

F-7109

Sub. Code

7BMC2C1

B.Sc. DEGREE EXAMINATION, APRIL 2022

Second Semester

Microbiology and Clinical Lab Technology

CLINICAL BIOCHEMISTRY

(CBCS – 2017 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Define Neutral pH.
2. Define plasma.
3. GTT.
4. Define Hyperglycemia.
5. Saturated fatty acid.
6. Define Aetiology.
7. Give two example for essential amino acids.
8. Phenylketonuria.
9. Give two example of water soluble vitamins.
10. Xerophthalmia

Part B

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) How will you collect serum?

Or

- (b) Brief account on buffer.

12. (a) Explain the digestion of carbohydrates.

Or

- (b) Comment on diabetes mellitus.

13. (a) Discuss the biological importance of lipids.

Or

- (b) Write short notes Xanthomatosis.

14. (a) Describe primary structure of protein.

Or

- (b) Give short notes on cystinuria.

15. (a) Write short notes on Alkaline phosphatase assay.

Or

- (b) Brief account on pediatric clinical chemistry.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Describe the mechanism of blood clotting.

17. Write the classification of carbohydrates.

18. Discuss disorders of lipid metabolisms.
 19. Give the structure of amino acids with examples and diagram.
 20. Explain general urine analysis with clinical significance.
-

F-7110

Sub. Code

7BMC4C1

B.Sc. DEGREE EXAMINATION, APRIL 2022.

Fourth Semester

Microbiology and Clinical Lab Technology

MOLECULAR BIOLOGY AND MICROBIAL GENETICS

(CBCS – 2017 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Chargaff rule
2. Nucleotide
3. Mutagen
4. Transversion
5. Kornberg enzyme
6. Okazaki fragment
7. RNA polymerase
8. Triplet codon
9. Promoter
10. Laez gene.

Part B

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Experimentally prove the RNA as genetic material.
Or
(b) Justify the concept of one gene-one enzyme hypothesis.
12. (a) Write short notes on Excision repair mechanism.
Or
(b) Classify the mutation.
13. (a) Explain Meselson and Stahl experiment.
Or
(b) State about the inhibitors of DNA replication.
14. (a) Comment on Reverse transcription.
Or
(b) Describe the role of aminoacyl tRNA synthetase.
15. (a) Discuss the functional units of a typical Eukaryotic gene.
Or
(b) Outline the regulation of top operon at low and high level of tryptophan.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Give a detailed account on direct evidences to prove DNA as the genetic material.
17. Briefly explain the induced mutagenesis by physical and chemical agents.

18. Explain the steps involved in prokaryotic DNA replication.
 19. Outline the process of transcription in prokaryotes.
 20. Sketch the structural and functional genes in Lac operon. Add a note on its positive and negative regulation.
-

F-7112

Sub. Code

7BMC6C1

B.Sc. DEGREE EXAMINATION, APRIL 2022

Sixth Semester

Microbiology and Clinical Lab Technology

BIOINSTRUMENTATION AND DIAGNOSTICS

(CBCS – 2017 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Normality.
2. Haematoxylin.
3. Gonisometer.
4. IR Spectroscopy.
5. HPLC.
6. Resin.
7. rpm.
8. Ultra centrifugation.
9. Biopsy.
10. ECHO

Part B

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Give notes on normality and molarity

Or

- (b) Write about the preparation of Eosin and Methylene blue stain.

12. (a) Explain about UV spectroscopy.

Or

- (b) Write short notes on NMR techniques.

13. (a) Explain the working principle and application of Ion exchange chromatography.

Or

- (b) Write about the applications of HPLC.

14. (a) Give comment on differential gradient centrifugation.

Or

- (b) Give notes on probe zonal centrifugation.

15. (a) Write short notes on CT and MRI.

Or

- (b) Explain the techniques of X-ray and Angiogram.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Write in detail about different solutions preparation.
 17. Write principle, instrumentation and application of visible UV spectroscopy.
 18. Discuss about Adsorption and Gel chromatography.
 19. Explain the methods of ultra centrifugation techniques.
 20. Brief account on Immunohistochemistry.
-

F-7113

Sub. Code

7BMC6C2

B.Sc. DEGREE EXAMINATION, APRIL 2022

Sixth Semester

Microbiology

CLINICAL PARASITOLOGY AND MYCOLOGY

(CBCS – 2017 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Reservoir host.
2. Xenodiagnosis.
3. Iodamoeba.
4. Napier aldehyde test.
5. Microfilaria.
6. Scolex.
7. PDA.
8. Dimorphic fungus.
9. Scarification.
10. CHROM agar test.

Part B

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Add notes on host parasite interaction.

Or

- (b) Give a brief on prophylaxis of Parasitic infection.

12. (a) Explain lab diagnosis of Leishmaniasis.

Or

- (b) Describe lab diagnosis of Trypanosomiasis.

13. (a) Comment on life cycle of Plasmodium.

Or

- (b) Discuss the life cycle of Wuchereria bancrofti.

14. (a) Describe in detail of Candidiasis.

Or

- (b) Account on Dermatophytoses.

15. (a) Give notes on Actinomycete infections.

Or

- (b) Explain treatment of fungal infections.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Give a brief on general procedures followed in laboratory to diagnose parasites.

17. Explain morphology, life cycle, lab diagnosis of Entamoeba histolytica.

18. Comment on Ascariasis disease.
 19. Give a brief on subcutaneous mycoses.
 20. Detailed account on Antifungal chemotherapy.
-

F-7114

Sub. Code

7BMC6C3

B.Sc. DEGREE EXAMINATION, APRIL 2022

Sixth Semester

Microbiology and Clinical Lab Technology

RECOMBINANT DNA TECHNOLOGY

(CBCS – 2017 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Restriction Endonucleases.
2. Homopolymer Tailing.
3. pBR322.
4. BAC
5. Lac Z.
6. Microprojectile.
7. cDNA libraries.
8. Chromosome jumping.
9. GMO.
10. Fresh frozen plasma.

Part B

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Compare and contrast linkers and adaptors.

Or

- (b) List out the applications of rDNA.

12. (a) Explain about ColE1 plasmid.

Or

- (b) Write in detail about pBR322.

13. (a) Write about Blue-White Screening.

Or

- (b) What is Electroporation?

14. (a) What is cDNA library.

Or

- (b) List out the safety regulations to be followed in rDNA techniques.

15. (a) What is GMO? Explain any one of its product.

Or

- (b) Explain interferons.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. What are the enzymes involved in rDNA technology?

17. What are Plasmid, mention it's types?

18. Explain gene transfer techniques.
 19. How to construct a genomic library?
 20. Explain the GMO insulin and Human growth hormone.
-

F-7115

Sub. Code

7BMC3E2

B.Sc. DEGREE EXAMINATION, APRIL 2022

Sixth Semester

Microbiology and Clinical Lab Technology

Elective – ENVIRONMENTAL MICROBIOLOGY

(CBCS – 2017 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** the questions.

1. Droplet nuclei
2. State few Microorganisms present in air.
3. MPN test.
4. Ecosystem.
5. Pyrolysis.
6. Composting.
7. Bioremediation.
8. Biofouling.
9. Global warming.
10. State the microorganisms involved in green house.

Part B

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) State the cause of airborne diseases.

Or

- (b) How to assess the air quality?

12. (a) Explain about Marine Ecosystem.

Or

- (b) How to detect non faecal Coliforms?

13. (a) Explain about primary sewage treatment process.

Or

- (b) Discuss composting.

14. (a) Give an account on Bioleaching process.

Or

- (b) How are aromatic compounds degraded?

15. (a) Explain the impact of acid rain.

Or

- (b) How to prevent Global warming?

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Write an account on airborne diseases and their control.

17. Explain in detail, on how to detect the water quality.

18. Write in detail about the treatment of sewage water.
 19. Elaborate the degradation of xenobiotic compounds.
 20. Analyze in detail about global warming.
-