



**INDIAN SCHOOL SOHAR**  
**PERIODIC ASSESSMENT – 1**  
**MATHEMATICS**

Class: IX

MAX. MARKS: 15

Date: 12-05-2019

DURATION: 45 MINS

**General Instructions:**

- a. All questions are compulsory.*  
*b. Section A comprises 1 question of 1 mark, Section B comprises 2 questions of 2 marks each, Section C comprises 2 questions of 3 marks each and Section D comprises 1 question of 4 marks.*

## SECTION A

1. Find the value of  $(343)^{\frac{-1}{3}}$

## SECTION B

2. Express  $3.42\bar{5}$  in the form  $p/q$ , where  $p$  and  $q$  are integers,  $q \neq 0$   
 3. Find the remainder when  $x^4 + x^3 - 2x^2 + x + 1$  is divide by  $(x - 1)$

OR

Using factor theorem, show that  $(2x + 1)$  is a factor of  $2x^3 + 3x^2 - 11x - 6$

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- c. All questions are compulsory.*  
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## SECTION A

1. Find the value of  $(216)^{\frac{-1}{3}}$

## SECTION B

2. Express  $0.12\bar{3}$  in the form  $p/q$ , where  $p$  and  $q$  are integers,  $q \neq 0$   
 3. Find the remainder when  $x^3 - px^2 + 6x - p$  is divided by  $(x - p)$

OR

Using factor theorem, show that  $(2x + 1)$  is a factor of  $2x^3 + 3x^2 - 11x - 6$

**SECTION C**

4. Write the following in the ascending order of their magnitude:  $\sqrt[4]{3}, \sqrt[3]{2}, \sqrt[3]{4}$

5. Show that  $\frac{1}{1+\sqrt{2}} + \frac{1}{\sqrt{3}+\sqrt{2}} = -1 + \sqrt{3}$ .

OR

If  $\frac{3+\sqrt{7}}{3-\sqrt{7}} + \frac{3-\sqrt{7}}{3+\sqrt{7}} = a + b\sqrt{7}$ , find the values of "a" and "b".

**SECTION D**

6. Factorize:  $3x^3 - 4x^2 - 12x + 16$

OR

If the polynomial  $ax^3 + 3x^2 - 13$  and  $2x^3 - 5x + a$  when divided by  $(x - 2)$  leave the same remainder in each case, find the value of a.

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**SECTION C**

4. Write the following in the ascending order of their magnitude:  $\sqrt[4]{3}, \sqrt[3]{2}, \sqrt[3]{4}$

5. Simplify:  $\frac{1}{1+\sqrt{2}} + \frac{1}{\sqrt{3}+\sqrt{2}}$

OR

If  $\frac{2+\sqrt{3}}{2-\sqrt{3}} + \frac{2-\sqrt{3}}{2+\sqrt{3}} = a + b\sqrt{3}$ , find the values of "a" and "b".

**SECTION D**

6. Factorize:  $x^3 - 23x^2 + 142x - 120$

OR

If the polynomial  $ax^3 + 3x^2 - 3$  and  $2x^3 - 5x + a$  when divided by  $(x - 4)$  leave the same remainder in each case, find the value of a.

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