



Class - X
Periodic Assessment-I
(2022-23)
Maths

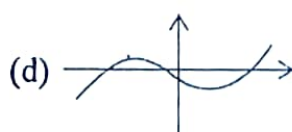
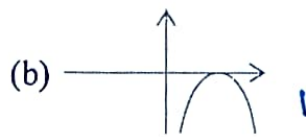
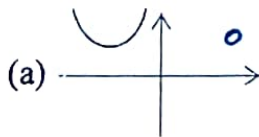
Date : 25 May 2022
Time: 1hr. 45 min.

Roll No.:.....
M.M : 40

All the questions are compulsory

SECTION-A

1. Can $(x^2 - 2)$ be the remainder on division of a polynomial $p(x)$ by $(2x + 3)$? Justify your answer. (1)
2. How many solutions does the pair of equations $y = 0$ and $y = -5$ have? (1)
3. If α and β are the zeroes of a polynomial such that $\alpha + \beta = -6$ and $\alpha\beta = 5$, then find the polynomial. (1)
4. $7x - 5y - 4 = 0$ is given. Write another linear equation, so that the lines represented by the pair are parallel. (1)
5. Which of the following is not the graph of quadratic polynomial? (1)



2

3

6. Find whether the following pair of linear equations is consistent or inconsistent: (1)
- $$3x + 2y = 8$$
- $$6x - 4y = 9$$
7. If $x^3 + 11$ is divided by $x^2 - 3$, then what is the degree of remainder. (1)

SECTION-B

8. If α and β are the zeroes of the polynomial $6y^2 - 7y + 2$, find a quadratic polynomial whose zeroes are $1/\alpha$ and $1/\beta$. (2)
9. Solve by elimination:
 $3x - y - 7 = 0$
 $2x + 5y + 1 = 0$ (2)
10. Show that $1/2$ and $-3/2$ are the zeroes of the polynomial $4x^2 + 4x - 3$ and verify the relationship between zeroes and coefficients of polynomial. (2)
11. For what value of k , the pair of equations $4x - 3y = 9$, $2x + ky = 11$ has no solution? (2)
12. Find the zeroes of the quadratic polynomial $\sqrt{3}x^2 - 8x + 4\sqrt{3}$. (2)

SECTION-C

13. Draw the graphs of following equations:
 $2x - y = 1$; $x + 2y = 13$; $x = 0$
Shade the triangle formed by the three lines. Write the vertices of the triangles so formed. (5)

14. If a polynomial $3x^4 - 4x^3 - 16x^2 + 15x + 14$ is divided by another polynomial $x^2 - 4$, the remainder comes out to be $px + q$. Find the value of p and q . (5)

15. The sum of a two digit number and the number obtained by reversing the digits is 66. If the digits of the number differ by 2, find the number. (5)

SECTION-D

CASE STUDY I

16. The owner of a taxi company decides to run all the taxis on CNG fuel instead of petrol/diesel. The taxi charges in the city comprises fixed charges together with the charge for the distance covered. For a journey of 13 km, the charge paid is ₹129 and for a journey of 22 km, the charge paid is ₹210.

- Find the fixed charges and the charges per kilometre. (3)
- What will a person have to pay for travelling a distance of 32 km? (1)

CASE STUDY II

17. An asana is a body posture, originally and still a general term for a sitting meditation pose, and later extended in hatha yoga and modern yoga as exercise, to any type of pose or position, adding reclining, standing, inverted, twisting, and balancing poses. In the given figure, one can observe that poses can be related to representation of quadratic polynomial.

