

FORMATIVE ASSESSMENT-IV

Model paper (2024-25)

MATHEMATICS

(English Medium)

Class:IX

Max.Marks:35

Time:1hour15 Min.

35

Name of the student:.....Roll No.:.....

I. Answer the following in word or one phrase

1. In a Area of triangle  $= \sqrt{s(s-a)(s-b)(s-c)}$ ,  $s$  is a \_\_\_\_\_
2. A Cone and Cylinder have same base radius and height then ration of their volumes is \_\_\_\_\_  
A) 2 : 3                      B) 1: 3                      C) 3 : 4                      D) 1 : 1
3. Find the class mark of class interval 11 – 40
4. If TSA of Sphere is 64 cubic cm then find the TSA of Hemi sphere.
5. In a histogram, the length of each rectangle is Proportional to [       ]  
(A) the class mark of the corresponding.  
(B) the class size of the corresponding class interval.  
(C) cumulative frequency of the corresponding class interval.  
(D) frequency of the corresponding class interval.
6. Match the following  

Solid	CSA
i) Cone	(a) $2\pi rh$
ii) Sphere	(b) $4\pi r^2$
iii) Cylinder	(c) $\pi rl$
(A) i→a, ii→b, iii→c	(B) i→c, ii→b, iii→a
(C) i→c, ii→a, iii→b	(D) i→a, ii→c, iii→b

7 Assertion : a cone is solid figure

Reason : a cone is generated when rectangular sheet is rotated about its axi

- A) Both Assertion and Reason are correct and Reason is the correct explanation for Assertion.
- B) Both Assertion and Reason are correct and Reason is not the correct explanation for Assertion.

C) Assertion is true but the reason is false.

D) Assertion is false but the reason is true.

## II. Solve the following problems.

$$6 \times 2 = 12$$

8. Find the amount of water displaced by a solid spherical ball of diameter 28 cm

9. Draw a rough figure of Hemi sphere with base radius r cm.

10. If slant height of cone is 21 m and radius of its base is 12 m then find its height.

11. A family with a monthly income of ₹ 20,000 had planned the following expenditures per month under various heads:

Heads	Expenditure (in thousand rupees)
Grocery	4
Rent	5
Education of children	5
Medicine	2
Fuel	2
Entertainment	1
Miscellaneous	1

(i) Find the total expenditure for Medicine and Fuel.

(ii) Find the ratio of expenditures Grocery and Medicine.

12. Two sides of triangle are 8 cm and 11 cm and the perimeter is 32 cm then find the third side of it.

13. A right triangle ABC with sides 5 cm, 12 cm and 13 cm is revolved about the side 12 cm. Find the slant height and diameter of the solid so obtained.

## IV. Solve the following problems.

$$2 \times 4 = 8$$

14. The sides of a triangular plot are in the ratio of 3 : 5 : 7 and its perimeter is 300 m. Find its area.

15. A joker's cap is in the form of a right circular cone of base radius 7 cm and height 24 cm. Find the area of the sheet required to make 10 such caps.

## VI. Solve the following problem.

$$1 \times 8 = 8$$

16) (a) The following table gives the distribution of students of two sections according to the marks obtained by them:

Section A		Section B	
Marks	Frequency	Marks	Frequency
0 - 10	3	0 - 10	5
10 - 20	9	10 - 20	19
20 - 30	17	20 - 30	15
30 - 40	12	30 - 40	10
40 - 50	9	40 - 50	1

Represent the marks of the students of both the sections on the same graph by two frequency polygons. From the two polygons compare the performance of the two sections.

**or**

- 16 (b) A dome of a building is in the form of a hemisphere. From inside, it was white-washed at the cost of ₹ 4989.60. If the cost of white-washing is ₹ 20 per sq.m , find the (i) inside surface area of the dome, (ii) volume of the air inside the dom.