

**FOURTH YEAR B.Sc. DEGREE (PARAMEDICAL COURSES) EXAMINATION
NOVEMBER 2020**

Medical Microbiology

Paper XIII—CLINICAL MICROBIOLOGY AND LABORATORY MANAGEMENT

(2012 Admissions)

Time : Three Hours

Maximum : 100 Marks

Draw diagrams wherever necessary.

1. Answer any *two* of the following :

- 1 Describe all the staining methods used in the identification of bacteria.
- 2 Describe biofilms, its formation and pathogenesis of infection.
- 3 Enumerate the bacteria causing primary meningitis and describe the laboratory diagnosis of purulent meningitis.

(2 × 15 = 30 marks)

2. Answer any *four* of the following :

- 1 Explain human microbiome.
- 2 Describe the principle and application of fluorescent microscope. Add a note on recent development in automation in microscopy.
- 3 Explain quality control in Microbiology.
- 4 Genetic mechanism of drug resistance in bacteria.
- 5 Ventilator associated pneumonia.
- 6 Vancomycine.

(4 × 7 = 28 marks)

3. Answer briefly :

- 1 Bio safety in Laboratory.
- 2 Enlist the different gaseous methods of sterilization. Add note on ethylene oxide method.
- 3 Role of computers in microbiology laboratory.

Turn over

- 4 Anaerobic culture methods.
- 5 Preservation of cultures.
- 6 Principle, procedure , types and use of autoclave.

(6 × 4 = 24 marks)

4. Write short notes on :

- 1 Transposons.
- 2 Radioimmunoassay.
- 3 E-test.
- 4 Oxidation fermentation test.
- 5 Automation in blood culture.
- 6 Semi quantitative culture methods in urine.
- 7 In use test.
- 8 Laboratory accreditation.
- 9 pH in microbiology.

(9 × 2 = 18 marks)

**FOURTH YEAR B.Sc. DEGREE (PARAMEDICAL COURSES) EXAMINATION
NOVEMBER 2020**

Medical Microbiology

Paper XII—MICROBIAL PATHOLOGY AND CYTOLOGY

(2012 Admissions)

Time : Three Hours

Maximum : 100 Marks

Draw diagrams wherever necessary.

I. Answer any *two* of the following. Each question carries 15 marks :

- 1 Write a note the mechanisms of bacterial pathogenesis. Discuss the mechanisms of evasion of host defenses by bacterial pathogens.
- 2 Discuss the pathogenesis of gas gangrene. Write on histopathological and cytological changes associated with gas gangrene.
- 3 Discuss the pathogenesis and histopathological changes in Helminthic infections.

(2 × 15 = 30 marks)

II. Answer any *four* of the following. Each question carries 7 marks :

- 4 Write a note on Rhinosporidiosis.
- 5 Chronic inflammation.
- 6 General features of Chlamydiae.
- 7 Pathogenesis of hepatitis B.
- 8 Bacterial meningitis.
- 9 Candidiasis.

(4 × 7 = 28 marks)

III. Answer briefly on the following. Each question carries 4 marks :

- 10 Transposons.
- 11 Primary pyodermas.
- 12 Diphtheria toxin.

Turn over

- 13 Leishmaniasis.
- 14 Histopathological changes in rabies.
- 15 Pathogenesis of filariasis.

(6 × 4 = 24 marks)

IV. Write short notes on the following. Each question carries 2 marks :

- 16 Infant botulism.
- 17 Necrosis.
- 18 Oncogenic viruses.
- 19 Lepromatous leprosy.
- 20 Black water fever.
- 21 Cholera red reaction
- 22 Thermal dimorphism in fungi.
- 23 Evasion of immune mechanisms by *Cryptococcus neoformans*.
- 24 Koplik spots.

(9 × 2 = 18 marks)

**FOURTH YEAR B.Sc. (PARAMEDICAL COURSES) DEGREE EXAMINATION
APRIL 2021**

Medical Microbiology

Paper XIII—CLINICAL MICROBIOLOGY AND LABORATORY MANAGEMENT

(2012 Syllabus)

Time : Three Hours

Maximum : 100 Marks

Draw diagrams wherever necessary.

I. Answer any two of the following. Each question carries 15 marks :

- 1 Discuss the fundamental principles of specimen collection to ensure appropriate specimen management. Write on preservation, storage, and transportation of specimens.
- 2 Write a note on air microflora. Discuss the methods for air sampling for microbiological analysis.
- 3 Describe the sterilization indicators used in clinical microbiology laboratories. Discuss the tests for analysis of efficiency of disinfectants.

(2 × 15 = 30 marks)

II. Answer any *four* of the following. Each question carries 7 marks :

- 4 Biological safety cabinets.
- 5 Nosocomial infections.
- 6 Nucleic acid hybridization techniques.
- 7 Activities affecting outcome of laboratory tests.
- 8 Types of documentation in clinical laboratories.
- 9 Antimicrobial susceptibility testing.

(4 × 7 = 28 marks)

III. Answer briefly on the following. Each question carries 4 marks :

- 10 Merits and demerits of normal flora.
- 11 Food poisoning.
- 12 Sterility tests.
- 13 Waste management in clinical laboratories.
- 14 Quality control of media.
- 15 Control sera in serology.

(6 × 4 = 24 marks)

Turn over

IV. Write short notes on the following. Each question carries 2 marks :

- 16 Convalescent carriers.
- 17 Bacteremia vs Septicemia.
- 18 'Germ tube' test.
- 19 Encephalitis.
- 20 MPN test.
- 21 Quality assurance programme.
- 22 Quality control strains.
- 23 'In use' test.
- 24 Methylene blue reduction test.

(9 × 2 = 18 marks)

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**FOURTH YEAR B.Sc. (PARAMEDICAL COURSES) EXAMINATION
APRIL 2021**

Medical Microbiology

Paper XII—MICROBIAL PATHOLOGY AND CYTOLOGY

(2012 Syllabus)

Time : Three Hours

Maximum : 100 Marks

Draw diagrams wherever necessary.

I. Answer any *two* of the following. Each question carries 15 marks :

- 1 Discuss host defenses preventing infections. Describe the pathogenesis of viral infections.
- 2 Discuss the etiology of tuberculosis. Describe the pathogenesis and histopathological features associated with tuberculosis.
- 3 Discuss the etiology of Filariasis. Describe the pathogenesis and cytological features of Filariasis.

(2 × 15 = 30 marks)

II. Answer any *four* of the following. Each question carries 7 marks.

- 4 Discuss the characteristics of Mycoplasma.
- 5 Write a note on suppurative infections.
- 6 Describe pathogenesis of diphtheria.
- 7 What is candidiasis? Describe etiology and pathogenesis candidiasis.
- 8 Write a note on hepatitis viruses.
- 9 Discuss the characteristics and cytological changes associated with helminthic infections.

(4 × 7 = 28 marks)

III. Answer briefly on the following. Each question carries 4 marks.

- 10 General characteristics of viruses.
- 11 Modes of transmission of infectious diseases.
- 12 Shigellosis.
- 13 Skin and soft tissue infections caused by Staphylococci.
- 14 Plasmids.
- 15 Amoebic dysentery.

(6 × 4 = 24 marks)

Turn over

IV. Write short notes on the following. Each question carries 2 marks.

- 16 DPT vaccine.
- 17 Cytopathic effects.
- 18 Mechanism of action of cholera toxin.
- 19 Negri bodies.
- 20 Lepromin test.
- 21 Chronic inflammation.
- 22 Endemic infection.
- 23 Encephalitis.
- 24 Granuloma.

(9 × 2 = 18 marks)

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