)

Write short notes on :

2. Downstream processing of fermentation products.
3. Screening of production strains for industrial applications.
4. Industrial production of ethanol.
5. Different types of biofermenters.
6. Strategies for enzyme immobilization.

(5 × 5 = 25 marks)

Answer briefly on :

7. Scale up of inoculums for penicillin production.
8. Media for industrial production of streptomycin.
9. Chemostat.
10. Black strap molasses.
11. Sterilization of air.

(5 × 3 = 15 marks)

Turn over

Section B (Pharmaceutical Microbiology)

Essay :

1. Discuss the characteristics and classification of antibiotics. Add a note on the mechanisms of drug resistance in bacteria.

(1 × 10 = 10 marks)

Write short notes on :

2. Recombinant HBV vaccine.
3. Applications of enzymes in therapy.
4. Compare and contrast inactivated and live attenuated vaccines.
5. Antifungal agents.
6. Mode of action of common disinfectants.

(5 × 5 = 25 marks)

Answer briefly on:

7. Adverse effects of chloramphenicol.
8. HAART.
9. MBLs.
10. Sterility testing.
11. Bioassay.

(5 × 3 = 15 marks)

D 73710 (Pages : 2) Name.....

Reg. No.....

SECOND YEAR B.Sc. DEGREE (PARAMEDICAL COURSES) [SUPPLEMENTARY] EXAMINATION, NOVEMBER 2019

Medical Microbiology

Paper VIII—METHODOLOGY AND CLINICAL BIOCHEMISTRY

(2012 Admissions)

Time : Three Hours Maximum : 100 Marks

Answer **all** *questions.*

Draw diagrams wherever necessary.

Essays :

1. Write briefly on the normal and abnormal components of urine.
2. Discuss the principle, procedure and applications of affinity chromatography.

(2 × 10 = 20 marks)

Short notes :

3. Density gradient centrifugation.
4. Radioimmunoassay.
5. Isoelectric focusing.
6. Thin layer chromatography.
7. Lipid profile.
8. Acid base balance disorders.
9. Important cardiac profile tests.
10. Principle and applications of colorimetry.
11. Plasma osmolality.
12. Common enzymes used in clinical diagnosis.

(10 × 5 = 50 marks)

Turn over

Write briefly on :

13. Rf value and its importance.
14. Fasting and post prandial glucose.
15. Precautions to be taken while collecting blood samples.
16. Significance of determining urea and creatinine in urine.
17. van den Bergh reaction.
18. Anion gap.
19. Icteric index.
20. Ultracentrifuge.
21. Zone electrophoresis.
22. Competitive and non-competitive ELISA.

(10 × 3 = 30 marks)

D 73708 (Pages : 2) Name.....

Reg. No.....

SECOND YEAR B.Sc. DEGREE (PARAMEDICAL COURSES) [SUPPLEMENTARY] EXAMINATION, NOVEMBER 2019

Medical Microbiology

Paper VI—GENERAL MICROBIOLOGY

(2012 Admissions)

Time : Three Hours Maximum : 100 Marks

Answer **all** *questions.*

Draw diagrams wherever necessary.

Essays :

1. Explain the principles of food preservation. Write in detail about the various methods of food preservation.

(4 + 11 = 15 marks)

2. Write an essay on the history of Microbiology giving emphasis to the contributions made by various scientists to this field.

(3 + 12 = 15 marks)

Short Notes :

3. DNA replication.
4. Conjugation and its types.
5. Cheese production.
6. Spoilage of fruits and vegetables.
7. IMViC test.
8. Bacterial growth curve.
9. Yogurt.
10. Generalized transduction.

(8 × 5 = 40 marks)

Answer Briefly :

11. Types of DNA.
12. Competence.

Turn over

13. Botulism.

14. *Saccharomyces cerevisiae*.

15. Types of plasmids.

16. Koch's postulates.

17. Genetic code.

18. Viable count of bacteria.

19. Bacterial nomenclature.

20. Gram's staining.

(10 × 3 = 30 marks)