M.Sc.
2014
2nd Semester Examination

BIOMEDICAL LABORATORY SCIENCE AND MANAGEMENT

PAPER—BLM-202 (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.

(Module — 1)

1. Answer any five questions of the following : 5×1
   (a) What do you mean by Parametric statistics?
   (b) When Yate’s correction is require?
   (c) Write any two limitation of ‘Chi-square test’.
   (d) Write an example of positive co-relation.
   (e) How much ethanol is there in 50 ml. of a 5% solution of ethanol in water?
   (f) A solution contains 12 gms of solute in 150 ml of solution. Determine the percent concentration of the solution.
   (g) There are 200 gm NaCl in one litre of solution. What is the molarity of the solution?

(Turn Over)
2. (a) Blood insulin and blood glucose levels of 6 adults given below. Find out whether there is any co-relation between plasma insulin and blood glucose level:

Plasma insulin: (5, 9, 4, 6, 8, 3) 
(μM/lit)

Blood glucose: (120, 80, 130, 108, 120, 140) 
(Mg/dl)

(b) What do you mean by one-way and two-way ANOVG?

5+3

Or

(a) 20 cc of 4% sugar solution is mixed with 40 cc of a sugar solution of unknown concentration to produce 60 cc of a 8% sugar solution. Determine the concentration of the second solution.

(b) Explain how to prepare 400 ml of 20% HCl.

(c) How you prepare 200 ml of 0.5M NaCl solution?

4+2+2

3. (a) Write the full form of ANOVA.

(b) Why ANOVA is preferred over 't'-test?

(c) What do you mean by independent and depended variable?

(d) What do you mean Model I and Model II?

1+2+2+2
Or
(a) The values listed on the label of a bottle of HCl solution are specific gravity 1.2 and assay purity 60%. Make 300 ml of 20% (W/V) HCl solution from the solution of this bottle.
(b) Write in short about 'Chu-square test' for goodness of bit. 4+3

(Module — 2)

4. Answer any five questions from the following: 5×1
(a) Write any two uses of MS-Word.
(b) What do you mean by file in Computer?
(c) What do you mean by software in Computer?
(d) What do you mean by Secondary memory in Computer?
(e) Write the full form of RAM.
(f) What do you mean by data bank generation?
(g) Write any two uses of MS-Excel.
(h) Write the names of any two types of printers.

5. (a) Why should biologists use computers?
(b) How is computing changing biology?
(c) How does biostatistical analysers and computer assisted software for data analysis become interdependent? 2+3+3

Or

C/14/M.Sc./2nd Seme./BLM-202(U-12) (Turn Over)
(a) 'Histological advancement, advanced microscopy and image processing techniques are integrated to enrich biological research.' — Justify with examples.
(b) How protein structure analysis and amino acid sequence analysis involve computerised techniques to revolutionize the global biological research.  

4+4

6. (a) Antivirus installation is ineffective without internet facility. Why? Justify with reasons.
(b) Why should temporary online files be removed from PC at a regular basis?
(c) State one example regarding use of software for computerised photomicrography? 3+2+2

Or

(a) Compare the basic characteristics of MS Word and MS-Excel with examples of each type;
(b) Cite one example of clinical data analysis and its justification;
(c) 'Net-storage of data is safe and reproducible' — Justify. 3+2+2