

MATHEMATICS

CCE PROCEDURE

1. **SUBJECT : MATHEMATICS**
2. **CLASS : IX**
3. **PAPERWISE SYLLABUS**

PAPER-I

1. **Real Numbers (June)**
2. **Polynomials (July)**
3. **Elements of Geometry (Aug)**
4. **Lines and angles (Sept)**
6. **Linear Equations in two variables (Oct)**
10. **Surface Areas and Volumes (Nov)**
15. **Proofs in Mathematics (Mar)**

PAPER-II

5. **Coordinate Geometry (Aug)**
7. **Triangles (Sept)**
9. **Statistics (July)**
8. **Quadrilaterals (Nov)**
14. **Probability (Dec)**
11. **Areas (Jan)**
12. **Circles (Feb)**
13. **Constructions (Feb)**

4. **Paperwise, Academic Standardwise weightage :**

Academic Standards	Weightage	Marks
Problem Solving	40%	16
Reasoning & Proof	20%	8
Communication	10%	4
Connection	15%	6
Representation & Visualisation	15%	6
	100%	40

Note : These weightages are fixed for every exams.

BLUE - PRINT

Sub : Mathematics

PAPER-I

Class : IX

Academic Standard / Types of Questions	Essay	SA	VSA	MCQ	Total
PS	2 (4)	2 (2)	1 (1)	$6 \left(\frac{1}{2} \right)$	11 (16)
R & P	1 (4)	1 (2)	-	$4 \left(\frac{1}{2} \right)$	6 (8)
Comm	-	1 (2)	1 (1)	$2 \left(\frac{1}{2} \right)$	4 (4)
Conn	-	1 (2)	2 (1)	$4 \left(\frac{1}{2} \right)$	7 (6)
Rep & Vs	1 (4)	-	-	$4 \left(\frac{1}{2} \right)$	5 (6)
Total	4 (4)	5 (2)	4 (1)	$20 \left(\frac{1}{2} \right)$	33 (40)

MODEL PAPER

SUMMATIVE ASSESSMENT

Sub : Mathematics - PART-A

[illegible]

MODEL PAPER

SUMMATIVE ASSESSMENT

Sub : Mathematics - PART-B

Academic Standard	AS-I						AS-II				AS-III		AS-IV				AS-V				Total
Q.No.	14	15	17	26	31	32	18	23	24	27	16	19	22	28	19	30	20	21	25	33	20
Marks																					

MODEL QUESTION PAPER

SUMMATIVE ASSESSMENT-3

Time : 2 hrs. 45 min

Parts - A & B

Max. Marks : 40

Time : 2 hrs. 15 min

PART - A

Max. Marks : 30

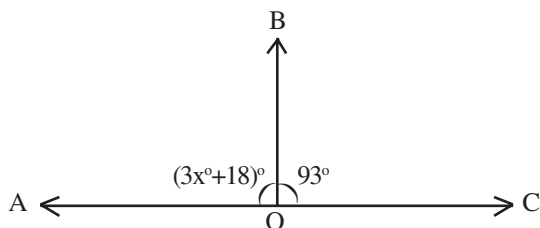
- Instructions :**
1. Read all the questions.
 2. Part-A answers should be written in separate answer book.
 3. There are three sections in Part-A.
 4. Answer all questions.
 5. Every answer should write visibly and neatly.
 6. There is internal choice in Section-III.

SECTION - I

4x1 = 4 marks

- Note :**
1. Answer all the questions.
 2. Each question carries 1 mark.

1. Express $\frac{-25}{36}$ as decimal number
2. Find the value of 'x' in the figure



3. What is the ratio of surface area of sphere and hemisphere ?
4. Express the below statement in a linear equation in two variables.
i) The sum of the two numbers is 24.

SECTION - II

5x2 = 10 marks

- Note :** 1. Answer all the questions.
2. Each question carries 2 marks.

5. Express $1.\overline{25}$ in the $\frac{p}{q}$ form where $q \neq 0$, p and q are integers.
6. Verify whether 2 and 1 are zeroes of polynomial $x^2 - 6x + 8$.
7. What are the possible polynomial expressions for the dimensions of the cuboid whose volume is $2x^2 - 8x$?
8. Find two rational numbers between 0.5 and 0.55
9. Find the remainder when $x^3 + 1$ divided by $(x+1)$, by division method.

SECTION - III

4x4 = 16 marks

- Note :** 1. Answer all the questions.
2. Each question carries 4 marks.

10. Visualise the representation of $2.\overline{67}$ on the number line through successive magnification upto four decimal places.

(or)

Draw the graph of the equation

$$x + 2y = 5$$

From the graph find

- (i) the solution of (x, y) where $x = 3$
- (ii) the solution of (x, y) where $y = 0$

11. Verify that $x^3 + y^3 + z^3 - 3xyz =$

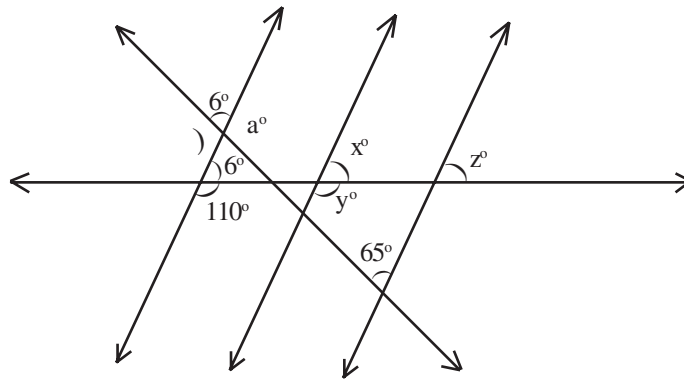
$$= \frac{1}{2}(x+y+z)\left[(x-y)^2 + (y-z)^2 + (z-x)^2\right]$$

(or)

Prove that the product of two odd natural numbers is odd.

12. A conical tent was erected by army at a base camp with height 3m. and base diameter 8m. Find
 - (i) The cost of canvas required for making the tent, if the canvas cost Rs. 0.70 per one sq.m. can be seated in the tent ?

(or)



In the above figure, find the value of x , y , z and a , b , c .

13. The volume of a cylinder is 308 cm^3 . Its height is 8 cm. Find its lateral surface area and total surface area.

(or)

Simplify $4\sqrt{81} - 8.3\sqrt{343} + 15.5\sqrt{32} + \sqrt{225}$

MODEL QUESTION PAPER

SUMMATIVE ASSESSMENT-3

Time : 2 hrs. 45 min

Parts - A & B

Max. Marks : 40

Time : 30 min

PART - B

Max. Marks : 10

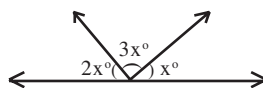
- Instructions :**
1. Answer all the questions in Part-B
 2. Each question has 4 options. Write the capital letter indicating the answer in the given brackets.
 3. Marks are not awarded for overwriting answers.
 4. All questions carry equal marks.

IV. Each question carries 1/2 mark.

20x1/2 = 10 marks

14. $5\sqrt{32^2} = \dots\dots\dots$ []
 A) 2 B) 4 C) 6 D) $\frac{1}{2}$
15. Rationalising factor of $\sqrt{5} + \sqrt{6}$ is []
 A) $\sqrt{5} - 6$ B) $5 - \sqrt{6}$ C) $\sqrt{5} - \sqrt{6}$ D) $5 + \sqrt{6}$
16. Express 3.25 in the form of $\frac{p}{q}$ []
 A) $\frac{13}{4}$ B) $\frac{65}{2}$ C) $\frac{13}{40}$ D) $\frac{13}{20}$
17. The value of $p(t) = 5t^2 - 6t + 7$ at $t = -1$ []
 A) -18 B) 16 C) 18 D) -16
18. The identity used in simplifying 101×99 is []
 A) $(a+b)^2 \equiv a^2 + 2ab + b^2$ B) $(a-b)^2 \equiv a^2 - 2ab + b^2$
 C) $(a+b)(a-b) \equiv a^2 - b^2$ D) $(x+a)(x+b) = x^2 + (a+b)x + ab$
19. The number of zeroes of a polynomial of degree 'n' will have []
 A) n-1 B) n+1 C) 0 D) n
20. Which of the following represents a ray []
 A) \overline{AB} B) \overrightarrow{AB} C) \overleftrightarrow{AB} D) AB
21. How many dimensions a solid has []
 A) 4 B) 3 C) 2 D) 1

22. Find the value of 'x°' in the adjacent figure



[]

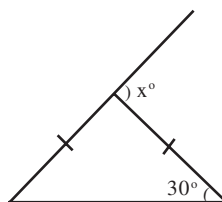
A) \overline{AB}

B) \overline{AB}

C) \overline{AB}

D) AB

23. Find the value of 'x' in the adjacent figure



[]

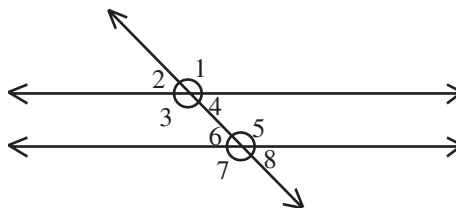
A) 120°

B) 240°

C) 60°

D) 90°

24. In the adjacent figure $l \parallel m$ and then the reason for $\angle 1 - \angle 7$ these are angles.



[]

A) adjacent

B) vertically opposite

C) alternate exterior

D) alternate interior

25. $2015x + 2016y = 4031$ represents a

[]

A) straight line

B) parabola

C) curved line

D) circle

26. If (2, 2) is a solution of $3x + ay = 8$, find 'a'

[]

A) 2

B) 0

C) 6

D) 1

27. The sum of the integers from -2015 to 2015 is

[]

A) 0

B) 4030

C) 1

D) 2015

28. A rectangle of length 44 cm is folded along with its breadth and formed a cylinder then radius of the cylinder is cm.

[]

A) 44

B) 22

C) 7

D) 11

29. The ratio of volumes of cylinder and cone having same radii and heights is

[]

A) 1:3

B) 3:1

C) 1:2

D) 2:1

30. Find curved surface area of a cylinder having $r = x$ cm, $h = y$ cm is sq.cm.

[]

A) $2\pi x(x + y)$

B) $\pi x^2 y$

C) πxy

D) $2\pi xy$

31. Product of first three consecutive odd natural number is

[]

A) 15

B) 9

C) 0

D) 105

32. If $x = 2$ then find the value of $(x+5)(x+2)$

[]

A) 28

B) 40

C) 20

D) $x^2 + 7x + 10$

33. Which of the following figure represents on $\frac{1}{3}$ on number line

[]

