INDIAN SCHOOL SOHAR SET I

PERIODIC TEST- I (2023-24)

MATHEMATICS

CLASS: X **MAX. MARKS: 20**

DATE: 24/05/23 **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 MCQs and 1 Assertion-Reason based question of 1 mark each.
3. Section B has 2 Very Short Answer (VSA)-type questions of 2 mark each.
4. Section C has 2 Short Answer (SA)-type questions of 3 mark each.
5. Section D has 1 Long Answer (LA)-type question of 5 marks.

	SECTION – A **(Multiple Choice Questions) Each question carries 1 mark**
1.	If $x = 2^3 \times 3 \times 5^2$, $y = 2^2 \times 3^3$ then HCF (x, y) is (a) 36 (b)6 (c)108 (d) 12
2.	If the HCF of 85 and 153 is expressible in the form 85m – 153, then the value of m is (a) 1 (b) 4 (c) 3 (d) 2
3.	If – 4 is a zero of the polynomial $x^2 - x - (2 + 2k)$, then find the value of "k" (a) 3 (b) 9 (c) 6 (d) - 9
4.	The graph of the polynomial p(x) cuts the x-axis 5 times and touches it 3 times. The number of zeroes of p(x) is (a) 5 (b) 3 (c)8 (d) 2
5.	Assertion: The HCF of two numbers is 5 and their product is 150, then their LCM is 30 Reason: For any two positive integers a and b, HCF (a, b) + LCM (a, b) = a x b (a) Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion(A). (b) Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A). (c) Assertion (A) is true but reason (R) is false. (d) Assertion (A) is false but reason (R) is true.
	SECTION – B **[This section comprises of very short answer type questions (VSA) of 2 marks each]**
6.	Prove that $2\sqrt{3} - 4$ is an irrational number if $\sqrt{3}$ is irrational. **OR** Explain why 7 × 11 × 13 + 13 is a composite number.
7.	Find a quadratic polynomial whose zeroes are $3 + \sqrt{5}$ and $3 - \sqrt{5}$
	SECTION – C **[This section comprises of short answer type questions (SA) of 3 marks each]**
8.	Find the zeroes of $4\sqrt{3}x^2 + 5x - 2\sqrt{3}$ and verify the relation between the zeroes and coefficients of the polynomial

	OR If α and β are the zeroes of $x^2 + 7x + 12$, then find the value of $\frac{1}{\alpha} + \frac{1}{\beta} - \alpha\beta$
9.	Solve: 148 x + 231 y = 527, 231 x + 148 y = 610
SECTION – D **[This section comprises of long answer type questions (LA) of 5 marks]**	
10.	Places A and B are 100km apart on a highway. One car starts from A and another from B at the same time. If the cars travel in the same direction at different speeds, they meet in 5 hours. If they travel towards each other, they meet in 1 hour. What are the speeds of the two cars? **OR** Six years hence a man's age will be three times his son's age and three years ago, he was nine times as old as his son. Find their present ages.

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INDIAN SCHOOL SOHAR **SET 2**

PERIODIC TEST- I (2023-24)

MATHEMATICS

CLASS: X **MAX. MARKS: 20**

DATE: 24/05/23 **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 MCQs and 1 Assertion-Reason based question of 1 mark each.
3. Section B has 2 Very Short Answer (VSA)-type questions of 2 mark each.
4. Section C has 2 Short Answer (SA)-type questions of 3 mark each.
5. Section D has 1 Long Answer (LA)-type question of 5 marks.

	SECTION – A **(Multiple Choice Questions) Each question carries 1 mark**
6.	The graph of the polynomial p(x) cuts the x-axis 5 times and touches it 2 times. The number of zeroes of p(x) is (a) 5 (b) 7 (c)8 (d) 2
7.	If the HCF of 85 and 153 is expressible in the form 85 n – 153, then the value of “n” is (a) 1 (b) 2 (c) 3 (d) 4
8.	If – 4 is a zero of the polynomial $x^2 – x – (2 + 2p)$, then find the value of “p” (a) 3 (b) - 9 (c) 6 (d) 9
9.	If $p = 2^3 \times 3 \times 5^2$, $q = 2^2 \times 3^3$ then HCF (p, q) is (a) 12 (b)6 (c)108 (d) 36
10	Assertion: The LCM of two numbers is 30 and their product is 150, then their HCF is 5 Reason: For any two positive integers a and b, HCF (a, b) + LCM (a, b) = a x b (c) Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion(A). (d) Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A). (c) Assertion (A) is false but reason (R) is true. (d) Assertion (A) is true but reason (R) is false.
	SECTION – B **[This section comprises of very short answer type questions (VSA) of 2 marks each]**
6.	Explain why 5 x 11 x 17 + 17 is a composite number. **OR** Prove that $2\sqrt{3} + 4$ is an irrational number if $\sqrt{3}$ is irrational.
7.	Find a quadratic polynomial whose zeroes are $4 + \sqrt{5}$ and $4 - \sqrt{5}$
	SECTION – C **[This section comprises of short answer type questions (SA) of 3 marks each]**
8.	If α and β are the zeroes of $x^2 - 2x - 8$, then find the value of $\frac{1}{\alpha} + \frac{1}{\beta} - \alpha\beta$

	OR Find the zeroes of $\sqrt{3}x^2 - 8x + 4\sqrt{3}$ and verify the relation between the zeroes and coefficients of the polynomial
9.	Solve: $139x + 56y = 641$, $56x + 139y = 724$
SECTION – D **[This section comprises of long answer type questions (LA) of 5 marks]**	
10.	Five years hence, the age of Jacob will be three times that of his son. Five years ago, Jacob's age was seven times that of his son. What are their present ages? **OR** Places P and Q are 56 km apart on a highway. One car starts from P and another from Q at the same time. If the cars travel in the same direction at different speeds, they meet in 4 hours. If they travel towards each other, they meet in 1 hour. What are the speeds of the two cars?

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