

Sample Question Paper (2023-24)
Class – X
Basic Mathematics (241)

Time Allowed: 3 Hrs

Maximum Marks: 80

General Instructions:

1. This Question Paper has 5 Sections A, B, C, D, and E.
2. Section A has 20 Multiple Choice Questions (MCQs) carrying 1 mark each.
3. Section B has 5 Short Answer-I (SA-I) type questions carrying 2 marks each.
4. Section C has 6 Short Answer-II (SA-II) type questions carrying 3 marks each.
5. Section D has 4 Long Answer (LA) type questions carrying 5 marks each.
6. Section E has 3 sourced based/Case Based/passage based/integrated units of assessment (4 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 2 marks, 2 Qs of 3 marks and 2 Questions of 5 marks has been provided. An internal choice has been provided in the 2 marks questions of Section E.
8. Draw neat figures wherever required. Take $\pi = 22/7$ wherever required if not stated.

SECTION A

1. If two positive integers a and b are written as $a = x^3y^2$ and $b = xy^3$; x, y are prime numbers, then HCF (a, b) is:
a) xy b) xy^2 c) x^3y^3 d) x^2y^2
2. The LCM of smallest two-digit composite number and smallest composite number is:
a) 12 b) 4 c) 20 d) 44
3. If $x = 3$ is one of the roots of the quadratic equation $x^2 - 2kx - 6 = 0$, then the value of k is
a) $\frac{1}{2}$ b) $\frac{1}{2}$ c) 3 d) 2
4. The pair of equations $y = 0$ and $y = -7$ has:
a) One solution b) Two solutions c) Infinitely many solutions d) No solution
5. Value(s) of k for which the quadratic equation $2x^2 - kx + k = 0$ has equal roots is :
a) 0 only b) 4 c) 8 only d) 0, 8
6. The distance of the point (3, 5) from x -axis is k units, then k equals:
a) 3 b) -3 c) 5 d) -5
7. If in ΔABC and ΔPQR , we have $\frac{AB}{QR} = \frac{BC}{PR} = \frac{CA}{PQ}$ then:
a) $\Delta PQR \sim \Delta CAB$ b) $\Delta PQR \sim \Delta ABC$ c) $\Delta CBA \sim \Delta PQR$ d) $\Delta BCA \sim \Delta PQR$

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