Instructions: (1) Question numbers as it is in question paper should be correctly shown in margin.
(2) Marks are designated on the right hand side.

1 (a) What is Computer? Discuss why it is very popular today. 7
(b) Name five input media and explain their features. 7

OR

1 (a) What is high level languages, low level languages? and what is assembly language? 7
(b) Explain the features of the first generation of computer. 4
(c) Explain how computers can be used to control processes in Biotechnology. 3

2 (a) The following is the results of measurement of sugar level among 40 students. Find out the mean and standard deviation of distribution:

<table>
<thead>
<tr>
<th>Sugar level (mg%)</th>
<th>No. of students</th>
</tr>
</thead>
<tbody>
<tr>
<td>80–90</td>
<td>1</td>
</tr>
<tr>
<td>90–100</td>
<td>3</td>
</tr>
<tr>
<td>100–110</td>
<td>5</td>
</tr>
<tr>
<td>110–120</td>
<td>25</td>
</tr>
<tr>
<td>120–130</td>
<td>3</td>
</tr>
<tr>
<td>130–140</td>
<td>1</td>
</tr>
<tr>
<td>140–150</td>
<td>1</td>
</tr>
<tr>
<td>150–160</td>
<td>1</td>
</tr>
</tbody>
</table>

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(b) What is random sampling? How do you setup a random sample to find out the mean Glucose level in the population of Ahmedabad city.

OR

2 (a) What is biostatistic? Write a note on its use/Application.
(b) Explain the following:
   (a) Mode
   (b) Median
   (c) p\textsuperscript{th} percentile
   (d) Histogram.

3 (a) Discuss about Enzyme substrate interactions.
(b) Water has high melting point, boiling point and heat of vaporization. How does it help in Biological system?

OR

3 (a) What are signal molecules? Discuss hormone as signal molecule.
(b) What are transport proteins? Discuss the mechanism of transport.

4 (a) Write a note on light reception in human.
(b) Explain with example "Electricity as a potential signal"

OR

4 (a) State and Derive Lambert-Beer's law. Write its limitations.
(b) Write principle and working of a G.M. Counter.

5 Write short notes: (any three)
(1) EGC
(2) E.E.G.
(3) ATP cycles
(4) Watson and Crick Model of DNA
(5) Ionisation Chamber.