2009

M.Sc.

2nd Semester Examination

BIO-MEDICAL LABORATORY SCIENCE & MANAGEMENT

PAPER—VI (Unit-12)

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.

[Laboratory Mathematics and Statistics and Computer Application]

Module-I

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

   (a) Determine the amount of serum in 40 ml of a $\frac{1}{5}$ dilution of serum in saline.

   (b) What will be the concentration of a $\frac{1}{20}$ dilution of a 15% NaCl solution ?

   (c) A 4 normal solution of HCl is diluted $\frac{3}{5}$. What is the concentration of the resulting solution ?

(d) A solution contains 24 gm of solute in 300 ml of solution. What is the percent concentration?

(e) What do you mean by contingency table?

(f) Write the correct formula of computed t-value for paired observation.

(g) What is F ratio?

(h) What is null hypothesis?

2. (a) What are the statistical measurement used in test of significance?

(b) How do you compute correlation between two variables by spearmman rank method and write the significance of the result? 1+4+3

Or

(a) Describe the different headings of the financial budget of a project proposal.

(b) Write the importance of the back ground of the project proposal.

(c) What are the values of references in bibliography in a project proposal. 4+2+2

3. (a) Express 150 milliequivalent per liter NaCl as Milligram per deciliter NaCl.

(b) A serum sample is diluted with saline $\frac{1}{15}$ rediluted $\frac{1}{20}$ and again $\frac{1}{100}$. Calculate the total volume of each dilution in the series. What are the concentration of the second and third dilutions? 1+6

(a) Convert 30% NaCl to molarity.

(b) The values listed on the label of a bottle of nitric acid are specific gravity 1·42 and assay 70%. What do these mean? How much HNO_3 is in 1ml solution?

1+6

Module-II

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

(a) What is BIOS?

(b) Give an example of a primary memory type.

(c) What is Multiuser Operating System?

(d) Give two example of system software.

(e) What is 'cell' in MS-Excel?

(f) Give example of one input device and one output device.

(g) What are the full form of CPU and ALU?

(h) What is data?

5. (a) What is software?

(b) State the difference between hardware and software.

(c) Explain the role of operating system in computer operation.   2+2+4

Or

(a) What are various functional units of a computer system?

    (b) Draw the logical block diagram of the computer system.

    (c) Differentiate between primary memory and secondary memory.   2+3+3

6. (a) Write down the step by step approach in creating a folder in a drive.

    (b) What are the basic difference in MS–Word & MS–Excel application.

    (c) What are the trouble shooting steps if there is no display in your computer.   2+2+3

Or

Design a typical pathological data base to be used in Biomedical Lab. Sc.   7