

A-9751

Sub. Code

5BMC1C1

**B.Sc. DEGREE EXAMINATION, APRIL 2021 &
Supplementary/Improvement/Arrear Examinations**

First Semester

Microbiology and Clinical Lab Technology

GENERAL MICROBIOLOGY

(CBCS – 2015 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

Define / Comment on

1. Pure culture
2. Antiseptic
3. Schleiden and Schwann
4. Thallus
5. Blood agar medium
6. HTLT
7. Penicillin
8. Sensitivity test
9. Catabolism
10. Amphibolism.

Part B

(5 × 5 = 25)

Answer **all** questions.

11. (a) State and explain the concept of biogenesis.

Or

- (b) Write down the principle and Working of light microscope.

12. (a) Comment on the genetic material of viruses.

Or

- (b) Give an account on the structure of fungal spores.

13. (a) Define and explain the process of tyndallization.

Or

- (b) Write short notes on bacterial filters.

14. (a) Establish the impact of light and temperature on bacterial growth.

Or

- (b) What do you mean by chemotherapy? Give examples.

15. (a) Summarize the energetics of aerobic respiration.

Or

- (b) Write short notes on bacterial amylases.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. List the contributions of Pasteur and Koch in microbiology.
 17. Describe the biosynthesis of bacterial cell wall.
 18. Write a detailed note on different types of media for culture and assay of microbes.
 19. Classify antibiotics based on their mode of action.
 20. With a schematic diagram explain the process of active transport in bacteria.
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A-9752

Sub. Code

5BMC2C1

**B.Sc DEGREE EXAMINATION, APRIL 2021 &
Supplementary/Improvement/Arrear Examinations**

Second Semester

Microbiology And CLT

CLINICAL BIOCHEMISTRY

(CBCS – 2015 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Chemical toxicants
2. Symptoms
3. Cardiac Markers
4. Buffer system in blood
5. Hemostasis
6. Goitre
7. Insulin
8. Bile pigments
9. Rh factor
10. Gastric acid

Part B

(5 × 5 = 25)

Answer **all** questions.

11. (a) Explain the principles of clinical chemistry.

Or

- (b) Enlist the details of patient to be maintained in clinical report.

12. (a) Write about the gases present in blood.

Or

- (b) Comment on electrolytes.

13. (a) Briefly explain about therapeutic drug monitoring.

Or

- (b) Give a brief account on toxicology.

14. (a) Write the method to analyze haemoglobin and myoglobin.

Or

- (b) Explain the method to detect renal function.

15. (a) List the types of complications developed in newborn infants.

Or

- (b) Bringout the future prospects of clinical chemistry.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Give an elaborate account on laboratory hazards and safety measures.
 17. Describe the methods to detect the defects in carbohydrate metabolism.
 18. Give an elaborate account on tumour markers.
 19. Explain the analytic procedures used to detect lipids and lipoproteins.
 20. Describe the complications of neonatal jauntice.
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A-9753

Sub. Code

5BMC4C1

**B.Sc. DEGREE EXAMINATION, APRIL 2021 &
Supplementary/Improvement/Arrear Examinations**

Fourth Semester

Microbiology And Clinical Lab Technology

CLINICAL PARASITOLOGY AND MYCOLOGY

(CBCS – 2015 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Host.
2. Types of parasites.
3. Leishmaniasis.
4. Malaria
5. Round worm.
6. Nematode.
7. Sporotrichosis.
8. Dimorphic fungi.
9. Mycotoxins.
10. Antifungal therapy.

Part B

(5 × 5 = 25)

Answer **all** questions.

11. (a) Briefly explain the diagnostic procedure for parasitic infections.

Or

- (b) List the methods to prevent parasitic infection.

12. (a) Explain the clinical sign and control of Trypanosomes infection.

Or

- (b) Explain the morphology, epidemiology and control of Toxoplasma.

13. (a) Describe the structure of male and female Ascaris lumricoides with a neat sketch.

Or

- (b) Explain the structure, symptoms and control measures of Dracunculus medianensis.

14. (a) Bring out the effects of endemic mycoses.

Or

- (b) Write a note on Cutaneous mycosis.

15. (a) Explain the causes and control of Actinomycetes infections.

Or

- (b) Briefly explain about hypersensitivity to fungal infections.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Describe the effects of parasites on human immune system.
 17. Explain the lifecycle, pathogenesis and control measure of Entamoeba histolytica.
 18. Describe the structure, life cycle, symptoms and control measures of Taenia Solium.
 19. Give an elaborate account on the types of fungi and their salient features.
 20. Elaborate the symptoms and treatments available for various fungal infections.
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A-9754

Sub. Code

5BMC6C1

**B.Sc. DEGREE EXAMINATION, APRIL 2021 &
Supplementary/Improvement/Arrear Examinations**

Sixth Semester

Microbiology And Clinical Lab Technology

BIOINSTRUMENTATION AND DIAGNOSTICS

(CBCS – 2015 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Toxic Chemical.
2. Methylthiorinium Chloride.
3. Buffer.
4. Absorption Spectrum.
5. X – Ray diffraction.
6. Electrophoresis.
7. Southern blotting.
8. Xenobiotics.
9. Immunoglobulins.
10. Hybridoma.

Part B

(5 × 5 = 25)

Answer **all** questions.

11. (a) How will you make serial dilution?

Or

(b) Explain the preparation and application of Hematoxylin.

12. (a) Bring out the biological significance of pH.

Or

(b) Derive Henderson – Hassel equation.

13. (a) How will you separate compounds using ion exchange chromatography?

Or

(b) Briefly explain about analytical centrifuge.

14. (a) Bring out the role of hybridization technique in diseases diagnosis.

Or

(b) Briefly explain about drug screening.

15. (a) Explain cytokine assay.

Or

(b) Comment on ELISA technique.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Explain the preparation of various kinds of solutions used in laboratory.
 17. Describe the principle and method to detect the absorption of coloured compounds.
 18. Explain the principle, instrumentation and applications of HPLC.
 19. Discuss the methods of analysis used for the detection of various toxic chemicals.
 20. Discuss the instrumentation and application of flowcytometry in disease diagnosis.
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A-9763

Sub. Code

5BMCA1

U.G. DEGREE EXAMINATION, APRIL 2021 &

Supplementary/Improvement/Arrear Examinations

Microbiology and clinical lab technology

Allied-CELL BIOLOGY

(CBCS – 2015 onwards)

Time : 3 Hours

Maximum : 60 Marks

Part A

(10 × 1½ = 15)

Answer **all** questions.

Define / Comment on

1. Totipotency
2. Chondrocytes
3. F1 particles
4. Actin
5. Histones
6. Cisternae
7. Cell synchrony
8. Spindle fibres
9. Gap junctions
10. Cilia

Part B

(5 × 3 = 15)

Answer **all** questions.

11. (a) Brief the structure and functions of connective tissue

Or

- (b) State and explain cell theory

12. (a) Explain unit membrane concept

Or

- (b) Write short notes on cytosol

13. (a) Portray the features of peroxisomes

Or

- (b) Give an account on the nuclear membrane

14. (a) Depict the events that occur during mitosis

Or

- (b) Comment on the sub stages of interphase

15. (a) Define and explain apoptosis.

Or

- (b) What are tight junctions? Add a note on their significance

Part C

(3 × 10 = 30)

Answer any **three** questions only.

16. Give a detailed account on cells of ectodermal origin
17. Describe the secretory pathway in a cell.

18. Elucidate the structure and functions of chloroplast
 19. Evaluate the effects of chromosomal non disjunction with specific examples
 20. Analyze the molecular mechanism of cell senescence
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A-10407

Sub. Code

5BMCA2

**U.G. DEGREE EXAMINATION, APRIL 2021 &
Supplementary/Improvement/Arrear Examinations**

Microbiology and Clinical Lab Technology

**BODY FLUID ANALYSIS AND CLINICAL TEST
REPORTING**

(CBCS – 2015 onwards)

Time : 3 Hours

Maximum : 60 Marks

Section A

(10 × 1½ = 15)

Answer **all** questions.

Define / Comment on.

1. Interstitial fluid
2. Osmolarity
3. Amniotic fluid turbidity test
4. Elevated AChE
5. Hydrocephalus
6. CSF IgG index
7. Wintrobe
8. Lupus Erythematosus
9. CLIA
10. Non waived testing

Section B

(5 × 3 = 15)

Answer **all** questions.

11. (a) What is synovial fluid? What is its importance?

Or

- (b) Give an account on transcellular fluid.

12. (a) Define erythroblastosis fetalis. Add a note on its significance.

Or

- (b) What is the significance of amniotic fluid for AFP?

13. (a) Brief the process of formation of CSF.

Or

- (b) What is the significance of gross examination of CSF?

14. (a) State the formula for calculating MCH and its medical significance.

Or

- (b) Write the importance of haemogram.

15. (a) Enlist the criteria for moderate complexity testing.

Or

- (b) Depict the contents of reporting format.

Section C

(3 × 10 = 30)

Answer any **three** questions.

16. Bring out the causes and clinical conditions of hyponatremia and hypernatremia.
 17. Elucidate the functions of amniotic fluid.
 18. Explain the relationship between cytological analysis of CSF and associated disorders.
 19. Describe the mechanism of blood clotting.
 20. Highlight the requirements for high complexity testing laboratories.
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