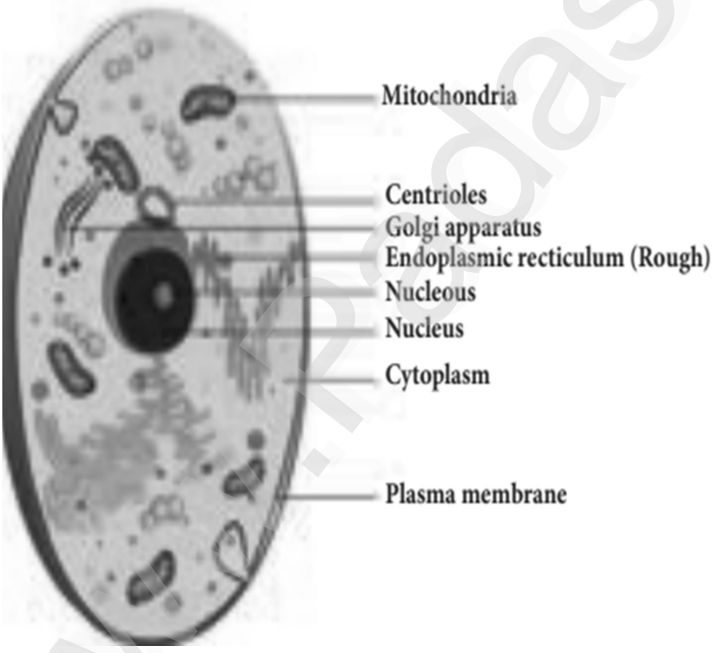


Half Yearly Common Examination Dec – 2023**Science – Answer Key****VII Standard**

Question No.	Answer Key	Marks										
PART-A												
I.1.	(a) kelvin	1										
2.	(b) 37 ⁰ C	1										
3.	(b) Ammeter	1										
4.	(c) Siemens/Metre	1										
5.	(c) cow dung to bio-gas	1										
6.	(d) Melting of polar ice caps	1										
7.	(c) Centriole	1										
8.	(d) Cell organelle	1										
9.	(b) kingdom	1										
10.	(c) Whittaker	1										
PART-B												
II.11.	The jerk to the thermometer will allow the mercury level to flow into the bulb so that the mercury level is below the normal temperature.	2										
12.	<table border="1" style="width: 100%;"> <tr> <td>a) Clinical thermometer</td> <td>kink</td> </tr> <tr> <td>b) Normal temperature of human body</td> <td>37⁰C</td> </tr> <tr> <td>c) Heat</td> <td>A form of energy</td> </tr> <tr> <td>d) Boiling point of water</td> <td>100⁰C</td> </tr> </table>	a) Clinical thermometer	kink	b) Normal temperature of human body	37 ⁰ C	c) Heat	A form of energy	d) Boiling point of water	100 ⁰ C	2		
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13.	i. wire ii. insulator	2										
14.	<table border="1" style="width: 100%;"> <thead> <tr> <th>Parallel</th> <th>Series</th> </tr> </thead> <tbody> <tr> <td>It is connected by branches.</td> <td>It consist of single loop connection.</td> </tr> <tr> <td>Voltage remains the same across each component of the circuit</td> <td>Current remains same in all parts of the circuit. out.</td> </tr> <tr> <td>Each bulb is fully powered.</td> <td>All the bulbs share power.</td> </tr> <tr> <td>All bulbs stay lit if one goes out.</td> <td>All bulbs go out if one goes</td> </tr> </tbody> </table>	Parallel	Series	It is connected by branches.	It consist of single loop connection.	Voltage remains the same across each component of the circuit	Current remains same in all parts of the circuit. out.	Each bulb is fully powered.	All the bulbs share power.	All bulbs stay lit if one goes out.	All bulbs go out if one goes	2
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15.	Electric cell	2										
16.	Seasonal changes, motion of hands of a clock.	2										
17.	Irreversible chemical change.	2										
18.	<table border="1" style="width: 100%;"> <thead> <tr> <th>Physical Change</th> <th>Chemical Change</th> </tr> </thead> <tbody> <tr> <td>No new substance is formed</td> <td>New substance is formed</td> </tr> <tr> <td>Reversible</td> <td>Irreversible</td> </tr> <tr> <td>Change in physical properties like size, shape, state</td> <td>Change in properties of reactants and products</td> </tr> <tr> <td>Melting of ice, tearing of paper freezing, evaporation vaporization</td> <td>Burning of paper, photosynthesis, digestion of food, rusting of iron</td> </tr> </tbody> </table>	Physical Change	Chemical Change	No new substance is formed	New substance is formed	Reversible	Irreversible	Change in physical properties like size, shape, state	Change in properties of reactants and products	Melting of ice, tearing of paper freezing, evaporation vaporization	Burning of paper, photosynthesis, digestion of food, rusting of iron	2
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19.	Yes, solar eclipse is a periodic change as it occurs after a definite interval of time.	2										

20.	Nuclear envelope, Nucleolus, chromatin body.	2								
21.	<table border="1"> <tbody> <tr> <td>i) Suicidal bag</td> <td>Lysosome</td> </tr> <tr> <td>ii) Control room</td> <td>Nucleus</td> </tr> <tr> <td>iii) power house</td> <td>Mitochondria</td> </tr> <tr> <td>iv) Food producer</td> <td>Chloroplast</td> </tr> </tbody> </table>	i) Suicidal bag	Lysosome	ii) Control room	Nucleus	iii) power house	Mitochondria	iv) Food producer	Chloroplast	2
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23.	Bacteria and Blue green algae.	2								
24.	i. It includes unicellular and few simple multicellular eukaryotes. ii. It includes plant like protists (Algae) and animal like protists (protozoans)	2								
25.	There are seven main categories of hierarchies namely, Kingdom, Phylum, Class, Order, Family, Genus and Species- Species is the basic unit of classification	2								
26.	Protection, maintains shape of cell and acts as protective framework.	2								
27.	The lysosomes are the main digestive compartments of a cell and digest damaged cell parts. Hence they are called scavengers of the cell.	2								
28.	1. Cell is the basic structural and functions unit of life. 2. It is the building unit of living organism. 3. A group of cells form a tissue which forms the organ and organ systems. 4. This helps a living organism to do its functions. Hence cell is very important for us.	2								
29.	Tux Paint is a free drawing program designed for young children.	2								
30.	Tux Math is an open source arcade – style video game for learning arithmetic.	2								
PART-C										
31.	<p>Similarities between laboratory thermometer and the clinical thermometer: Both clinical and laboratory thermometers have long, narrow and uniform glass tubes. Bulbs contain mercury. Both have Celsius scale.</p> <p>Differences: Laboratory thermometer: Laboratory thermometer is generally scaled from -10°C to 110°C. Mercury level falls on its own as no kink is present. Temperature is read while keeping the thermometer in the source of temperature, e.g. a liquid or any other thing. No need to give jerk to lower the mercury level. It is used to take temperature in laboratory.</p> <p>Clinical thermometer: Clinical thermometer is scaled from 35°C to 42°C or from 94°F to 108°F. Mercury level does not fall on its own, as there is a kink near the bulb to prevent the fall of mercury level. Temperature can be read after removing the thermometer from armpit or mouth. To lower the mercury level jerks are given. It is used for taking the body temperature.</p>	5								
(OR)										
	<ul style="list-style-type: none"> When an electric current passes through a wire, the electrical energy is converted to heat. In heating appliances, the heating element is made up of materials with high melting point. An example of such a material is nichrome (an alloy of nickel, iron and chromium). The heating effect of electric current has many practical applications. The electric bulb, geyser, iron box, immersible water heater are based on this effect. 	5								

	<ul style="list-style-type: none"> • These appliances have heating coils of high resistance. • Generation of heat due to electric current is known as the heating effect of electricity. 	
32.	<ul style="list-style-type: none"> • When we eat, our mouth physically break down food into small pieces. • Mechanical digestion occurs in the mouth, stomach and small intestine. • Food is chemically changed in digestion when new, smaller substances are formed. • Moreover, we will never be able to get back the raw material in the same form as it was before. • Digestion of food is a permanent change which is irreversible. 	5
OR		
	<p>Dissolution of sugar: When sugar is dissolved in water it disappears. If we taste the solution, the sugar is still present in dissolved form. If water is evaporated we get back the sugar. So it is a physical and reversible change.</p> <p>Burning of sugar: Fire activates a chemical reaction between sugar and oxygen. The oxygen in the air reacts with the sugar as the chemical bonds broke. Energy is released in the form of smoke. So, burning a sugar is a chemical change</p>	5
33.	<p style="text-align: center;">Animal Cell</p> 	5
OR		
	<p>Nucleus is seen in the cytoplasm of plant and Animal cells. It is surrounded by nuclear envelope. It has one or two nucleoli and chromatin body. The chromatin body stores genetic information.</p> <p>Functions of Nucleus: It controls all the processes and chemical reactions that take place inside the cell. Inheritance of character from one generation to another.</p>	5

34.

The five kingdom classification was proposed by R.H. Whittaker in 1969. He classified the organisms into five kingdoms on the basis of characteristics like cell structure, mode of Nutrition, Source of Nutrition and body organization.

Monera:-

Cell Type	Unicellular, Prokaryotic.
Nucleus	Absent.
Body Organisation	Cellular level of organization
Mode of Nutrition	Auto (or) Heterotrophic.
Example	Bacteria and Blue green algae.

Protista:-

Cell Type	Unicellular, Eukaryotic.
Nucleus	Present.
Body Organisation	Cellular level of organization
Mode of Nutrition	Auto (or) Heterotrophic.
Example	Spirogyra and Chlamydomonas.

Fungi:-

Cell Type	Multicellular, Non – green and Eukaryotic.
Nucleus	Present.
Body Organisation	Cellular level of organization
Mode of Nutrition	Saprophytic, parasitic sometimes symbiotic
Example	Rhizopus and Agaricus. .

Plantae:-

Cell Type	Multicellular, Eukaryotic.
Nucleus	Present.
Body Organisation	Cellular level of organization
Mode of Nutrition	Autotrophic
Example	Herb, Shrub and Trees.

Animalia:-

Cell Type	Multicellular, Eukaryotic.
Nucleus	Present.
Body Organisation	Tissue, organ and organ system.
Mode of Nutrition	Heterotrophic.
Example	Fish, frog, crocodile, Birds and human being

OR

(i) Gaspard Bauhin in 1623, introduced naming of organisms with two names which is known as Binomial nomenclature, and it was implemented by Carolus Linnaeus in 1753

(ii) Binomial nomenclature an universal system of naming organisms. As per this system, each organism has two names – the first is the Genus name and the second is the Species name.

(iii) Genus name begins with a capital letter and Species name begins with a small letter. Example The nomenclature for onion is *Allium sativum*. Genus name is *Allium*, species name is *sativum*.

(iv) Vernacular name is a local name that is familiar for a particular place. Binomial name is an universal name which never changes.

(v) Binomial nomenclature and classification helps scientists to identify any organisms and to place them at a particular hierarchy.

5

5