PHYSICS CLASS 11 BATCH

Basic Maths & Calculus

DPP-05

1. The greatest value of the function 7 sin θ – 24 cos θ is:
(1) 12 (2) 13
(3) 25 (4) 17

2. Find the sum of given Arithmetic Progression 4 + 8 + 12 + …. + 64
(1) 464 (2) 540
(3) 544 (4) 646

3. Find the sum of given series 1 +2+4+8 +….+ 256
(1) 510 (2) 511
(3) 512 (4) 513

4. Find $1+\frac{1}{2}+\frac{1}{4}+\frac{1}{8}+....$ upto ∞.
(1) ∞
(2) 1
(3) 2
(4) 1.925

5. Find maximum value of y where $y = 3 \sin\theta + 4 \cos\theta$.
(1) 4
(2) 5
(3) ∞
(4) None

6. The mass m of a body moving with a velocity v is given by $m=\frac{m_0}{\sqrt{1-\frac{v^2}{c^2}}}$ where m_0 = rest mass of body = 20 kg and c = speed of light = 3×10^8 m/s. find the value of m at $v = 3 \times 10^7$ m/s.
(1) 20 kg (2) 20.1 kg
(3) 20.05 kg (4) 20.033 kg

7. $(1 + x)^3$ find the value, if $x << 1$.
(1) $1 + x$ (2) $1 - 3x$
(3) $1 + 3x$ (4) $1 + 3x + 3x^2 + x^3$

8. 5, 10, 15, 20…., 500 find the sum of the series.
(1) 25250 (2) 252500
(3) 2525 (4) 5000

9. 30, 45, 60…., 3000 find the sum of the series.
(1) 25250 (2) 302, 485
(3) 301, 485 (4) 90000

10. Find sum of $1+\frac{1}{3}+\frac{1}{9}+\frac{1}{27}...$ up to ∝ term
(1) $\frac{3}{2}$ (2) $\frac{2}{3}$
(3) $\frac{4}{3}$ (4) $\frac{3}{4}$

ANSWER KEY

1.	(3)
2.	(3)
3.	(2)
4.	(3)
5.	(2)
6.	(2)
7.	(3)
8.	(1)
9.	(3)
10.	(1)