PG/IIS/BLSM/VI/U-12/10

M.Sc. 2nd Semester Examination, 2010

BIO-MEDICAL LABORATORY SCIENCE AND MANAGEMENT

(Laboratory Mathematics, Statistics and Computer Application)

PAPER—VI(U-12)

Full Marks : 40

Time : 2 hours

The figures in the right-hand margin indicate 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 : 1 × 5

(*a*) Explain how will you make 250 ml of a 1 in 10 dilution of serum in saline.

(*b*) How much of a 1/16 dilution of urine in water could be made with 3 ml of urine ?

(*c*) What is Null-hypothesis ?

(*d*) Define "Normality" of a Solution.

(*e*) What do you mean by probability ?

(*f*) What will be the concentration of a 1/100 dilution of a 25% NaCl solution ?

(*g*) Write the importance of random sampling ?

(*h*) There are 300 gms of NaCl per liter of solution. What is the molarity of the solution ?

2. (*a*) What is standard deviation ?

(*b*) Write the different steps for the computation of standard deviation from grouped data ?

(*c*) Write the application of students 't' test. 2 + 4 + 2

Or

(*a*) What is the chi-square test ?

(*b*) Write the different steps for the computation of chi-square test.

(*c*) What is degree of freedom ? 2 + 4 + 2

3. A 1/10 dilution of serum is diluted 1/10 and rediluted 1/100. Ten ml total volume is desired for each solution. How much actual serum is present in each tube after transfer ? 7

Or

15 c.c of a 6% sugar solution is mixed with 30 c.c of another sugar solution of unknown concentration to produce 45 c.c. of a 10 % sugar solution. What is the concentration of the second solution ? 7

MODULE–2

4. Answer any *five* questions : 1 × 5

(*a*) What is DATA ?

(*b*) Give two examples of application of software.

(*c*) What are the full forms of RAM & EPROM ?

(*d*) What is cell in Excel ?

(*e*) What is the function of ALU ?

(*f*) What is internet ?

(*g*) What will you check in a computer if there is no display in monitor ?

5. (*a*) What is memory ?

(*b*) State the differences between primary memory and secondary memory.

(*c*) Give two examples each of primary and secondary memory. 2 + 4 + 2

Or

(*a*) What is software ?

(*b*) State the differences between system software and application software with example.

(*c*) Name two statistical data analysis package through which you can analyse your data.

2 + 4 + 2

6. (*a*) What are the components software of a MS-Office package ? Give the usefulness of each of the components.

(*b*) Write down the use of Internet in Biomedical Laboratory Science.

(*c*) Write down the steps to copy a file from C:\ Drive to Pendrive(F:\). (1 + 3) + 2 + 1

Or

(*a*) What is Memory Hierarchy.

(*b*) What are the probable entity and relationship sets involve in a pathological database. Draw the E-R diagram of the same.

3 + 4