Final Term Examination 2017-2018

Std. : VII **Full Marks : 80**

Subject : Physics **Time :**

Q1. Fill in the blanks : **(10)**

a) The_____motion is a periodic motion.

b) _____are the automatic switches that are nowadays used to protect the household wiring from the excessive flow of electric current.

c) The_____motion is a special type of curvilinear motion.

d) Generators in power stations convert_____energy to electrical energy.

e) When a light bulb consumes 60 Watts, a CFL bulb consumes only_____Watts.

f) The property of_____is used to generate electricity in a generator (dynamo).

g) _____displays the speed of a moving vehicle whereas_____displays the distance covered by the vehicle in kilometres.

h) In household wiring, the_____wire is the one that protects us from shocks and is coloured _____or yellow.

Q.2. Define the following terms **(10)**

a) Dispersion of light

b) Overloading

c) Pole of a spherical mirror

d) Focus or Focal Point of a spherical mirror

e) Electrolysis

Q.3. Name the type of motion of - **(5)**

a) A merry-go-round

b) Chest expanding and contracting while we breathe

c) March past of soldiers in a parade

d) A footballer running on a field

e) The earth rotating about its axis and at the same time it revolving around the sun in a curved path in a fixed time.

Q.4. Draw symbols for the following to be used for various parts of a circuit diagram **(2)**

a) Bulb b) Cell

c) Switch in ON position d) Resistance

Q.5. State true or false. Correct the false statement. **(6)**

a) By convention, the direction of flow of current is taken same as the direction in which the electrons flow.

b) A switch and a fuse are connected to the neutral wire in household wiring.

c) The human body is a poor conductor of electricity.

d) The straight line passing through the centre of curvature and the pole of a spherical mirror is called the radius of curvature.

e) The time period of a simple pendulum are dependent on the amplitude of oscillation and the nature of material of the bob.

f) A ray passing through the Principal Focus after reflection retraces its path.

Q.6. Name a device where the following can be used. **(3)**

a) Electromagnets

b) Convex mirror

c) Dry Cell

Q.7. Give an example of **(4)**

a) Insulator

b) Renewable source of producing electricity

c) Uniform Motion

d) Vector Quantity

Q.8. State two differences between - **(6)**

a) Primary Cell (Dry Cell) and Secondary Cell

b) Characteristics(nature) of the image of an object placed at infinity in a concave mirror and a convex mirror.

c) Distance and displacement.

Q.9. Write 2 methods to conserve electricity **(2)**

Q.10. What is the unit of **(2)**

a) Electrical energy (on the electric meter in our houses)

b) Current

c) Power of an electrical device

d) Frequency

Q.11. For a concave mirror, draw a ray diagram and write the characteristics of the image formed when- **(7)**

a) The object is between the Principal Focus and the Pole.

b) The object is at the Centre of Curvature.

Q.12. Draw a plug and its internal parts. Label and colour (as per the colour code) the three types of wires used in it. **(3)**

Q.13. Solve the following numericals **(2x3=6)**

a) A car starting from rest acquires a velocity of 30 m/s in 15 seconds. Find the acceleration of the car.

b) A body starting from rest, picks up a velocity of 20 m/s to cover a distance of 80 metres. Find the acceleration.

c) An electric bulb of 100 watt, an electric iron of 750 watt and a television of 100 watt are used for 3 hours a day. Calculate the energy consumed per day.

Q.14. In the circuit diagram below, B has a broken filament.

a) Will A glow ? Why ? (2)

b) Is the circuit shown in the diagram in series or in parallel ? Why do we use such a circuit to connect the electrical appliances in the houses, schools and factories ? (2)

Q.15. Think and answer. **(10)**

a) A train is moving out of a railway station. Is the platform at rest or in motion with respect to the train and why ?

b) One of the two curved surfaces of a spherical mirror is coated with a thin layer of silver followed by a coating of red lead oxide paint. Why ?

c) Earthing is done to electrical appliances. What does it prevent and how ?

d) Fuse wire is used at the beginning of the household circuit. Why ?

e) Bulb is placed at the focus of the concave mirror in reflectors of torchlight, car headlights and searchlights. Why ?