B.K. BIRLA CENTRE FOR EDUCATION

SARALA BIRLA GROUP OF SCHOOLS
A CBSE DAY-CUM-BOYS' RESIDENTIAL SCHOOL

ANNUAL EXAM 2025-26
SCIENCE (SET II)
MARKING SCHEME

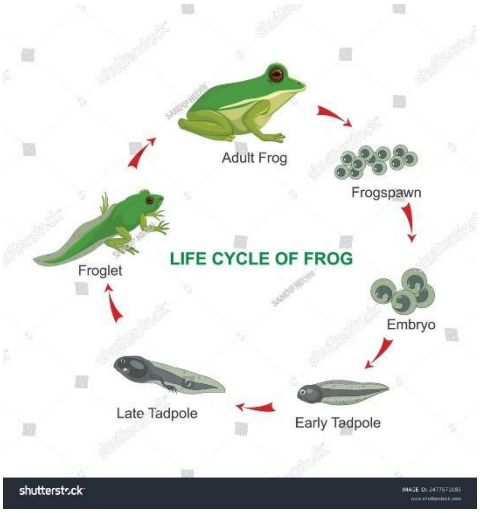
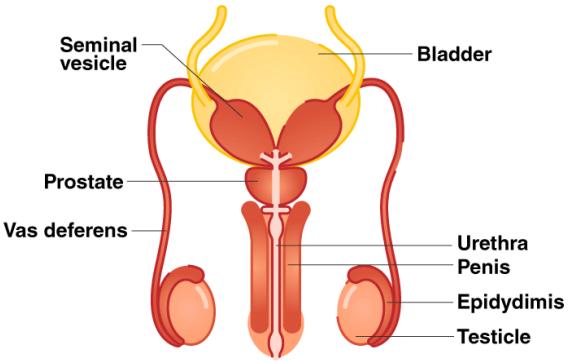
Class: VIII **Time: 3 hours**
Date: 23.03.26 **Max Marks: 80 M**

General Instructions:

(i) This question paper consists of 39 questions in 3 sections. Section A is Biology, Section B is Chemistry and Section C is Physics.

(ii) All questions are compulsory. However, an internal choice is provided in some questions. A student is expected to attempt only one of these questions.

	Section-A BIOLOGY	
1	b) Irrigation	1
2	c) Weeding	1
3	c) Preparation of soil → Sowing → Irrigation → Harvesting	1
4	b) Threshing	1
5	c) Conservation of wildlife	1
6	c) Frog	1
7	c) Asexual reproduction	1
8	b) Adolescence	
9	**(A)**	1
10	Irrigation is the artificial supply of water to crops at regular intervals. **One method:** Sprinkler irrigation / Drip irrigation / Canal irrigation (any one)	2
11	• **Testosterone:** Develops male secondary sexual characters such as facial hair and deep voice.	2

	• **Estrogen:** Develops female secondary sexual characters and regulates the menstrual cycle. (Thyroid hormone can also be written – controls growth and metabolism.)	
12	1. **Establishing National Parks** – Protect animals in their natural habitat. *Example:* Jim Corbett National Park 2. **Wildlife Sanctuaries** – Areas where animals are protected from hunting. *Example:* Kaziranga Wildlife Sanctuary 3. **Ban on Hunting (Wildlife Protection Laws)** – Prevents illegal killing of animals. *Example:* Wildlife Protection Act, 1972	3
13	 OR 	3
14	**a)** Deforestation is the large-scale cutting down of trees. **b)** Construction of factories and houses / Agriculture / Urbanisation. **c)** Soil erosion • Irregular rainfall • Loss of biodiversity **OR** **d)** Afforestation	4

	• Preventing illegal cutting of trees • Social forestry	
15	During adolescence, many physical and emotional changes occur. **In Boys:** • Growth of facial hair • Deepening of voice • Broadening of shoulders **In Girls:** • Development of breasts • Start of menstruation • Widening of hips **Role of Hormones:** Hormones secreted by endocrine glands control these changes. • **Testosterone** causes changes in boys. • **Estrogen** causes changes in girls. • **Thyroid hormone** regulates growth and metabolism. OR **Importance of Balanced Diet and Proper Hygiene During Adolescence** • A **balanced diet** provides nutrients needed for rapid growth and energy. • Proper **hygiene** prevents infections and maintains health. • Good nutrition supports physical growth and brain development. • Hygiene and self-care improve confidence and emotional well-being.	5
Section-B Chemistry		
16	b) Sulphur	1
17	c) 1	1
18	b) Bromine	1
19	a) Combustion	1
20	d) Bio gas	1
21	d) All of these	1
22	a) Seismograph	1

23	D. A is false but R is true.	1
24	We should store lemon pickle in a glass container rather than a copper one because of a chemical reaction. ● The Reaction: Lemon pickle contains citric acid. Copper is a metal that reacts with acids. When the acidic pickle comes into contact with the copper container, a chemical reaction occurs that produces toxic copper salts. ● The Hazard: Consuming food contaminated with these copper salts can lead to food poisoning or heavy metal toxicity, which is dangerous for human health. ● Why Glass? Glass is an inert material, meaning it does not react with the acids in the pickle, ensuring the food remains safe and uncontaminated.	2
25	● Fossil Fuels ● Fossil fuels are natural energy resources formed from the remains of ancient plants and animals that were buried deep underground millions of years ago, subjected to intense heat and pressure over geological time. Common examples include coal, petroleum, and natural gas. ● Two reasons to reduce their consumption: ● They are Non-Renewable: Fossil fuels take millions of years to form. We are consuming them at a rate much faster than they can be replenished, which means they will eventually run out. ● Environmental Pollution: Burning fossil fuels releases large amounts of carbon dioxide CO2 and other greenhouse gases into the atmosphere, which is the primary driver of global warming and climate change	3
26	Earthquakes An earthquake is a sudden, rapid shaking of the Earth's surface caused by the release of energy stored in the Earth's crust, usually resulting from the movement of tectonic plates. Two precautions against earthquakes: 1. If indoors: Follow the "Drop, Cover, and Hold on" rule. Drop to the floor, take cover under a sturdy table or desk, and hold on until the shaking stops. Stay away from glass windows, hanging objects, or heavy furniture that could fall. 2. If outdoors: Move to an open area away from buildings, streetlights, utility poles, and trees. Once in an open space, stay there until the shaking stops. OR	3

	Three Methods of Charging a Neutral Object An object can be charged electrically by shifting electrons from one place to another. Here are the three primary methods: 1. Charging by Friction: When two different insulating materials are rubbed against each other, electrons are physically transferred from one to the other. For example, rubbing a glass rod with silk results in the glass becoming positively charged and the silk becoming negatively charged. 2. Charging by Conduction: This involves physical contact. If a charged object touches a neutral conductor, the charge spreads out over both objects. The neutral object gains the same type of charge as the charged object. 3. Charging by Induction: This occurs without any physical contact. When a charged object is brought near (but not touching) a neutral conductor, it causes the charges within the neutral object to redistribute (the opposite charge is attracted to the near side, and the same charge is repelled to the far side). If you then provide a path for the electrons (grounding), the object retains a net charge.	
27	(a) iii) Hydrogen (b) ii) Colour (c) Acidic oxide / non-metallic oxide **OR** (c) Oxygen for Life and Combustion Chlorine for Water Purification	4
28	Construction of a Seismograph A basic mechanical seismograph is surprisingly simple in its design. It relies on a few key components: A Solid Base: The main frame of the seismograph is firmly anchored to the bedrock or the ground. When the earth shakes, this frame shakes with it. The Rotating Drum: A drum covered in a roll of paper rotates at a constant speed, driven by a clockwork mechanism. The Pendulum/Mass: A very heavy mass (often a lead ball) is suspended from the frame. This mass is equipped with a pen or a stylus at its tip.	5

The Recording Surface: The pen touches the paper on the rotating drum.

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2. Working Principle

The working principle is based entirely on the law of inertia.

1. When the Earth is still: The ground, the base, and the rotating drum are all stationary. The pen draws a straight line on the moving paper.
2. When an earthquake happens: * The earth begins to shake.
    - The frame and the rotating drum, being attached to the ground, vibrate violently back and forth.
    - However, the heavy mass (the pendulum) wants to remain in its state of rest due to inertia. Because it is suspended or mounted to float, it essentially ignores the shaking of the frame for a brief moment.
    - As the drum moves beneath the pen (which is attached to the heavy, steady mass), the pen traces a series of wiggles on the paper

OR

Structural Collapse

The most immediate and dangerous effect is the damage to human-made structures. Ground shaking causes buildings, bridges, dams, and overpasses to crack, tilt, or collapse entirely.

- Why it happens: When the ground shakes, the foundations of buildings are shifted violently, and if the structure cannot flex or absorb this kinetic energy, it fails.

2. Geological Hazards (Landslides & Liquefaction)

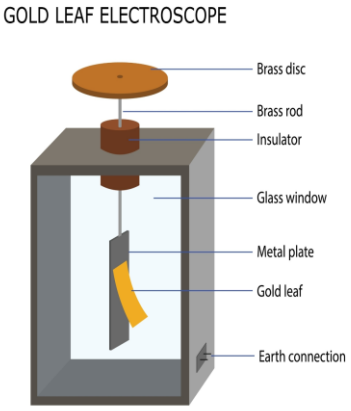
Earthquakes change the physical landscape itself.

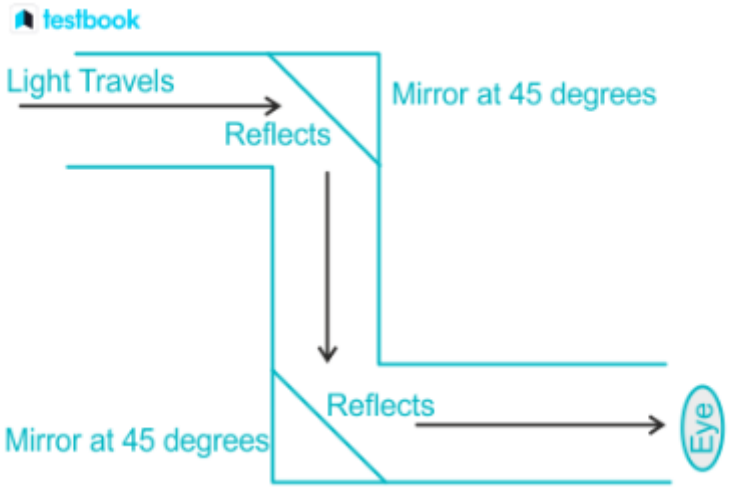
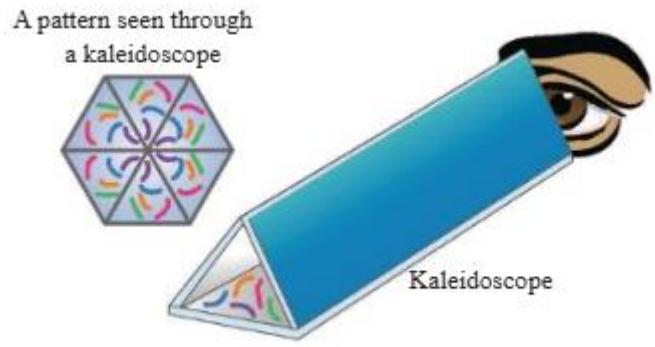
- Landslides: In hilly or mountainous regions, vibrations can destabilize slopes, causing rocks and soil to slide down, burying homes and roads.
- Liquefaction: In areas where the soil is loose and water-saturated, the intense shaking can cause the ground to lose its strength and behave like a liquid. This causes heavy buildings to sink into the ground or tip over, even if they aren't physically crushed.

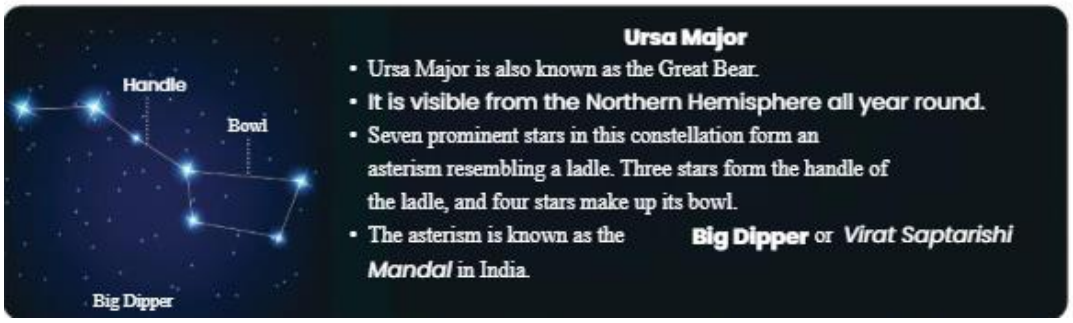
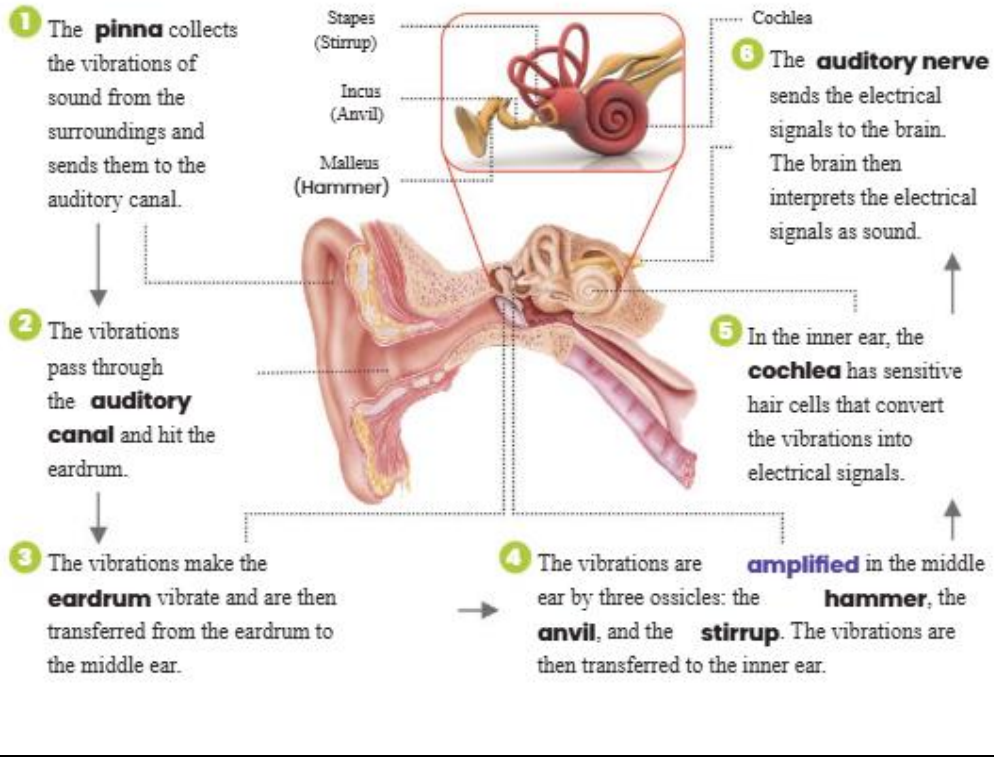
3. Disruption of Essential Utilities

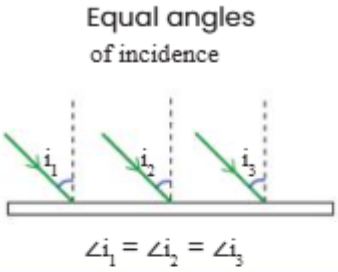
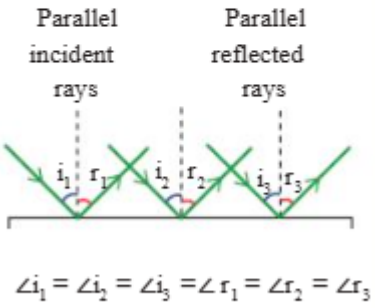
Earthquakes often break critical life-support systems (lifelines).

- Fires: Underground gas pipelines often rupture, leading to uncontrollable fires.

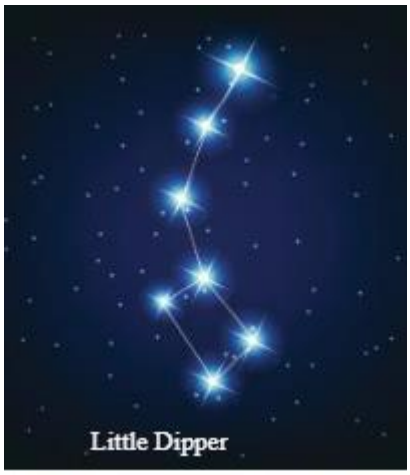
	• Flooding & Sanitation: Water mains can break, causing local flooding and potential contamination of water supplies. • Utility Outages: Power grids and communication lines are frequently severed, hindering rescue efforts and emergency responses  	
Section-B Physics		
29	(a) Ursa Major	1
The following question consists of two statements – **Assertion** (A) and **Reason** (R). Answer these questions by selecting the appropriate option given below: A. Both A and R are true, and R is the correct explanation of A. B. Both A and R are true, and R is not the correct explanation of A. C. A is true but R is false. D. A is false but R is true.		
30	A. Both A and R are true, and R is the correct explanation of A.	1
31	A. Both A and R are true, and R is the correct explanation of A.	1
32	Frequency (f) = 200 vibrations per second We know that: $$\text{Time Period (T)} = \frac{1}{\text{Frequency}}$$ $$T = \frac{1}{200}$$ $$T = 0.005 \text{ seconds}$$	2

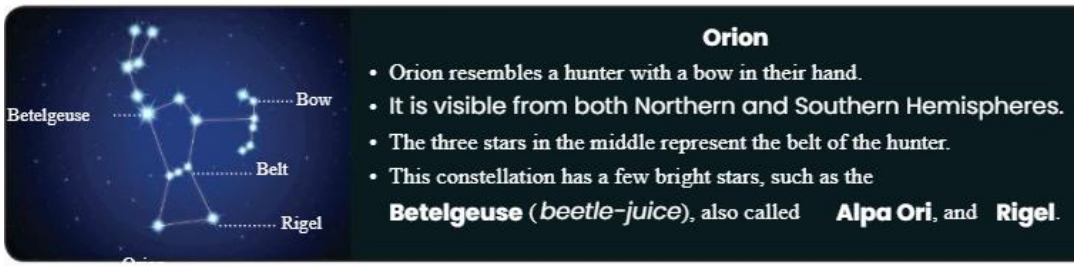
33	 The working of a periscope is based on the laws of reflection. 1.In a periscope, the light rays from the object strike the first/top mirror at an angle of 45° and reflect at the same angle towards the second/bottom mirror. 2.The reflected rays then strike the second mirror at a 45° angle and reflect at the same angle into our eyes. or the mirrors are placed at an angle to each other, they produce multiple images of the objects and create a symmetrical pattern that can be viewed from the other end of the tube. Kaleidoscopes are used by designers to create beautiful patterns and colours, which are then used to design items such as rugs,tiles, fabrics, and wallpapers.  Fig. 13.7: A kaleidoscope made up of three mirrors joined at an angle of 60° to each other	2

34	 Handle Bowl Big Dipper Ursa Major • Ursa Major is also known as the Great Bear. • It is visible from the Northern Hemisphere all year round. • Seven prominent stars in this constellation form an asterism resembling a ladle. Three stars form the handle of the ladle, and four stars make up its bowl. • The asterism is known as the Big Dipper or Virat Saptarishi Mandal in India.	2
35	 1 The pinna collects the vibrations of sound from the surroundings and sends them to the auditory canal. 2 The vibrations pass through the auditory canal and hit the eardrum. 3 The vibrations make the eardrum vibrate and are then transferred from the eardrum to the middle ear. 4 The vibrations are amplified in the middle ear by three ossicles: the hammer, the anvil, and the stirrup. The vibrations are then transferred to the inner ear. 5 In the inner ear, the cochlea has sensitive hair cells that convert the vibrations into electrical signals. 6 The auditory nerve sends the electrical signals to the brain. The brain then interprets the electrical signals as sound. Stapes (Stirrup) Incus (Anvil) Malleus (Hammer) Cochlea	3

36	When a beam of parallel light rays is incident on a regular surface, the angle of incidence for each ray is the same.  All incident rays are reflected at the same angle following the first law of reflection. This makes them parallel to one another. This type of reflection is called **regular reflection**. 	3
37	Electrical resistance is the property of an object due to which it resists or opposes the flow of electric current through it Factors : Nature of materials ,thickness and length of an object	3
38	a. Electromagnet b.The nail loses its magnetism because the electric current stops flowing. An electromagnet works only when current passes through the coil. When the battery is disconnected, the magnetic field disappears, so the nail loses its magnetism. c. 1. Increasing the number of turns of copper wire around the nail. 2. Increasing the strength of the electric current (using a stronger battery). or d. If a steel nail is used, it may become magnetized but will not lose its magnetism easily after disconnecting the battery. This is because steel retains magnetism for a longer time, unlike iron which loses magnetism quickly	4
39	Patterns formed by groups of stars in the sky are called	5

constellations . In addition to constellations,some familiar patterns formed by stars are called asterisms. An asterism can be a part of a constellation.





or

Basis	Natural Satellites	Artificial Satellites
Definition	Celestial bodies that naturally orbit a planet.	Man-made objects launched into space to orbit Earth or other planets.
Created by	Formed by natural processes in space.	Built and launched by humans using rockets.
Example	Moon	Aryabhata

	Purpose	No specific human purpose; part of the natural universe.	Designed for communication, research, navigation, weather monitoring, etc.	

Importance

1.Communication and **Weather Forecasting**

2.Weather satellites monitor clouds, storms, cyclones, and climate changes, helping predict natural disasters in advance.

3.Navigation

Systems like Global Positioning System (GPS) help in finding locations, guiding ships, aircraft, and vehicles.