

NEW STANDARD ACADEMY

Marks: 80

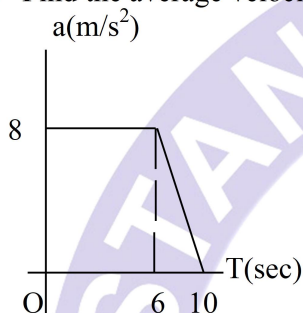
Date : 29-04-24

CLASS : 9TH

Time: 3Hrs.

PHYSICS

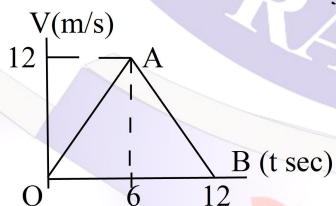
- Derive the first equation of motion by mathematical method.
- Derive the third equation of motion by mathematical method.
- Find the average velocity in a-t graph.



- Derive the second equation of motion by graphical method.
- Find the acceleration of particle from A to B

A	B
$u=4m/s$	$v=12m/s$
$t_1=2sec$	$t_2=10sec$

- If a particle moves 40m with initial velocity 10 m/s and achieve final velocity 30m/s then what will be acceleration
- Find distance travelled in total journey

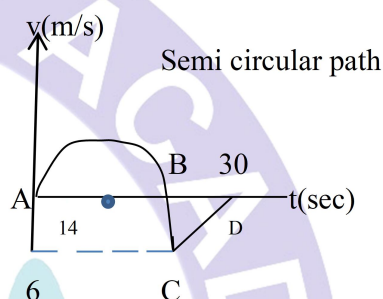


- A moving particle with initial velocity 20m/s covers 120m in 5sec then what is its acceleration.

- Find the acceleration.

A	B
$u=4m/s$	$v=30m/s$
$t_1=0$	$t_2=5sec$

- Find the distance covered in total journey.



CHEMISTRY

- Naphthalene ball disappear with time without leaving any solid why?
- What is the physical state of water at water at
 - $250^{\circ}C$
 - $100^{\circ}C$
- What produce more severe burns, boiling water or steam?
- Define the short term
 - Melting Point
 - Boiling Point
 - Freezing Point
 - Condensation Point
- When common salt is dissolved in water, what will be the change in volume and why?
- Why solid CO_2 is stored under high pressure?
- Define diffusion and example
- Explain how gases can be liquefied?
- Why does the temper ature of a Substance remain constant during its melting and Boiling Point?
- The molecule in a gas are in contant Motion these statement true or false.

BIOLOGY

1. What do we get from cereals, pulses, Fruits and Vegetable?
2. What are macronutrients? Give example.
3. Define Zaid crop with example.
4. What are GM Crop? Name any one such crop which is grown in India.
5. Explain the biotic and abiotic factors for which crop variety improvement is done.
6. What are micronutrients? Give example
7. What is Hybridization?
8. Differentiate between Rabi crop and Kharif crop.
9. Explain the mechanism of Hybridization.
10. How do Plants get nutrients?

MATHS

Section A

1. Simplify $\frac{7\sqrt{3}}{\sqrt{10}+\sqrt{3}} - \frac{2\sqrt{5}}{\sqrt{6}+\sqrt{5}} - \frac{3\sqrt{2}}{\sqrt{15}+3\sqrt{2}}$
2. Find the values of a and b in each of the following. Solve any Two parts:-

i. $\frac{5+2\sqrt{3}}{7+4\sqrt{3}} = a - 6\sqrt{3}$

ii. $\frac{3-\sqrt{5}}{3+2\sqrt{5}} = a\sqrt{5} - \frac{19}{11}$

OR

i. $\frac{\sqrt{2}+\sqrt{3}}{3\sqrt{2}-2\sqrt{3}} = 2 - b\sqrt{6}$

ii. $\frac{7+\sqrt{5}}{7-\sqrt{5}} - \frac{7-\sqrt{5}}{7+\sqrt{5}} = a + \frac{7}{11}\sqrt{5}b$

3. Find three rational numbers between
 - i) -1 and -2
 - ii) 0.1 and 0.11
 - iii) $\frac{5}{7}$ and $\frac{6}{7}$
 - iv) $\frac{1}{4}$ and $\frac{1}{5}$
4. If $\sqrt{2} = 1.414$ and $\sqrt{3} = 1.732$, then the value of $\frac{4}{3\sqrt{3}-2\sqrt{2}} + \frac{3}{3\sqrt{3}+2\sqrt{2}}$

Section B

Solve any Three

1. If $x=2+\sqrt{3}$, find the value of $x^3+\frac{1}{x^3}$
2. Show that $\frac{1}{1+x^{b-a}+x^{c-a}} + \frac{1}{1+x^{a+b}+x^{c-b}} + \frac{1}{1+x^{b-c}+x^{a-c}} = 1$
3. If $x^2 + \frac{1}{x^2} = 7$, find the value of $x^3 + \frac{1}{x^3}$
4. If $a-b=4$ and $ab=45$, find the value of $a^3 - b^3$
5. Arrange the following numbers in ascending order
 - i) $\sqrt[3]{2}, \sqrt{3}, \sqrt[6]{5}$
 - ii) $\sqrt{3}, \sqrt[4]{3}, \sqrt[4]{5}$