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

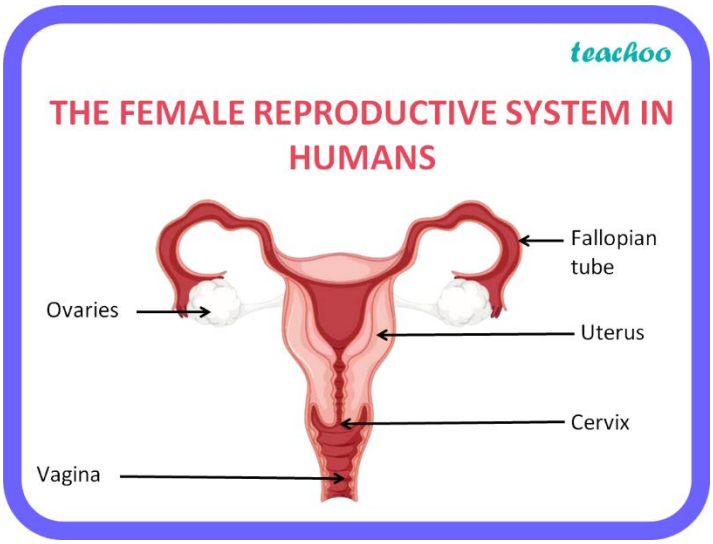
Class: VIII **Time: 3 hours**
Date: 23.03.26 **Max Marks: 80 M**

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.

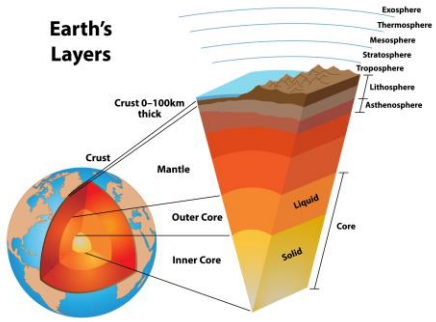
(ii) All questions are compulsory. However, an internal choice is provided in some questions. A student is expected to attempt only one of these questions.

	Section-A BIOLOGY	
1	c) Rice	1
2	b) Ploughing	1
3	b) Crop rotation	1
4	c) Plough	1
5	c) Forest	1
6	b) Viviparous	1
7	b) Fertilisation	1
8	c) Testosterone	
9	**(A)**	1
10	Manure is a natural fertilizer obtained from the decomposition of plant and animal wastes. **Advantage:** It increases soil fertility by adding humus and nutrients.	2
11	Adolescence is the period of life between childhood and adulthood (approximately 11–19 years) during which the body undergoes physical and hormonal changes. **Two changes:**	2

	• Increase in height • Development of secondary sexual characters	
12	• Clearing land for agriculture • Construction of houses, roads, and industries • Cutting trees for fuel and timber	3
13	Fertilisation is the fusion of male gamete (sperm) and female gamete (ovum). It usually occurs in the fallopian tube. The sperm fuses with the ovum to form a zygote, which divides repeatedly and develops into an embryo. OR  	3
14	**a)** Deforestation **b)** Trees help in the water cycle through transpiration. Cutting trees reduces moisture in the atmosphere, leading to less rainfall. **c)** Loss of habitat • Decrease in food availability leading to migration or extinction **OR** **d)** Afforestation (planting more trees) • Preventing illegal cutting of trees	4
15	Adolescence is the stage between childhood and adulthood marked by rapid growth and development. • **Physical changes:** Increase in height, change in body shape, voice change in boys, development of breasts in girls. • **Mental changes:** Improved thinking ability, better decision-making skills. • **Emotional changes:** Mood swings, increased sensitivity, development of self-identity. OR	5

	Hormones regulate growth and development during adolescence. • **Testosterone:** Responsible for development of male secondary sexual characters such as facial hair and deep voice. • **Estrogen:** Responsible for development of female secondary sexual characters and regulation of the menstrual cycle. • **Thyroid hormone:** Controls metabolism, growth, and overall development of the body.	
Section-B Chemistry		
16	c) Nitrogen	1
17	b) 2	1
18	b) Mercury	1
19	d) All of these	1
20	d) Wood	1
21	a) Combustion	1
22	a) Richter scale	1
23	A. Both A and R are true, and R is the correct explanation of A.	1
24	Preventing Corrosion of Iron Corrosion (rusting) of iron can be prevented by protecting the metal from contact with oxygen and moisture. Two common methods are: 1. Galvanization: This involves coating the iron surface with a thin layer of zinc. The zinc acts as a protective shield that prevents the underlying iron from oxidizing. 2. Painting or Oiling/Greasing: Applying a layer of paint, oil, or grease creates a physical barrier that prevents moisture and oxygen in the air from coming into direct contact with the iron surface.	2
25	Definition: Fractional distillation is the process of separating a mixture (like crude petroleum) into its individual components (fractions) based on the differences in their boiling points. The mixture is heated, and the various components vaporize at different temperatures and are then collected separately. Four products formed by the fractional distillation of petroleum: 1. Petrol (Gasoline): Used as fuel for light vehicles like cars. 2. Diesel: Used as fuel for heavy motor vehicles (trucks, buses) and electric generators.	3

	3. Kerosene: Used as fuel for stoves, lamps, and jet engines. 4. Bitumen: Used for road surfacing and paints.	
26	An earthquake is a sudden, rapid shaking or trembling of the Earth's surface. This occurs when energy stored in the Earth's crust is suddenly released, usually due to the movement of underground rock masses. This release of energy creates seismic waves that travel in all directions, causing the ground to shake. Two Causes of an Earthquake: ● Movement of Tectonic Plates: The Earth's outer layer (the lithosphere) is broken into massive pieces called tectonic plates. These plates are constantly moving, though very slowly. When they get stuck at their boundaries due to friction, stress builds up. When this stress finally overcomes the friction, the plates slip, releasing a massive amount of energy that causes the ground to shake. ● Volcanic Eruptions: While less common than tectonic shifts, volcanic activity can trigger earthquakes. As magma rises to the surface or moves through the Earth's crust, it exerts pressure on surrounding rock. This pressure can cause the rock to fracture and shift, resulting in tremors. OR A lightning conductor is a protective device used to safeguard tall buildings from damage caused by lightning strikes. It essentially acts as a safety "highway" for electricity to reach the ground. Structure: The structure is quite simple and consists of three main components: 1. A Metal Rod: A pointed rod, typically made of copper or another high-conductivity metal, is fixed at the highest point of the building. 2. A Conducting Wire: A thick copper wire runs from the top rod all the way down the side of the building. 3. An Earth Plate: The bottom end of the wire is connected to a large metal plate (often made of copper or iron) that is buried deep within the moist ground. Functions: ● Safe Discharge: When lightning strikes a building, it is attracted to the pointed metal rod because it offers the path of least resistance. ● Grounding: The electrical current passes through the thick conducting wire instead of damaging the building's structure or wiring. It is then safely dissipated into the earth through the buried metal plate.	3

	● Prevention: By effectively grounding the massive electrical charge, it prevents fires, structural damage, and potential injury to the people inside.	
27	(a) (i) Aluminum (Al) (b) (i) Tungsten (c) Malleability: Most metals are malleable, meaning they can be hammered or rolled into thin sheets without breaking. This allows us to create things like aluminum foil or gold leaf. Ductility: Metals are generally ductile, which means they can be drawn or stretched out into thin wires. Copper, for instance, is highly ductile, which is why it is used extensively for electrical wiring. (c) Construction and Infrastructure: Iron (in the form of steel) is the most widely used metal for constructing buildings, bridges, and railways due to its high structural strength. Electrical and Thermal Conductivity: Copper is used in electrical wiring because it is an excellent conductor of electricity with low resistance. Similarly, aluminum is used in cookware because it conducts heat efficiently and evenly	4
28	 1. The Crust (The Outer Skin) The crust is the outermost, thinnest layer of the Earth. It's the part we live on and where all life exists. Compared to the rest of the planet, it's quite fragile. ● Composition: Primarily silicate rocks (granite and basalt). ● Two Types: * Continental Crust: Thicker (up to 50 km) and less dense. It makes up the continents. Oceanic Crust: Thinner (about 5–10 km) but much denser, forming the ocean floors. 2. The Mantle (The Middle Layer)	5

This is the thickest layer, extending to about 2,900 km deep. It makes up the bulk of Earth's volume.

- State of Matter: It is solid rock, but it acts like a "plastic" or ductile material because of the immense heat and pressure. It flows very slowly over long periods.
- Function: Convection currents within the mantle are the engine for plate tectonics. This movement is what causes continents to drift, mountains to form, and earthquakes to happen.

3. The Core (The Metal Heart)

At the center of the Earth lies the core, which is divided into two very different parts:

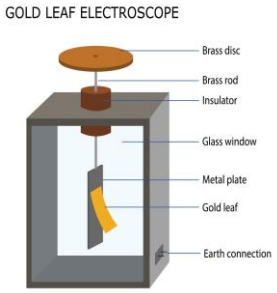
- Outer Core: This layer is made of liquid iron and nickel. Because it is a spinning, liquid metal, its movement creates the Earth's magnetic field—which acts like a shield, protecting us from harmful solar radiation.
- Inner Core: Despite being the hottest part of the Earth (around 5,000–6,000°C), it is solid. This is because the pressure at the very center is so crushing that it forces the iron and nickel atoms to stay in a solid state.

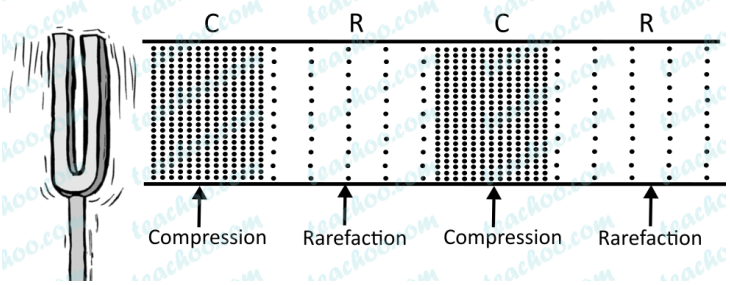
OR

(a) Three Kinds of Damages Caused by Earthquakes

When an earthquake strikes, the energy released travels through the crust as seismic waves, which can lead to various forms of destruction:

1. Structural Damage (Buildings and Infrastructure): This is the most visible form of damage. Strong tremors can cause buildings to crack, collapse, or tilt, depending on their design and materials. Bridges, dams, and roadways can snap or buckle, completely isolating communities and making emergency rescue operations difficult.
2. Landslides and Soil Liquefaction: In hilly or mountainous areas, the shaking can destabilize slopes, triggering massive landslides that bury homes and block roads. In areas with loose, water-saturated soil, the shaking can cause "liquefaction," where the soil loses its strength and acts like a liquid, causing buildings to sink or tilt dramatically.
3. Disruption of Lifelines (Fires and Floods): Earthquakes often break underground gas pipelines, leading to widespread fires that are hard to extinguish. They can also rupture water supply lines, causing flooding or leaving communities without clean drinking water. Furthermore, if the

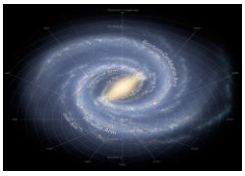
	earthquake occurs under the ocean, it can trigger a tsunami, which causes massive flooding and damage to coastal regions.  ● Metal Disc/Cap: The top part where the charge is introduced. ● Metal Rod: A vertical rod (usually brass) that conducts the charge from the disc down to the leaves. ● Gold Leaves: Two very thin, delicate pieces of gold foil hanging at the bottom of the rod. When they receive the same charge, they repel and spread apart. ● Glass Case: An insulated container that protects the leaves from air currents (drafts) which would otherwise cause them to move. ● Insulating Stopper/Plug: Keeps the metal rod separated from the glass case to prevent the charge from leaking out. How it works: When you bring a charged object near the metal disc, the charge travels down the rod to the gold leaves. Since both leaves receive the same charge, they push away from each other (diverge), indicating the presence of an electric charge.	
Section-C Physics		
29	(d) Sirius	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	1. Ultrasonography (Medical Use) 2. SONAR (Sound Navigation and Ranging)	2

33	There are two laws of reflection. They are: 1. The angle of incidence is equal to the angle of reflection. (∠i = ∠r) 2. The incident ray, the reflected ray, and the normal at the point of incidence all lie in the same plane. Or He moves 2 m towards the mirror .New distance from mirror = 6 − 2 = 4 m Position of image In a plane mirror, image distance = object distance So, image is 4 m behind the mirror Distance between boy and his new image Distance = 4 m (in front) + 4 m (behind) = 8 m	2
34	The Hunter . Stars : Betelgeuse and Rigel	2
35	Compression: The region in a longitudinal wave where the particles of the medium are close together. It is a region of high pressure and high density. Rarefaction: The region in a longitudinal wave where the particles of the medium are far apart. It is a region of low pressure and low density. Compression and rarefactions of a longitudinal wave  	3
36	1.The image is virtual (it cannot be obtained on a screen). 2.The image is erect (upright).	3

	3 The image is of the same size as the object. 4.The image is formed at the same distance behind the mirror as the object is in front of it. 5.The image is laterally inverted (left and right are interchanged).	
37	1.They consume less electricity – CFLs and LEDs use much less power than incandescent bulbs to produce the same amount of light. 2.They are more energy efficient – Most of the electrical energy is converted into light, whereas incandescent bulbs waste a lot of energy as heat. 3.They last longer – CFLs and especially LEDs have a much longer lifespan than incandescent bulbs. 4.They reduce electricity bills – Since they use less power and last longer, they help save money. 5. They are more environment-friendly – Lower electricity use means less energy production and reduced pollution. Therefore, CFLs and LED bulbs are better and more economical alternatives to incandescent bulbs.	3
38	(a) The type of magnet used in the crane is an electromagnet. (b)The crane stops lifting iron objects when the current is switched off because an electromagnet works only when electric current flows through the coil. When the current is switched off, the magnetic field disappears, so it no longer attracts iron objects. (c) The core of the electromagnet is made of soft iron because: ● It becomes magnetised quickly when current flows. ● It loses its magnetism quickly when the current is switched off. Or (d) One advantage of using an electromagnet over a permanent magnet in cranes is that its magnetism can be switched on and off, making it easy to lift and drop heavy iron objects when needed.	4
39	A **galaxy** is a massive system made up of billions (or even trillions) of stars, along with gas, dust, and dark matter, all held together by gravity. **Examples of galaxies:** 1. **The Milky Way** – the galaxy that contains our Solar System. 2. **The Andromeda Galaxy** – the nearest large galaxy to the Milky Way. **Two shapes galaxies can take:**	5

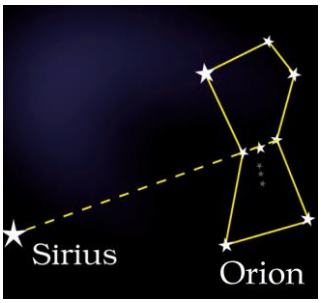
1. **Spiral** – shaped like a flat disk with spiral arms (e.g., the Milky Way).

2. **Elliptical** – shaped like an oval or sphere.



or

The **star Sirius**, which is the brightest **star** in the sky, is **located** close **to Orion**. **To locate Sirius**, imagine a straight line passing through the three middle **stars** of **Orion**. Look along this line towards the east. This line **will** lead **you to** a very bright **star**.



It is visible in both northern and southern hemisphere