

## 2026 PHYSICS JCE MOCK (PROVISIONAL MARKING KEY)

1. C
2. B
3. C
4. C
5. B
6. D
7. C
8. B
9. C
10. D
11. B
12. C
13. D
14. C
15. C
16. D
17. B
18. B
19. D
20. B

**Note: 1 mark for each question**

### SECTION B (50 Marks)

21. a. (i) Formulating hypothesis

(1M)

- (ii) Recording data

(1M)

b.

- Using accurate instruments/well calibrated instruments
- Repeating experiment by making measurements more than one/taking an average of several readings
- Avoiding the zero error
- Being very observant and careful when taking readings
- Adjusting the measuring instrument to the zero mark before using it.

**(1 mark for any of the two answers)**

22. a. (i) In the poles of the magnets

(1M)

- (ii) Because magnetism are strong in the poles of magnets.

(1M)

b.

- Cooks faster/ time saving



- Saves energy

**(1 mark for each answer)**

23. a. (i) Some energy may be lost in a process of energy changes/hence energy transferred being relatively more than the output work. (2M)

(ii)

- Loose clothes may get caught in equipment and affect the experiment results. (1M)
- The loose clothes may also catch fire easily (1M)

b. work done = force  $\times$  distance (1M)

$$= 500 \text{ N} \times \left( \frac{200}{100} \right) \text{ m} \quad (1\text{M})$$

$$= 500 \text{ N} \times 2 \text{ m} \quad (1\text{M})$$

= 1000 Nm or 1000 J (1M)

24. a. W and Y

b.

- Have same atomic number (1M)
- But different mass number due to different in neutron numbers (1M)

c.  ${}^{16}_{8}\text{Z}$  (1M)

25.a. Electroscope (1M)

b.

- Are materials that allow electrons to flow through them (1M)
- Their atoms hold electron loosely (1M)
- Hence easily flow, examples are metals (1M)
- Are materials that allow charges to flow through them

26.a.-Questioning (1M)

- explanation (1M)
- hypothesis (1 M)
- Observation (1 M)
- Experimentation (1 M)

b. Weight on earth = 30 kg  $\times$  10 N / kg (1M)



$$= 300 \text{ N}$$

$$\begin{aligned} \text{Weight on moon} &= 300 \text{ N} \times \frac{1}{6} \\ &= 50 \text{ N} \end{aligned}$$

(1M)

27. a.

- Thickness of the wire (1M)
- Length of the wire (1M)
- Temperature of the wire (1M)
- Nature of the wire (1M)

(Any three of these factors)

b.  $I = \frac{V}{R}$

(1M)

$$= \frac{120 \text{ V}}{10 \Omega}$$

(1M)

$$= 12 \text{ A}$$

(1M)

28. a.

- Causes breaking of substances (1M)
- This is due to shock and strain resulting from sudden expansion and contraction (1M)
- Causes breaking of substance/bending of a substance (1 M)
- Occurs due to shock and strain (1 M)

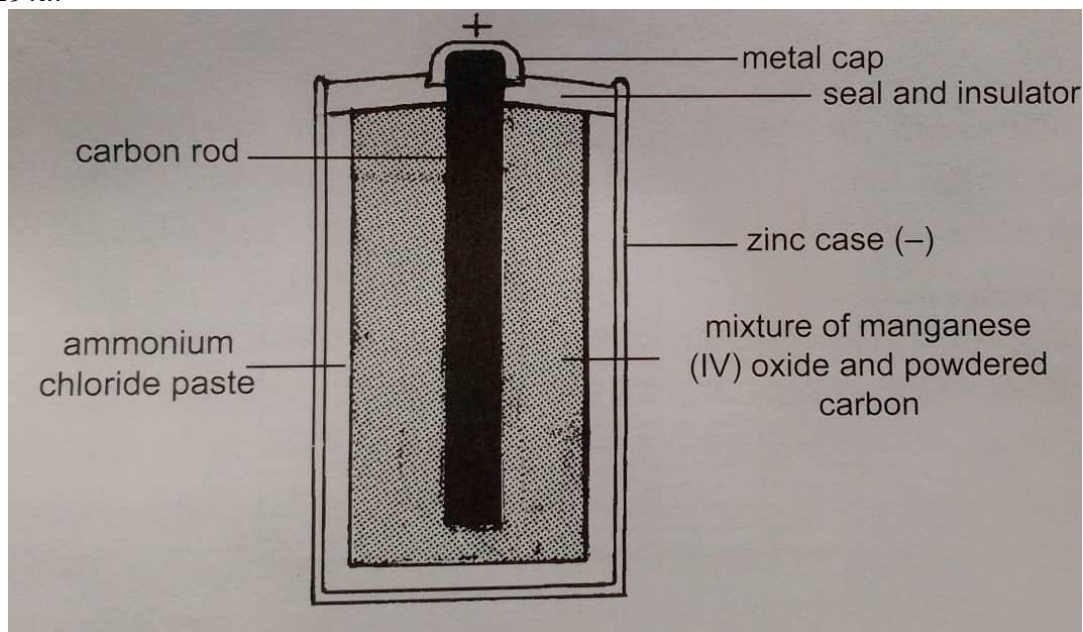
b.(i) Liquid (1M)

(ii) Energy is being used to rearrange/particles into a new state

(2M)



29.a.



-Drawing

(1M)

-Labelling 2M (1 mark for each part labelled correctly)

b.

- Keep the top of the cell casing dry and clean (1M)
- Store in cool, dry places (1M)
- Avoid combining old and new cells (1M)

(Any of these points though not limited to the ones mentioned)

30.

a.

2.5g

(1M)

b.

| Mass (g) | Extension(cm) |    |
|----------|---------------|----|
| 1.0      | 0.1           | 1M |
| 2.0      | 0.2           | 1M |
| 3.0      | 0.3           | 1M |

1 mark for labelling the columns

1 mark for each correct matching of the readings

**Note:** if other correct matching readings from the graph other than those in above table have been written, mark them correct too.

### SECTION C (30 MARKS)

31. a.

- Boiling point of pure water is relatively lower as compared to when sugar is added. 1M
- Adding sugar to the water makes the boiling point to increase. 1M
- Impurity has higher boiling point than pure substance in this case pure water. 1M
- This is because impurities change molecular structure of the pure substance /thereby strengthening the intermolecular forces. 2M

b.

- Earthing is a process of creating a passage for electrons to find their way into ground by the means of lightning conductor. 1M
- This lightning conductor is fixed one end at the highest point of a building and the other end fixed to metal plate buried underground. 1M
- During lightning strike, the lightning conductor carries charges to the ground/ without any damage to the building. 2M

32. a.

- Trace the surface area of the leaf on a graph. 1M
- Count numbers of full squares. 1M
- Count number of squares which are not fully covered. 1M
- Divide the number of half-full/non-full squares by 2 and add the result to the number of full ones. 1M
- The result found is the area of the leaf. 1M

b.

- Fill a cup with water to reasonable level. 1M
- Add one spoon full of kitchen salt/sugar. 1M
- Stir the mixture until all salt/sugar particles disappear. 1M
- From the observation the salt/sugar have disappeared. 1M
- It shows that matter is made of small particles. 1M

33. a.

- As the number of bulbs is increased in parallel, the brightness remains the same. 1M
- The bulbs do not share voltage but, 1M
- Each bulb use the same voltage from the power supply. 1M





- Paint the surface of one tin black and the other white. 1M
- Make a small hole on the lid of each tin. 1M
- Insert the thermometer in the hole without touching the wall of the tin. 1M
- Record the initial temperature. 1M
- Then put the heat source in between them as shown in diagram above. 1M
- After some minutes record the temperature again in both tins. 1M
- It will be observed that temperature in black tin will rise higher and fast than in white tin that show that dull black surface is a better absorber than a white surface. 1M

**Note:** If the student mentions of adding water in the tins, mark them correct

**END OF PAPER**