Moulana Azad Model School

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MCQ TEST PAPER

Class 10 - Mathematics

Time Allowed: 20 minutes **Maximum Marks: 15**

1. The exponent of 2 in the prime factorisation of 144, is **[1]**

   a) 4 b) 5

   c) 6 d) 3

2. If $\frac{241}{4000} = \frac{241}{2^m \times 5^n}$, then **[1]**

   a) m = 3 and n = 2 b) m = 5 and n = 3

   c) m = 2 and n = 5 d) m = 4 and n = 5

3. If one of the zeroes of the quadratic polynomial $(k - 1) x^2 + kx + 1$ is –3, then the value of k is **[1]**

   a) $\frac{-2}{3}$ b) $\frac{-4}{3}$

   c) $\frac{4}{3}$ d) $\frac{2}{3}$

4. A quadratic polynomial the sum and product of whose zeroes are -3 and 2 respectively, is: **[1]**

   a) $x^2 + 3x - 2$ b) $x^2 - 3x - 2$

   c) $x^2 - 3x + 2$ d) $x^2 + 3x + 2$

5. Which of the following linear equation coincide with the line 4x + 5y = 15? **[1]**

   a) 8x + 10y = 25 b) 12x + 15y = 45

   c) 7x + 14y = 17 d) 2x + 3 y = 7

6. If p = -7 and q = 12 and $x^2 + px + q = 0$, Then the value of x is **[1]**

   a) 3 and 4 b) 3 and -4

   c) -3 and -4 d) -3 and 4

7. $3x^2 + 2x - 1 = 0$ have **[1]**

   a) Real and Distinct roots b) Real roots

   c) real and equal root d) No Real roots

8. The sum of three terms of an A.P. is 72, then its middle term is **[1]**

   a) 24 b) 20

   c) 18 d) 36

9. XY is drawn parallel to the base BC of a $\triangle$ABC cutting AB at X and AC at Y. If AB = 4 BX and YC = 2cm, then AY = **[1]**

   a) 8 cm b) 4 cm

c) 6 cm

d) 2 cm

10. Three consecutive vertices of a parallelogram ABCD are A(1, 2), B(1, 0) and C(4, 0). The co – ordinates of the fourth vertex D are **[1]**

a) (– 4, 2)

b) (4, – 2)

c) (4, 2)

d) (– 4, – 2)

11. If $\cos\theta = \frac{4}{5}$ then $\tan\theta$ = ? **[1]**

a) $\frac{3}{4}$

b) $\frac{5}{3}$

c) $\frac{4}{3}$

d) $\frac{3}{5}$

12. The length of an arc that subtends an angle of 24^o at the centre of a circle with 5 cm radius is **[1]**

a) $\frac{3\pi}{2}$ cm

b) $\frac{5\pi}{3}$ cm

c) $\frac{\pi}{3}$ cm

d) $\frac{2\pi}{3}$ cm

13. The ratio of the total surface area to the lateral surface area of a cylinder with base radius 80 cm and height 20 cm is **[1]**

a) 5 : 1

b) 4 : 1

c) 2 : 1

d) 3 : 1

14. 3 rotten eggs are mixed with 12 good ones. One egg is chosen at random. The probability of choosing a rotten egg is **[1]**

a) $\frac{1}{15}$

b) $\frac{4}{5}$

c) $\frac{1}{5}$

d) $\frac{2}{5}$

15. If angle between two radii of a circle is 130^o, the angle between tangents at ends of radii is : **[1]**

a) 70°

b) 90°

c) 60°

d) 50°