Physics

Full Syllabus Test

VII (ICSE) **Time : 2 hrs.**

Full Marks : 80

SECTION – A

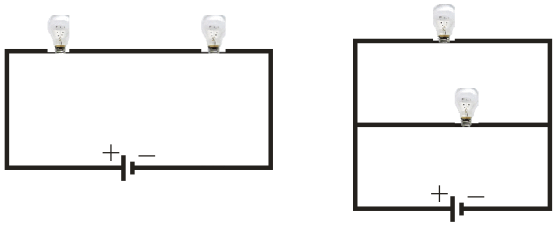
(Compulsory)

1. **Write true or false for each statement and correct the false statements. (any five)** **(5 × 2)**
   - (a) A current carrying coil, when suspended freely, can rest in any direction.
   - (b) In an electromagnet, the core is made up to copper.
   - (c) One form of energy cannot be converted into another form.
   - (d) Wool is a conductor of electricity.
   - (e) Our body is a conductor of electricity.
   - (f) Sound can only be produced by vibrating body.
   - (g) Waveforms of two different stringed instruments can be same.
2. **Fill in the blanks:** **(10 × 1)**
   - (a) Volume of a cube _____.
   - (b) The weight of a body is measured using a _____.
   - (c) Cooking gas converts _____ energy into heat energy.
   - (d) The colour of an opaque object is the colour of light which it _____.
   - (e) Dull surface is _____ of heat
   - (f) Sound required a _____ for propagation.
   - (g) The unit of frequency is _____.
   - (h) A magnet has _____ poles
   - (i) In a torch we use _____ as the source of electricity.
   - (j) Like poles _____ and unlike poles _____.

SECTION – B

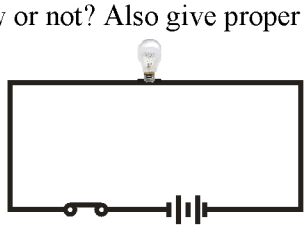
(Attempt any six)

3. (a) How will you test whether a given rod is made of iron or not? **2**
   - (b) "Poles exist in pair" comment on this statement? **2**
   - (c) Name two factors on which the strength of magnetic field of an electromagnet depends? **2**
   - (d) Here two circuits are given A and B. If one bulb is fused then what happens to the other bulb in both case and also give proper explanation. **2**

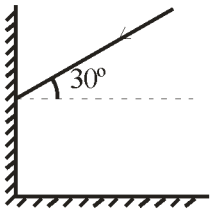


(A) (B)

   - (e) In this circuit will the bulb glow or not? Also give proper explanation of your answer. **2**



4. (a) State two common uses of electromagnets? **2**
   (b) What is Echo? **2**
   (c) What is frequency? Write down the relation between the frequency, wavelength, velocity. **2**
   (d) Complete the ray diagram. Also mention all angles. **2**



   (e) What must be the velocity of a body so that it can reach a vertical height of 20m? [Take g = 10 m/s^2] **2**

5. (a) A car travels a distance of 15 km in 20 minutes. Find the speed of the car in m/s. **2**
   (b) A boy goes from his home to school at a speed of 10 km/hr and return back with speed of 15 km/hr. Find the average speed of the boy. **2**
   (c) The mass of 5 litre of water is 5 kg. Find the density of water in gm/cm^3. **2**
   (d) A cork has a volume 25 cm^3. The density of cork is 0.25 gm/cm^3. Find the mass of cork. **2**
   (e) Find the volume of a liquid present in a dish of dimensions 10 cm × 10 cm × 5 cm. **2**

6. (a) Name the type of motion being performed by hands of a clock. **2**
   (b) A pendulum oscillates 20 oscillations in 5 sec. Find the time period. **2**
   (c) If the length of the pendulum becomes four times then the time period will become how many times that of original time period? **2**
   (d) A car travels with speed 30 km/hr for 30 minute and then with speed 40 km/hr for one hour. Find: **4**
   (i) the total distance travelled by the car
   (ii) the total time of travel
   (iii) the average speed of car

7. (a) A ball is made to fall freely from a height. State the kind(s) of energy possessed by the ball when it is at the ground.
   (b) How will the kinetic energy of the body change if **2+2**
   (i) the velocity become double
   (ii) the velocity is halved
   (c) State the unit of energy and define it. **2**
   (d) What is potential energy? State it unit. **2**

8. (a) One end of a steel girder in a bridge is not fixed, but is kept on rollers. Give reason. **2**
   (b) How does a bat make use of ultrasonic waves to find its way? **2**
   (c) A rose appears red in white length. How will it appear in green light? Give a reason for your answer. **2**
   (d) A piece of paper appears black in sunlight, what will be its colour when seen in red light. **2**
   (e) What are the primary colours? Name the three primary colours. **2**

9. (a) What is battery? **2**
   (b) Distinguish between conductors and insulators. **2**
   (c) Explain the working of a fuse. **2**
   (d) Why is ventilator provided in a room? **2**
   (e) The temperature rises by 10°C. Find the rise in the Fahrenheit scale. **2**