2008

M.Sc.

1st Semester Examination

BIO-MEDICAL LABORATORY SCIENCE & MANAGEMENT

PAPER—I (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.

Illustrate the answers wherever necessary.

Module-I

Answer *all* questions.

1. Write answer any *five* : 1×5

(a) What do you mean by tophi?

(b) What is galactosemia?

(c) What are the nerves involved for the regulation of respiration?

(d) What is secondary hypotension?

(e) What is meant by leptin?

(f) Write the full forms of TBARS.

(g) What is BMI?

(h) What is meant by 'Chloride Shift'?

2. (a) What is C.S.F. ?

(b) How and for what purpose it is collected ?

(c) 'Adipose tissue act as an endocrine organ'—justify. 1+(2+2)+3

Or

(a) What is oxidative stress ?

(b) Write the names of enzymatic and non-enzymatic antioxidants in cells.

(c) Briefly describe the effects of oxidants on Macromolecules. 2+2+4

3. (a) What is homeostasis ?

(b) How does renin-angiotensin mechanism control hypertension ?

(c) Discuss the role of baroreceptors and chemoreceptors in maintaining homeostasis of arterial blood pressure. 1+2+(2+2)

Or

(a) State in brief the morphological and biochemical differences between necrosis and apoptosis.

(b) Why should a cell commit suicide ?

(c) Write the names of marker's of pancreatic and colo-rectal cancer. (2+2)+2+1

Module-II

Answer *all* questions.

4. Write answer any *five* : 1×5

(a) What is meant by molarity of a solution?

(b) What is Hill Co-efficient?

(c) What is meant by end point reaction?

(d) What is mixed inhibition?

(e) What do you mean by pH of a solution?

(f) Write the importance of Km value in enzymatic reaction.

(g) What is K-Series enzyme?

(h) What do you mean by strong acid and week acid?

5. (a) What types of precaution should be taken during reagent preparation?

(b) Write the application of Beer's and Lambert's law?

(c) Write the principle and application at pH meter in Biomedical field. $2+(1\frac{1}{2}+1\frac{1}{2})+3$

Or

(a) What is steady state Kinetics?

(b) Mention the advantages and disadvantages of Eisenthal Cornish-Bowder Plot.

(c) State the use of enzyme inhibitor as drug.

$3+(1\frac{1}{2}+1\frac{1}{2})+2$

6. Write the basic principle and application of dialysis and ultrafiltration. (2+2)+3

Or

(a) Determine the amount of acid and salt to be require for the preparation of one litre of 0.1M acetate buffer of pH 6.0 by using the Henderson-Hasselbalch equation (pk of acetic acid is 4.76).

(b) Explain why the pH of distilled water is 7.0. 4+3