Grade: IX
Time: 2 hours

Assessment – II

Subject : Physics
Maximum Marks : 80

Instructions : Read the question paper carefully. Write neatly and legibly with correct question numbers. Do not over write.Check the answers before submitting the answer sheet

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***Section A** is compulsory. Attempt **any four** questions from **Section B**.*
The intended marks for questions or parts of questions are given in brackets [ ].

SECTION A

*(Attempt **all** questions from this Section.)*

Question 1

Choose the correct answers to the questions from the given options. [15]

(i) Which of the following is not a unit of force?
a) kg m/s^2 b) dyne
c) newton d) pascal

(ii) The people in the bus are pushed backwards when the bus starts suddenly due to
a) inertia of motion b) inertia of rest
c) inertia of direction d) inertia of speed

(iii) Type of waves which are used for SONAR.
a) Infra-sonic b) sonic
c) ultrs-sonic d) electromagnetic

(iv) The focal length of a concave mirror is 10 cm. Find its radius of curvature.
a) 20 cm b) 5 cm
c) 15 cm d) 12.5 cm

(v) Frequency of ultrasound is :
a) below 20 kHz b) below 20 Hz
c) above 20 kHz d) none of these

(vi) Current in a circuit flows:
a) In direction from high potential to low potential
b) In direction from low potential to high potential
c) In direction of flow of electrons
d) In any direction

(vii) The laws of reflection hold good for
a) plane mirrors only b) spherical mirrors
c) only convex mirrors d) all mirrors irrespective of their shape

(viii) The number of images formed by two plane mirrors inclined at an angle 60° of an object placed symmetrically between mirrors is
a) 5 b) infinite
c) 6 d) 7

(ix) Sound wave is
a) transverse in nature b) longitudinal in nature
c) both transverse and longitudinal d) none of these

(x) The speed of sound in air
a) decreases with the increase in temperature
b) increases with the increase in temperature
c) remains the same with the increase in temperature
d) remains the same with the decrease in temperature

(xi) The unit for measuring potential difference is
a) Watt b) ohm
c) volt d) kWh

(xii) Which of the flowing is not an insulator ?
a) glass b) diamond
c) graphite d) silk

(xiii) IEA is the short form of:
a) Indian Energy Association b) Indian Eco Academy
c) International Energy Agency d) International Eco Academy

(xiv) At a neutral magnetic point, the resultant magnetic field is :
a) strong b) week
c) zero d) none of these

(xv) In a uniform magnetic field, the field lines are:
a) curved b) parallel and equidistant
c) parallel, but not equidistant d) none of these

Question 2

(i) What social initiatives must be taken for the sensitive use of energy? [3]

(ii) What do you mean by neutral point? [2]

(iii) What is transversal wave? [2]

(iv) Define the term amplitude of the wave. Write its SI unit. [2]

(v) Define : (i) Focal length (ii) Principal axis. [2]

(vi) What do you mean by anomalous behaviour of water? [2]

(vii) Draw a ray diagram to show the formation of image by a concave mirror for an object placed at focus. [2]

Question 3

(i) Write difference between Renewable and non renewable sources of energy. [2]

(ii) What do you mean by Inertia and its types? [2]

(iii) What do you mean by the term force due to gravity? How g and G related? [2]

(iv) What is lateral inversion ? [2]

(v) Explain closed and open circuit by a circuit diagram? [2]

SECTION B

*(Attempt **any Four** questions from this Section.)*

Q1) a) State the two laws of reflection of light with help of labelled diagram. [3]

b) An object 5 cm high is placed at a distance 60 cm in front of a concave mirror of focal length 10 cm. Find (i) the position and (ii) size, of the image. [3]

c) Write the two difference between : (i) real and virtual image

(ii) concave and convex mirror [4]

Q2) a) Explain the terms crest and trough in a sound wave. [3]

b) What is ultrasound ? State two applications of ultrasound. [3]

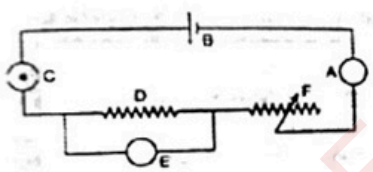
c) Describe in brief with the aid of a labelled diagram, an experiment to demonstrate that a material medium is necessary for the propagation of sound. [4]

Q3) a) What do you mean by the term current with SI unit ? What is d.c. and a.c. source. [3]

b) State three difference between conductor and insulators. [3]

c) In the electric circuit shown in figure, label the parts A, B, C, D, E and F. State the function of each part.

show in the diagram the direction of flow of current. [4]



Q4) a) What is an electromagnet ?

State four difference between electromagnet and permanent magnet [3]

b) State four properties of magnetic field lines. [3]

c) Explain what do you understand by magnetic induction. What role does it play in attraction of a piece of iron by a magnet? [4]

Q5) a) State newtons third law of motion. Explain with the help of any one application. [3]

b) A force acts for 0.1 s on a body of mass 2.0 kg initially at rest. The force is then withdrawn and the body moves with a velocity of 2 m/s. Find the magnitude of force. [3]

c) A body is dropped from the top of a tower. It acquires a velocity 20 m/s on reaching the ground. Calculate the height of the tower. (take g = 10 m/s^2) [4]

Q6) a) What is an eco system? Describe the energy flow in an ecosystem. [3]

b) State any one source of energy with its two advantage and disadvantages. [3]

c) Explain : (i) It is easier to cut with a sharp knife than with a blunt one.

(ii) Sleepers are laid below the rails. [4]

Q7) a) Define the following terms related to wave motion: [3]

(i) wavelength (ii) wave velocity (iii) frequency

b) An observer A fires a gun and another observer B at a distance 1650 m away from A hears its sound. If the speed of sound is 330 m /s, find the time when B will hear the sound after firing by A. [3]

c) What do you mean by resistance? State three factors on resistance of a wire depends. [4]