

B.Sc. Allied Health Sciences Third Year (Semester-VI)

December 2013 Examination

Medical Laboratory Technology (MLT)

Time : 2.30 Hrs.

Max. Marks : 80]

BIOCHEMISTRY

Q.P Code : AHS-105

Your answers should be specific to the questions asked.

Draw neat labelled diagrams wherever necessary.

LONG ESSAY

2 X 10 = 20 Marks

1. Explain the steps of activation, initiation, elongation and termination of protein biosynthesis.
2. What is chromatography? Write different types of chromatography. Explain any one type of chromatography in detail.

SHORT ESSAY (Answer any Six)

6 X 5 = 30 Marks

3. PCR-principle and application.
4. Metabolic acidosis.
5. Glucose tolerance test
6. Uses of radioisotopes in biochemistry.
7. Classify liver function tests based on liver functions. How will you assess the secretory function of liver.
8. Southern blot technique.
9. Explain any two methods of protein purification.
10. Radioimmunoassay principle and application.

SHORT ANSWERS (Answer any Ten)

10 X 3 = 30 Marks

11. Write the components and principle of colorimeter.
12. Biochemical changes in hypothyroidism.
13. Diagnostic enzymes of acute pancreatitis.
14. Normal values of blood urea, uric acid and creatinine.
15. What is point mutation? Give example.
16. Significance of β -HCG in infertility profile.
17. DNA library.
18. What are vectors? Mention any two commonly used vectors in recombinant DNA technology.
19. Mention any three commonly used drugs in which therapeutic drug monitoring is required.
20. Isoenzymes of lactate dehydrogenase and its diagnostic importance.
21. Principle of flame photometry.
22. What are FBS and PPBS? How the samples are collected for the estimation of blood sugar?

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Microbiology

Q.P Code : AHS-109

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LONG ESSAY

2 X 10 = 20 Marks

1. Name the fungi causing opportunistic infections. Describe the pathogenesis, clinical features and laboratory diagnosis of Candidiasis.
2. Enumerate the viruses causing Hepatitis. Describe the morphology, Pathogenesis and laboratory diagnosis of Hepatitis B virus.

SHORT ESSAY (Answer any Six)

6 X 5 = 30 Marks

3. KOH preparation
4. Laboratory diagnosis of Herpes simples infections
5. Poliovirus
6. Lab diagnosis of HIV
7. Varicella zoster virus
8. Antigenic variation in influenza virus
9. Post exposure prophylaxis against rabies
10. Negative stain

SHORT ANSWERS (Answer any Ten)

10 X 3 = 30 Marks

11. Name three media to grow fungi
12. Name the six stages in viral multiplication
13. MMR vaccine
14. Paul Bunnell test
15. Name three RNA viruses
16. Inclusion bodies
17. Draw a neat labeled diagram of the HIV virus
18. Name the three genera of Dermatophytes
19. Dengue haemorrhagic fever
20. Lacto Phenol Cotton Blue mount
21. Name three Oncogenic viruses
22. Name three fungi causing systemic mycotic infections

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Pathology

Q.P Code : AHS-107

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LONG ESSAY

2 X 10 = 20 Marks

1. Describe the Criteria used for blood donor selection. How do you bleed a donor? Methods used to separate and store components of blood in the blood bank.
2. What is Karyotyping. Write the classification and nomenclature of human chromosomes. Describe the method of karyotypic analysis.

SHORT ESSAY (Answer any Six)

6 X 5 = 30 Marks

3. Fine needle aspiration cytology as a diagnostic tool.
4. Describe the immunological properties of human cell.
5. Enumerate the various methods of image analysis.
6. Briefly describe the histology of thyroid gland.
7. What is HLA antigen? Mention its role in diseases.
8. Briefly describe the Banding techniques.
9. Mention chromosomal abnormalities in neoplasia.
10. Mention the uses of Immunocytochemistry.

SHORT ANSWERS (Answer any Ten)

10 X 3 = 30 Marks

11. Mention three blood group systems other than ABO system.
12. Mention three differences between immortalized cell lines and stem cells.
13. What is the principle of Flowcytometry.
14. Mention three types of transfusion reactions.
15. What are the three types of blood components?
16. Mention three cytological differences between benign and malignant lesions of breast.
17. Write briefly about the laboratory equipment needed for tissue culture studies.
18. Clinical utility of blood grouping.
19. Uses of Immunofluorescence.
20. Mention the volume of blood and volume of anticoagulant in the blood bag.
21. Name the anticoagulants used in blood banks.
22. Mention three screening tests done on donor blood sample before blood donation.