SAMPLE QUESTION PAPER

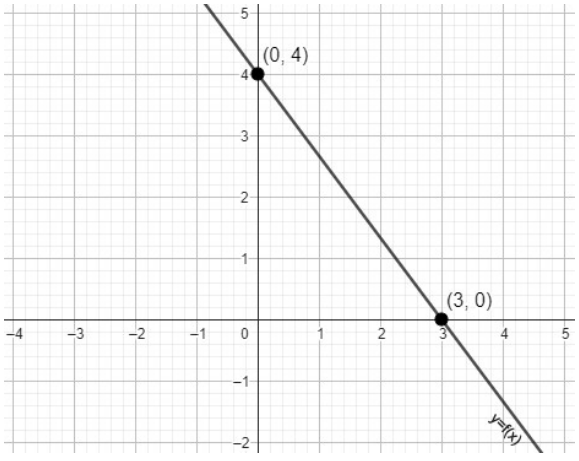
Class X Session 2023-24

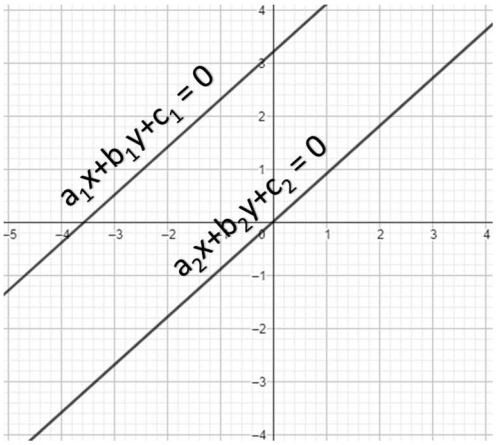
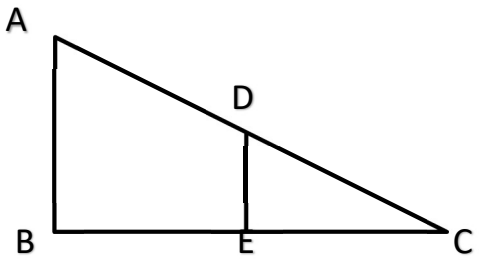
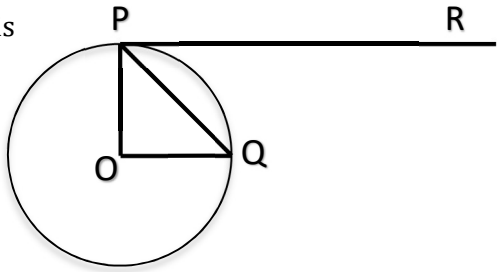
MATHEMATICS STANDARD (Code No.041)

TIME: 3 hours **MAX.MARKS: 80**

General Instructions:

1. This Question Paper has 5 Sections A, B, C, D and E.
2. Section A has 20 MCQs carrying 1 mark each
3. Section B has 5 questions carrying 02 marks each.
4. Section C has 6 questions carrying 03 marks each.
5. Section D has 4 questions carrying 05 marks each.
6. Section E has 3 case based integrated units of assessment (04 marks each) with sub-parts of the values of 1, 1 and 2 marks each respectively.
7. All Questions are compulsory. However, an internal choice in 2 Qs of 5 marks, 2 Qs of 3 marks and 2 Questions of 2 marks has been provided. An internal choice has been provided in the 2marks questions of Section E
8. Draw neat figures wherever required. Take π =22/7 wherever required if not stated.

	SECTION A	
	Section A consists of 20 questions of 1 mark each.	
1.	If two positive integers a and b are written as $a = x^3y^2$ and $b = xy^3$, where x, y are prime numbers, then the result obtained by dividing the product of the positive integers by the LCM (a, b) is (a) xy (b) xy^2 (c) x^3y^3 (d) x^2y^2	1
2.	The given linear polynomial y = f(x) has (a) 2 zeros (b) 1 zero and the zero is '3' (c) 1 zero and the zero is '4' (d) No zero 	1

3.	The lines representing the given pair of linear equations are non-intersecting. Which of the following statements is true? (a) $\frac{a1}{a2}=\frac{b1}{b2}=\frac{c1}{c2}$ (b) $\frac{a1}{a2}=\frac{b1}{b2}\neq\frac{c1}{c2}$ (c) $\frac{a1}{a2}\neq\frac{b1}{b2}=\frac{c1}{c2}$ (d) $\frac{a1}{a2}\neq\frac{b1}{b2}\neq\frac{c1}{c2}$ 	1
4.	The nature of roots of the quadratic equation $9x^2 - 6x - 2 = 0$ is: (a) No real roots (b) 2 equal real roots (c) 2 distinct real roots (d) More than 2 real roots	1
5.	Two APs have the same common difference. The first term of one of these is –1 and that of the other is – 8. The difference between their 4th terms is (a) 1 (b) -7 (c) 7 (d) 9	1
6.	What is the ratio in which the line segment joining (2,-3) and (5, 6) is divided by x-axis? (a) 1:2 (b) 2:1 (c) 2:5 (d) 5:2	1
7.	A point (x,y) is at a distance of 5 units from the origin. How many such points lie in the third quadrant? (a) 0 (b) 1 (c) 2 (d) infinitely many	1
8.	In Δ ABC, DE || AB. If AB = a, DE = x, BE = b and EC = c. Then x expressed in terms of a, b and c is: (a) $\frac{ac}{b}$ (b) $\frac{ac}{b+c}$ (c) $\frac{ab}{c}$ (d) $\frac{ab}{b+c}$ 	1
9.	If O is centre of a circle and Chord PQ makes an angle 50° with the tangent PR at the point of contact P, then the angle subtended by the chord at the centre is (a) 130° (b) 100° (c) 50° (d) 30° 	1