# 2012

## M.Sc.

## 1st Semester Examination

## BIO-MEDICAL LABORATORY SCIENCE AND MANAGEMENT

**PAPER— BLM-101 ( UNIT—1 )**

*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.*

Answer *all* questions.

### Module—I

### (*Basic Human Physiology and Anatomy*)

[Marks : 20]

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

(a) Write the name of a gene that is involved in obesity.

(b) What is necrosis ?

(c) What do you mean by surface anatomy ?

(d) Write the name of an anti-oxidative enzyme.

(e) Mention the names of major two cardiovascular diseases.

(f) What is BMI ?

(g) What is pulmonary embolism ?

(h) What is C.S.F. ?

2. (a) What is the role of insulin in blood glucose homeostasis ?

(b) Classify hypertension.

(c) What are the causes of hypertension ? 3+2+3

*Or*

(a) What is obesity ?

(b) How obesity is regulated by leptin and ghrelin ?

(c) What are the various diseases caused by obesity ?

(d) What is atherosclerosis ? 2+2+2+2

3. (a) What is the mechanism of apoptosis ?

(b) What are the differences between apoptosis and necrosis ? 4+3

*Or*

Write short notes on :

(a) Anginapectoris ;

(b) Ischemic heart disease. 3+4

## Module—II

**(*Bio-Physical aspect of Biomedical Laboratory Science*)**

[Marks : 20]

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

(a) Give an example of universal buffer.

(b) Define 'Normality'.

(c) Write any two varieties of light microscope.

(d) Which microscope is used to observe living organisms ?

(e) What do you mean by intercellular $p^H$ in biological system ?

(f) Give an example of radiation sensitive part of the body.

(g) At which condition $K_m = [S]$ ?

(h) What is small 'p' in pH ?

**5.** (a) What is pH ?

(b) How its scale is determined ?

(c) How pH can be measured ?

(d) What are the differences between dialysis and ultrafiltration ? 2+2+2+2

*Or*

(a) What is buffer?

(b) Write Henderson-Hassel batch equation.

(c) Explain important precautions taken during various reagent preparation. 2+2+4

6. (a) What are the limitation in bright field microscope?

(b) State the basic principle of phase-contrast microscope.

(c) Explain resolution of a microscope.

(d) Write the basic difference between light and electron microscope. 2+2+1+2

*Or*

(a) Derive the M–M equation in enzyme kinetics.

(b) Derive the mathematical equation to show the relation between Km and $V_{max}$.

(c) What is Lambert-Beer's law.

(d) What are the applications of this law? 2+2+2+1

———