# 2010

## M.Sc.

## 3rd Semester Examination

## BIO-MEDICAL LABORATORY SCIENCE & MANAGEMENT

**PAPER—X (Unit-19)**

*Full Marks : 40*

*Time : 2 Hours*

*The figures in the right-hand margin indicate full marks.*
*Candidates are required to give their answers in their own words as far as practicable.*
*Illustrate the answers wherever necessary.*

***(Fundamental Clinical Biochemistry/ Advance Clinical Biochemistry)***

### Module-I

*(Fundamental Clinical Biochemistry)*

**1.** Answer any *five* of the following : 1×5

(a) Write the principle of electrophoresis.

(b) What do you mean by Rf value?

(c) State any two applications of 'Titrimetry'.

(d) Write the full form of RT–PCR.

(e) Write the names of any two enzymes used as cardiac markers.

(f) State the light source of visible and UV spectrophotometer.

(g) What is Beer's law?

(h) Why serum is preferred over plasma for biochemical analysis.

**2.** (a) Describe the different steps used in each cycle of PCR with diagram.

(b) Why Taq polymerase is used in PCR?

(c) Write the name of the machine used in PCR. $(4\frac{1}{2}+1\frac{1}{2})+1+1$

*Or*

(a) Write the principle of paper chromatography.

(b) State the different steps adopted for paper chromatography.

(c) Write the advantages of GLC over paper chromatography. 2+4+2

**3.** (a) Write the fundamental steps adopted for reading of OD using visible spectrophotometer.

(b) State the working principle of visible spectrophotometer.

(c) When U.V. Spectrophotometer is used in stead of visible spectrophotometer? 4+2+1

*Or*

(a) Write the fundamental steps followed for the preparation of protein free filtrate from blood.

(b) Describe the working principle of paper electrophoresis. 3+4

## Module-II

*(Advance Clinical Biochemistry)*

**4.** Answer any *five* questions : 1×5

(a) What do you mean by acid Phosphatase ?

(b) Why HDL is known as health friendly cholesterol ?

(c) Write the normal level of cholesterol in blood and its high risk value.

(d) Write any two tests for the assessment of liver functions.

(e) State the significance of testing of SGOT.

(f) Write the pre-conditionings for fasting blood glucose assessment.

(g) Write the names of any two tests for the assessment of renal functions.

(h) How gastic juice is collected ?

**5.** (a) Write the principle of serum total cholesterol assessment.

(b) State the steps for quantification of serum total cholesterol.

(c) What are the preconditionings of the patient for accurate assessment of cholesterol level in serum. 2+4+2

*Or*

(a) What are the bio-medical importances of serum acid phosphatase assessment ?

(b) Write the principle of serum acid phosphatase quantification.

(c) Describe the steps adopted for serum acid phosphatase activity assessment. 2+2+4

**6.** (a) Describe the principle of CO (carbon monoxide) toxicity screening in human.

(b) Describe the steps adopted for CO screening in blood.

(c) State the principle of methanal toxicity screening in blood. 2+3+2

*Or*

(a) Write down the clinical significance of CPK in serum.

(b) Describe one method for estimation of Alkaline phosphatase in serum.

(c) How can you collect samples for GTT? 2+3+2

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