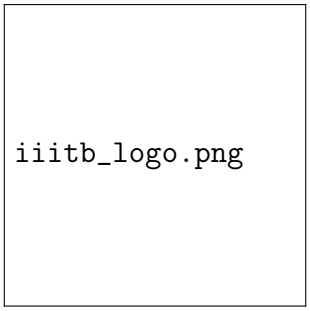

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CBSE Class XII Mathematics
Multiple Choice Questions

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1. Degree of the differential equation $\sin x + \cos x(dy/dx) - y^2$ is

   (a) 2
   (b) 1
   (c) not defined
   (d) 0

2. The integrating factor of the differential equation $(1 - y^2)dx + xdy = 0$ is

   (a) $1 - y^2$
   (b) $1/(1 - y^2)$
   (c) x
   (d) $1/x$

3. Unit vector along vector PQ where $P(2, 1, -1)$ and $Q(4, -4, 7)$ is

   (a) $2i - 5j + 8k$
   (b) $-2i + 5j - 8k$
   (c) $i + j + k$
   (d) $i - j + k$

4. If in triangle ABC, $AB = 2a$ and $BC = 3b$, then AC is

   (a) $2a + 3b$
   (b) $2a - 3b$
   (c) $3b - 2a$
   (d) $a + b$

5. If $|a \times b| = \sqrt{3}$ and $ab = 3$, then the angle between a and b is

   (a) $pi/6$
   (b) $pi/3$

(c) $pi/2$

(d) $2pi/3$

6. Equation of the line passing through origin and making angles 30, 60, 90 with x y z axes respectively is

(a) $x/\sqrt{3} = y = 0$

(b) $\sqrt{3}x = y$

(c) $x + y + z = 0$

(d) $x = y$

7. If $P(A) = 2P(B)$ and $P(A) + P(B) = 2/3$, then $P(B)$ is

   (a) $2/9$
   (b) $1/9$
   (c) $4/9$
   (d) $1/3$

8. Anti derivative of $1/x$ is

   (a) $\ln|x| + c$
   (b) x
   (c) $1/x^2$
   (d) e^x

9. If $a = (1, 2, 3)$ and $b = (2, 3, 4)$, then $|a \times b|$ is

   (a) $\sqrt{3}$
   (b) $\sqrt{6}$
   (c) $\sqrt{12}$
   (d) 0

10. The function $f(x) = |x|$ is

    (a) continuous and differentiable at 0
    (b) continuous but not differentiable at 0
    (c) differentiable but not continuous at 0
    (d) neither continuous nor differentiable at 0

Time Allotted: 1 Hour