PM SHRI KENDRIYA VIDYALAYA GAJAPATI

SUBJECT : MATHS　　　　**MONTHLY TEST -1　(2025-26)　Time : 1.5 Hrs**

CLASS: X　　　　　　　　　　　　　　　　　　　　　　　**Max Marks:40**

General Instructions:

1. This Question paper consists of five sections A, B, C, and D . Each section is compulsory. However, there are internal choice given in some questions.
2. Section A has 10 MCQ's of 1 mark each.
3. Section B has 5 Very Short Answer type questions of 2 marks each.
4. Section C has 3 Short Answer (SA) type questions of 3 marks.
5. Section D has 2 Long Answer (LA) type questions of4 and 5 marks each .

SECTION- A

(Multiple Choice Questions: Each question carries 1mark.)

Q1.	If α, β are the zeroes of the polynomial x² – 16, then αβ (α +β) (a) -4　　　　　(b) -16　　　　(c) 0　　　　(d) 16	1
Q2.	If two positive integers a and b are written as $a = x^3y^2$ and $b = xy^3$, where x and y are prime numbers, then the HCF (a, b) is: (a) xy　　　　　(b) xy²　　　　　(c) x³y³　　　　　(d) x²y²	1
Q3.	The HCF of 52 and 130 is (a) 52　　(b) 130　　(c) 26　　　(d) 13	1
Q4.	The prime factorisation of 96 is: (a) $2^5 \times 3$　　(b) 2^6　　(c) $2^4 \times 3$　　　(d) $2^4 \times 32$	1
Q5.	The zeroes of quadratic polynomial $t^2 - 15$ are (a)$\sqrt{15}, -\sqrt{15}$　　(b) $\sqrt{15}, \sqrt{12}$　　(c) $\sqrt{15}, -\sqrt{12}$　　(d) $\sqrt{15}, -15$	1
Q6.	Find the value of k for which the lines $-2x + 5y = 15$ and $-10x - ky = 75$ have infinite number of solutions. (a). 5　　　(b) -5　　　(c) 25　　　　(d) -25	1
Q7.	A quadratic polynomial whose sum and product of zeroes are –5 and 6 is…….. (a) $x^2 - 5x - 6$　(b) $x^2 + 5x - 6$　(c) $x^2 + 5x + 6$　　(d) none of the above.	1
Q8.	The quadratic polynomial whose zeroes are –1 and 1 is (a)$x^2 + 1$ (b) $x^2 - 1$ (c) $x^2 + x$ (d) $x^2 - x$	1

	(b) A and R true but R is not correct explanation of A. (c) A is true but R is false. (d) A is false but R is true.	
Q9.	Assertion (A) : If one zero of the quadratic polynomial $4x^2 - 10x + (k-4)$ is reciprocal of the other, then value of k is 8. Reason (R) : Zeroes of the quadratic polynomial $x^2 - 2x + 1$ are real and equal	1
Q10.	Assertion (A) : $\sqrt{2}(5 - \sqrt{2})$ is an irrational number. Reason (R) : Product of two irrational numbers is always irrational	1
	SECTION –B [This section comprises of very short answer type questions (VSA) of 2 marks each]	
Q11.	Find the LCM and HCF of the following integers by applying the prime factorisation method. 12, 15 and 21	2
Q12.	Express the number as a product of its prime factors: a) 3825 b) 5005	2
Q13.	Explain why 7 × 11 × 13 + 13 is composite number.	2
Q14.	Find a quadratic polynomial, the sum and product of whose zeroes are $\frac{3}{4} and \frac{2}{5}$ respectively.	2
Q15.	Find the zeroes of the quadratic polynomial x^2 + 7x + 10.	2
	SECTION – C [This section comprises of short answer type questions (SA) of 3 marks each]	
Q16.	Find the zeroes of a quadratic polynomial $p(x) = x^2 - 2x - 8$ and verify the relationship between the zeroes and its coefficients.	3
Q17.	Given that $\sqrt{2}$ is irrational, prove that $(5 + 3\sqrt{2})$ is an irrational number.	3
Q18.	For which value of 'k' will the following pair of linear equations have no solution ?. 3x+y=1 and (2k-1)x+(k-1)y=2	3
	SECTION –D [This section comprises of long answer type questions (LA) of 5 marks each]	
Q19.	Find HCF and LCM of 404 and 96 and verify that HCF × LCM = Product of the two given numbers.	4
Q20.	Prove that $\sqrt{5}$ is irrational.	5