

AMRITA VIDYALAYAM

HALF YEARLY EXAMINATION 2018 - '19

Class : IX

Marks : 80

Time : 3 hrs

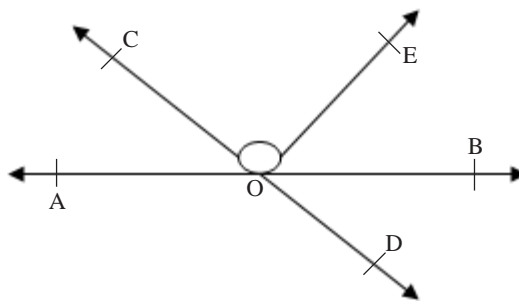
MATHEMATICS

GENERAL INSTRUCTIONS:

1. All questions are compulsory.
2. This question paper consists of 30 questions divided into four sections A, B, C and D. Section A comprises of 6 questions of 1 mark each. Section B comprises of 6 questions of 2 marks each. Section C comprises of 10 questions of 3 marks each. Section D comprises of 8 questions of 4 marks each.
3. Use of calculator is not permitted.

SECTION - A

1. Find an irrational number between $\frac{2}{7}$ and $\frac{4}{7}$.
2. Write the equation of the line parallel to Y-axis passing through +2 on X-axis.
3. Find the value of k if $x - 2$ is a factor of $x^2 + kx + 2k$.
4. In the given figure CD and AB intersect at O. $\angle EOD = 70^\circ$, $\angle EOB = 30^\circ$. Find $\angle COE$.



5. $\triangle ABC$ is an isosceles triangle such that $AB = AC$. $\angle A = x + 30$, $\angle B = x$. Find the value of x.
6. Write the co-ordinate of the point A if its distance from x-axis is 4 and the distance from Y-axis is -3.

SECTION - B

7. Plot the following points on the graph.
A (2, -3), B (-1.5, -2), C (0, 3) and D (-2, 1.5)
8. If $(32)^{2/5} \times 2^3 = 2^x$, find the value of x.
9. Expand $(\sqrt{2}x + 3y - z)^2$.
10. If $x^2 + \frac{1}{x^2} = 47$, find $x + \frac{1}{x}$.
11. Find the area of an isosceles triangle whose base is 16cm and one of its equal side is 10 cm.
12. In the given figure $\triangle ADE$ is an isosceles triangle such that $AD = AE$. D and E are points on BC and $BE = DC$. Prove $\triangle ABC$ is an isosceles triangle.

