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:
   (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)

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<th>Marks</th>
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<th>10 – 20</th>
<th>20 – 30</th>
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</thead>
<tbody>
<tr>
<td>No. of Students</td>
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<td>18</td>
<td>12</td>
<td>18</td>
<td>05</td>
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   (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