Instructions:-

Main points of answer are given below each question. Marks for these points are given against them. A student may present these points in the form of paragraph or points, both cases are acceptable. If a student writes anything other than these points and if that is correct, he/she should be awarded with marks.

Question No.33. (a) What are voluntary and involuntary actions?

Rubric: Award two marks for each correct definition.
The body actions which are performed under conscious control are called voluntary actions.
The body actions which are not performed under conscious control are called involuntary actions.

(b) Give two examples of voluntary and two of involuntary actions.

Rubric: Award one mark for each correct example.
Examples of voluntary actions are speaking, eating, reading, running, clapping etc.
Examples of involuntary actions are heartbeat, blood circulation, breathing, blinking of eyes etc.

(c) Write down the function against each part of brain given in the table.

Rubric: Award one mark for each correct function.

<table>
<thead>
<tr>
<th>Part of brain</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypothalamus</td>
<td>Controls body temperature, hunger and thirst.</td>
</tr>
<tr>
<td>Medulla oblongata</td>
<td>Controls heartbeat, breathing and digestion.</td>
</tr>
<tr>
<td>Cerebellum</td>
<td>Maintains body balance.</td>
</tr>
<tr>
<td>Pons</td>
<td>Controls sleep, swallowing, equilibrium and taste.</td>
</tr>
</tbody>
</table>
Question No. 34. (a) What is biotechnology? Name any four biotechnology products. (2+4)

Rubric: Award two marks for correct definition and one mark for correct name of biotechnology product.

Use of living things to benefit human beings.

Biotechnology products are Insulin, Vaccines, Growth hormones, Beta-Endorphin and Interferon.

(b) Describe any two biotechnology techniques. (4)

Rubric: Award two marks for correct description of each biotechnology technique (Gene therapy, Genetic testing, cloning etc).

Question No. 35. (a) What is an acid? Write any four properties of acids. (2+4)

Rubric: Award two marks for correct definition and one mark for each correct property of acids.

The compound which produces hydrogen ions (H\(^+\)) in its aqueous solution.

Properties: Sour taste, release H\(^+\) in their aqueous solutions, turn blue litmus red, release hydrogen gas when added to metal (or any equation of the reaction like Mg + 2HCl \(\rightarrow\) MgCl\(_2\) + H\(_2\)), release carbon dioxide gas when added to metal carbonates (or any equation of the reaction like ZnCO\(_3\) + H\(_2\)SO\(_4\) \(\rightarrow\) ZnSO\(_4\) + H\(_2\)O + CO\(_2\)), neutralize base (or any equation of the reaction like NaOH + HCl \(\rightarrow\) NaCl + H\(_2\)O).

(c) Give any four uses of sulphuric acid. (4)

Rubric: Award one mark for each correct use.

Used as a dehydrating agent, in the manufacture of fertilizers, plastic, artificial silk, paints, drugs and detergents, in petroleum refining, textile, paper and leather industries, in lead storage batteries etc.

Question No. 36. (a) Define hydraulics. (2)

Rubric. Award two marks for correct definition.

The branch of science which deals with the transmission of fluid pressure through pipes as a source of mechanical force is known as hydraulics.
(b) Explain application of hydraulics in car jack and car braking systems.

Rubric: Award four marks for correct explanation of each application.

Question No.37. (a) Define physical quantity.

Rubric. Award two marks for correct definition.

The quantity which can be measured.

(b) Name the measuring instruments and units which are used to measure the physical quantities given in the table.

Rubric. Award two marks for each correct name/symbol.

<table>
<thead>
<tr>
<th>Physical Quantity</th>
<th>Measuring Instrument</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature</td>
<td>Thermometer</td>
<td>°C</td>
</tr>
<tr>
<td>Mass</td>
<td>Physical balance</td>
<td>kg</td>
</tr>
<tr>
<td>Length</td>
<td>Metre rule</td>
<td>m</td>
</tr>
<tr>
<td>Time</td>
<td>Watch</td>
<td>sec</td>
</tr>
</tbody>
</table>