2009

M.Sc.

1st Semester Examination

BIO-MEDICAL LABORATORY SCIENCE AND MANAGEMENT

PAPER—I & UNIT—I

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, Pathophysiology and Anatomy)

[Marks : 20]

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

(a) Write the names of any two nutritional antioxidants.

(b) Write the names of markers of liver and breast cancer.

(c) What are the nerves involved in regulation of heart rate ?

(d) What do you mean by hypovolemic shock ?

(e) Write the function of Renin.

(f) What do you mean by hemophilia ?

(g) What is meant by Residual Volume?

(h) What do you mean by Supraventricular tachycardia?

2. (a) Distinguish between Apoptosis and Necrosis.

(b) Describe the differential features and significance of apoptosis and necrosis.

(c) Mention the names of the methods for studying apoptosis and necrosis. 2+(2+2)+2

Or

(a) Name the types of hypertension.

(b) What are the causes of atherosclerosis?

(c) Discuss the blood glucose homeostasis after glucose load in the body. 2+2+4

3. (a) Write the names of radicals and non-radicals in oxidative stress.

(b) Briefly describe the role of different enzymes which act as antioxidant in cells.

(c) Write the full form of MDA. 2+4+1

Or

(a) Write the origin of parasympathetic nerves.

(b) Mention the names of two motor cranial nerves.

(c) Describe briefly the neural regulation of breathing. 2+1+4

Module—II

(*Biophysical aspects of Biomedical Laboratory Science*)

[Marks : 20]

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

(a) What is K_m?

(b) What is alkalosis?

(c) What are the plasma specific enzymes?

(d) Define Beer's law.

(e) What is meant by irreversible inhibition?

(f) Define isoenzyme.

(g) What is dialysis?

(h) What are isotopes?

5. (a) Mention the properties of allosteric enzyme.

(b) State the importance of irreversible covalent modification.

(c) State the types of enzymological studies needed for detection of cardiac diseases. 3+2+3

Or

(a) What do you mean by Two point kinetics?

(b) Write the application of Lambert's law.

(c) Write the working principle of the compound microscope. 2+2+4

6. (a) Mention the common sources of UV-Radiation in the laboratory.

   (b) Write the symptoms of overexposure to UV light.

   (c) Describe the personal protective equipments which are used to avoid UV-radiation induced hazards. 2+2+3

Or

   (a) What is 'Lineweaver-Burk' plot ? State the limitation of this plot.

   (b) Write the comments on catalytic efficiency. (2+2)+3
