

SUMMATIVE ASSESSMENT - I - DECEMBER 2021
MATHEMATICS - Paper I
(English Version)

PART - A & B

IX Class]**(Max.Marks: 40)****[Time: 2.45 Hrs.****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.*

Section - I

I i) Answer all the following questions.**ii) Each question carries 1 mark.****7x1=7**

1. Find the value of $32^{\frac{1}{5}}$.
2. Find the value of the polynomial $7x-3x^2+5$ at $x=-2$.
3. Shireesha said "the number $\sqrt{50}$ is an irrational number." Do you agree with her ? Justify your answer.
4. Find possible length and breadth of the rectangle whose area is given by the expression x^2+6x+8 .
5. Explain with an example for "sum of a rational number and an irrational number is irrational."
6. Evaluate 101×99 without actual multiplication.
7. Locate $\sqrt{2}$ on the number line.

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Section - II

I. i) Answer all the questions.

ii) Each question carries 2 marks.

6x2=12

8. Rationalise the denominator of $\frac{1}{7-4\sqrt{3}}$.
9. Divide the polynomial $4x^4-3x^3-2x^2+x-7$ by $x-1$.
10. Manoj says that 'the polynomials x^2+3x+2 and x^2+6x+5 have common factor.' Do you agree with him? Justify your answer.
11. Express the decimal number $5.\bar{2}$ in the form of $\frac{p}{q}$.
12. The cost of a ball is Rs. 20 and a bat is Rs. 50. Srividya pays Rs. 500 for the balls and bats she purchased. Express the statement as a linear equation in two variables.
13. Write all the possible polynomial expressions for the dimensions of the cuboid whose volume is x^3-4x .

Section - III

II. i) Answer all the questions using internal choice.

ii) Each question carries 4 marks.

4x4=16

14. A) If $\frac{3+\sqrt{2}}{3-\sqrt{2}} = a + b\sqrt{2}$, then find the values of 'a' and 'b'.

(or)

B) Simplify : $\frac{1}{7+4\sqrt{3}} + \frac{1}{2+\sqrt{5}}$

[Contd...on 3rd page]

15. A) If $a + b + c = 9$ and $ab + bc + ca = 26$, find $a^2 + b^2 + c^2$.

(or)

B) Factorise : $x^3 - 23x^2 + 142x - 120$.

16. A) Show that $(x + 4)$, $(x - 3)$ and $(x - 7)$ are the factors of $x^3 - 6x^2 - 19x + 84$.

(or)

B) If the polynomials $3x^3 + ax^2 + 3x + 5$ and $4x^3 + x^2 - 2x + a$ leaves the same remainder when divided by $(x - 2)$, then show that the value of $a = -1$.

17. A) Visualise 6.3454 on the number line, by successive magnification method.

(or)

B) Draw the graph of linear equation $3x + 2y = 6$.

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