FS(R)-04

April-2007
Vocational Biotechnology
Paper–I

Time : 3 Hours]   **[Max. Marks : 70**

Instructions : (1)   **All** questions carry equal marks.

                (2)   Draw diagram wherever necessary.

1. (a) List various output media and discuss any two in detail. **(08)**

   (b) Briefly explain the following terms : **(06)**

   (1) Algorithm.

   (2) Machine language.

   (3) Flow-chart.

   OR

   (a) How do we regard different generations of computer ? **(07)**
   Give a detailed account on this.

   (b) Write a note on use of computers in various Biotechnological processes. **(07)**

2. (a) Find out mean and median from following data. Draw Histogram and Frequency Polygon. **(06)**

Marks	0 – 10	10 – 20	20 – 30	30 – 40	40 – 50
No. of Students	05	18	12	18	05

   (b) Give an idea about graphical representation of a frequency distribution. **(04)**

   (c) What is sampling ? Explain simple random sampling and list the other methods of sampling. **(04)**

   OR

   (a) A bag contains 12 white balls and 14 red balls. Two balls are drawn at random one after another without replacement. Find out the probability that both are red. **(04)**

   (b) What is Biostatics ? Write a note on its applications. **(07)**

   (c) Define measurement of central tendencies. List their different types. **(03)**

3. (a) What are the characteristics of signal transducers ? Discuss different types of signal transducing elements. **(08)**

   (b) Explain about Enzyme-substrate interactions. **(06)**

   OR

   (a) Write a note on properties of water and its biological significance. **(07)**

   (b) Explain mechanism of light reception in lower animals as well as in human-beings. **(07)**

4. (a) Discuss Primary events in photosynthesis. **(08)**

   (b) Derive Lambert-Beer's law and state its use in colorimetry. **(06)**

   OR

   (a) Discuss the safety aspects while using radio-isotopes. **(08)**

   (b) Write a brief note on commonly used radio-isotopes in Biology. **(06)**

5. Write short notes on : (any **two**) **(14)**

   (1) EEG.

   (2) DNA-structure.

   (3) NMR Imaging.

   (4) Eye as an optical system.

   (5) Types of RNAs