



St. Mary's Convent School Gulaothi, U.P. (2026 – 27)
Set - B

MCQ PAPER
Class 10
Physics

T.sign ~~XXXX~~
Time: 45 min.
Max Marks:20

NAME:-

M	E	E	N	A	K	S	H	I	Y	A	D	A	V				
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Write name in capital letter
ROLL NO:-

1	5			
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General instructions

- 1.All question are compulsory.
- 2.Write neatly and clearly in given space.
- 3.Do not cut or fill the circle given on upper and bottom of paper.
- 4.Write the answer of each question in the space provided

Write the option in capital letters only)

Section A : Write down the correct option for the given questions.

ANS 1:

a

~~XXXX~~ 0.0 /0.5

ANS 2:

b

 ✓ 0.5 /0.5

ANS 3:

b

 ✓ 0.5 /0.5

ANS 4:

c

~~XXXX~~ 0.0 /0.5

Section B Very Short Answer (2 × 1 = 2 marks)
Defines torque, not work; work requires force causing linear displacement.

ANS 5: 0.0

A turning effect of a force about a point is called work.

Incoherent answer; does not state that total energy remains constant.

0.0

ANS 6:

The conservation of energy is a when a body applied a force is called conservation of energy.



ANS 7:

The condition of equilibrium are:-
(a) A magnitude applied on a force of object.
(b) When a body moves on a positive line.



Marks	0.0
Teacher's feedback	Equilibrium requires zero resultant force ($\Sigma F=0$) and zero resultant moment/torque about any point ($\Sigma \tau=0$). Your statements do not match these conditions.



ANS 8:

~~Centrifugal~~ force = In a uniform in a straight motion the force acting to -wards the center is called centripetal motion

~~centripetal~~ ex = A Train moves on a station
Centrifugal force = In a uniform circular motion the force acting towards the center is called centrifugal force

• ex A bicycle wheel move on a circular motion.

Marks	0.0
Teacher's feedback	Definitions and examples are incorrect. Centripetal force acts toward the center during circular motion (real interaction). Centrifugal force appears in a rotating frame, directed outward (pseudo force). Provide two clear contrasting points and correct examples.

ANS 9:

A boy mass 40kg
height 5m in 20seconds

$\frac{40^8}{20} \times 5$

$8 \times 20 = 160 \text{ m/s}^2$

Marks	1.0
Teacher's feedback	Correct power expression mgh/t, but numerical evaluation and units are wrong. Work done not calculated. Correct answers: Work = 1960 J, Power = 98 W.

ANS 10:

Relation between work, force and displacement

work = Joule
Force =
displacement =

Marks	0.0
Teacher's feedback	The relation between work, force, and displacement is missing. State $W = F \cdot s$ (or $W = F \cdot s \cdot \cos\theta$) and give an example (e.g., pushing with 10 N over 2 m does 20 J of work).

ANS 11:

Force of 50 N applied on a body
How much work is done = ?
 $\frac{50}{1/2}$

$25 \times 1 = 25$
25 Ans

Marks	0.0
Teacher's feedback	Work = $F \times$ displacement. With no movement, displacement = 0, so work done = 0 J. Your calculation is unrelated and lacks explanation of zero displacement. Provide reason that no displacement implies zero work.

ANS 12:

Derive the expression $K = \frac{1}{2}mv^2$

~~$\frac{9 \cdot 8}{12}$~~ ~~$\frac{9 \cdot 8}{12} \cdot 4$~~

9×4
 $= 36 \text{ Ans}$

Marks	1.0
Teacher's feedback	You only stated the final formula; no derivation. Use work–energy: $W = \int F \, dx$, $F = ma$, $a = v \, dv/dx$ $\square$ $W = m \int v \, dv = \frac{1}{2}mv^2 + C$; taking zero at rest gives $K = \frac{1}{2}mv^2$. The “ $9 \times 4 = 36$ ” line is irrelevant.

ANS 13:

lift a load = 200N
height = 2cm
work completed = 5 seconds

~~$\frac{200 \cdot 40}{8} \times 2$~~

40×2
 $= 80 \text{ Ans}$

Marks	1.0
Teacher's feedback	Height should be 2 m, not 2 cm. You must calculate work: $W = 200 \times 2 = 400 \text{ J}$, then power $= 400/5 = 80 \text{ W}$. Label time correctly and include units in final answers.

4.0/20.0