

M - 76

SUMMATIVE ASSESSMENT - I - OCTOBER 2019

MATHEMATICS - Paper I

(English Version)

PART - A & B

(Max.Marks: 40)

[Time: 2.45 Hrs.]

IX Class]

Marks : 35]

Part - A

[Time: 2:15 Hrs

General Instructions :

- i) Answer all the questions in separate answer sheet.*
- ii) 15 minutes time is allotted to read the question paper thoroughly and 2.30 hrs. for writing answers.*
- iii) In Section - III, every question has an internal choice, answer any one alternative.*
- iv) Write answers to the multiple choice questions (Section - IV) in this answer booklet only.*

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Section - I

I i) Answer all the following questions.

ii) Each question carries 1 mark.

7x1=7

1. Find the value of $(16)^{\frac{3}{4}}$.
2. Write a rational number between $\frac{1}{2}$ and $\frac{3}{4}$.
3. If $p(x) = 5x^2 - 3x + 7$, then find $p(1)$.
4. Show that $x = 2, y = 5$ is a solution of $4x - y - 3 = 0$.
5. Simplify $\sqrt[3]{2} \times \sqrt[3]{32}$.
6. Factorize $x^2 - 16$.
7. Write the degree of the polynomial $p(x) = (x^7 + 3x^5 + 4x^8 + x^2 + 7) \cdot (x^2)$.

[Turn Over]

Section - II

i) Answer all the questions.

ii) Each question carries 2 marks.

6x2=12

8. Express $1.252525.....$ in the form $\frac{p}{q}$, where 'p' and 'q' are integers and $q \neq 0$.
9. Find the remainder when $4x^3 - 3x^2 + 4x - 2$ is divided by $(x-2)$.
10. Find the value of b, if $x = 5$, $y = 0$ is a solution of the equation $3x + 5y = b$.

11. Give possible expression for the length, breadth and height of cuboid whose volume is $x^3 - 6x^2 + 8x$.
12. $\frac{9}{30}$ is a terminating decimal? Justify your answer.
13. Give an example of two irrational numbers whose quotient is a rational number.

Section - III

i) Answer all the questions using Internal Choice.

ii) Each question carries 4 marks.

14. A) Visualise $4.\overline{26}$ on the number line upto 4 decimal using successive magnification.

(or)

- B) Draw the graph of $y = x$ and $y = -x$ in the same graph. Also find the coordinates of the point where the two lines intersect.

[Contd...on 3rd page]

15. A) If $\frac{4-3\sqrt{5}}{4+3\sqrt{5}} = a+b\sqrt{5}$, then find the value of 'a' and 'b'.

(or)

B) The polynomial $p(x) = x^4 - 2x^3 + 3x^2 - ax + 3a - 7$ is divided by $(x-1)$ leaves the remainder 19. Find the value of 'a'.

16. A) Factorise $9x^3 - 27x^2 - 100x + 300$ if it is given that $(3x + 10)$ is a factor of it.

(or)

B) If $x + y = 12$ and $xy = 27$, then find the value of (i) $x^2 + y^2$
ii) $x^3 + y^3$.

17. A) If $x + y + z = 6$ and $xy + yz + zx = -12$, then prove that $x^3 + y^3 + z^3 = 3xyz$.

(or)

B) Prove that
$$\frac{(a^2-b^2)^3 + (b^2-c^2)^3 + (c^2-a^2)^3}{(a-b)^3 + (b-c)^3 + (c-a)^3} = (a+b)(b+c)(c+a).$$

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