

**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-rrelation.
  - (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-rrrelation between plasma insulin and blood glucose level :

Plasma insulin : (5, 9, 4, 6, 8, 3)  
( $\mu\text{M}/\text{lit}$ )

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 'Chi-square test' for goodness of fit. 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

- (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