INDIAN SCHOOL SOHAR **SET II**

PERIODIC TEST II (2023-2024)

CLASS: VIII **MATHEMATICS** **MAX. MARKS: 20**

DATE: 15/01/2024 **TIME: 40 MINUTES**

General Instructions:

1. This question paper contains four sections A, B, C and D. Each section is compulsory. However, there are internal choices in some questions.
2. Section A has 4 MCQ and 1 Assertion-Reason based questions of 1 mark each.
3. Section B has 2 Very Short Answer (VSA)-type questions of 2 marks each.
4. Section C has 2 Short Answer (SA)-type questions of 3 marks each.
5. Section D has 1 Long Answer (LA)-type question of 5 marks .

SECTION – A [This section comprises of multiple choice questions (MCQ) of 1 mark each]	
1.	The product of 2xy and x + y is A) $2x^2y + 2xy^2$ B) $x + 2xy^2$ C) $2x^2y^2$ D) $2x^2y + y$
2.	The area of a rectangle whose length = 5xy and breadth = 3yz is A) 15xyz B) $15y^2$ C) $15xy^2z$ D) 15xz
3.	The lateral surface area of a cube of side 11cm is A) 363 cm^2 B) 484 cm^2 C) 242 cm^2 D) 121 cm^2
4.	The area of a rhombus whose diagonals are 10cm and 24cm is A) 960 cm^2 B) 480cm^2 C) 240cm^2 D) 120cm^2
5.	A statement of assertion is followed by a statement of reason. Choose the correct option. **Assertion (A) : Volume of a cube of side 11cm is 1331cm^3.** **Reason (R) : Volume of a cube of side a is 6a^2.** A) Both **Assertion** and **Reason** are true, and **Reason** is the correct explanation for **Assertion**. B) Both **Assertion** and **Reason** are true, but **Reason** is not the correct explanation for **Assertion**. C) **Assertion** is true, but **Reason** is false. D) **Assertion** is false, but **Reason** is true.
SECTION – B [This section comprises of very short answer type questions (VSA) of 2 marks each]	
6.	A right circular cylinder has base radius 8cm and height 35cm. Find the curved surface area of the cylinder. $\left[\pi = \frac{22}{7}\right]$

7.	Find the product (3abc) ($4a^2bc^2$) ($5ab^2c$) **OR** Simplify a(b – c) + b(c – a) + c (a – b)
SECTION – C [This section comprises of short answer type questions (SA) of 3 marks each]	
8.	A cuboid is of dimensions 75cm x 60cm x 50cm. How many small cubes with sides 5cm can be placed in the given cuboid? **OR** A rectangular piece of paper 33cm x 16 cm is folded without overlapping to make a cylinder of height 16cm. Find the volume of the cylinder. $\left[\pi = \frac{22}{7}\right]$
9.	Simplify ($x – y$) ($x^2 + xy + y^2$)
SECTION – D [This section comprises of long answer type question (LA) of 5 marks]	
10	The internal measures of a cuboidal room are 12m x 8m x 4m. Find the total cost of painting all four walls and the ceiling of the room at the rate of ₹ 50 per m^2. **OR** Simplify 3y(2y – 7) – 3(y – 4) – 60 and evaluate for y = (–2) and y = 2

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PERIODIC TEST II (2023-24)

MATHEMATICS

ANSWER KEY

Q. No.	Answers	MARKS
1)	A) $2x^2y + 2xy^2$	1
2)	C) $15xy^2z$	1
3)	B) 484 cm^2	1
4)	D) 120cm^2	1
5)	C) **Assertion** is true, but **Reason** is false.	1
6)	r = 8cm h = 35cm CSA = $2\pi rh$ = $2 \times \frac{22}{7} \times 8 \times 35$ = 1760 cm^2	 ½ 1 ½
7)	(3abc) ($4a^2bc^2$) ($5ab^2c$) = 3 x 4 x 5 x a x a^2 x a x b x b x b^2 x c x c^2 x c = 60 $a^4b^4c^4$ **OR** a(b – c) + b(c – a) + c (a – b) = ab – ac + bc – ab + ac – bc = 0	1 1 1 1
8)	No. of cubes = $\frac{V\ (Cuboid)}{V\ (Cube)}$ = $\frac{l \times b \times h}{a^3}$ = $\frac{75 \times 60 \times 50}{5 \times 5 \times 5}$ = 1800	 1 1 1

	OR l = 33 cm b = 16 cm C = length of the paper $2\pi r = 33$ $r = \frac{21}{4}$ $V = \pi r^2 h$ $= \frac{22}{7} \times \frac{21}{4} \times \frac{21}{4} \times 16$ $= 1386\ cm^3$	 ½ 1 ½ ½ ½
9)	$(x - y)(x^2 + xy + y^2) = x^3 + x^2y + xy^2 - x^2y - xy^2 - y^3$ $= x^3 - y^3$	2 1
10)	$A = 2h(l + b) + lb$ $= 2 \times 4 (12 + 8) + 12 \times 8$ $= 2 \times 4 \times 20 + 96$ $= 256\ m^2$ Cost of painting = 256 x 50 = ₹ 12800 **OR** $3y(2y - 7) - 3(y - 4) - 60 = 6y^2 - 21y - 3y + 12 - 60$ $= 6y^2 - 24y - 48$ For y = (–2), $6y^2 - 24y - 48 = 6 \times (-2)^2 - 24 \times (-2) - 48$ $= 24 + 48 - 48$ $= 24$ For y = 2, $6y^2 - 24y - 48 = 6 \times (2)^2 - 24 \times 2 - 48$ $= 24 - 48 - 48$ $= (-72)$	1 1 1 1 1 1 1 ½ ½ ½ ½ ½