

**Pre Board
MT -01**



10th

Syllabus: Mock Test 01 : Ch – Real numbers, Polynomials & System Of Linear Equations In Two Variable

Time: 90 min

Maximum marks :40

INSTRUCTIONS TO THE STUDENTS

1. Read each question carefully .
2. Mark of each question is mention in front of question .
3. Attempt one question in internal choice based question .
4. Use of calculators is not allowed.
5. No negative marking .

SECTION A

(Questions 1 – 10 carry 1 marks)

1	The largest number which divides 70 and 125 , leaving remainder 5 and 8 respectively , (a) 13 (b) 65 (c) 875 (d) 1750	1
2	If α, β be the zeroes of the quadratic polynomial $2 - 3x - x^2$, then $\alpha + \beta =$ (a) 2 (b) 3 (c) 1 (d) none of these	1
3	$2 + \sqrt{8} \div \sqrt{32}$ is (a) a natural number (b) an integral number (c) a rational number (d) an irrational number	1
4	Quadratic polynomial having sum of its zeroes 5 and one of its zeroes -4 is (a) $x^2 + 5x - 4$ (b) $x^2 + 5x + 36$ (c) $x^2 - 5x - 36$ (d) $x^2 - 5x + 4$	1
5	If the square of difference of the zeros of the quadratic polynomial $x^2 + px + 45$ is equal to 144, then the value of p is (a) ± 9 (b) ± 12 (c) ± 15 (d) ± 18	1
6	The LCM of two numbers is nine times their HCF also the sum of LCM and HCF is 500. Then HCF is (a) 90 (b) 70 (c) 50 (d) 40	1
7	If $\text{HCF}(a, b) = 12$ and $a \times b = 1800$, then $\text{LCM}(a, b) =$ (a) 3600 (b) 900 (c) 150 (d) 90	1
8	The least number that is divisible by all the natural numbers from 1 to 10 (both inclusive) is (a) 10 (b) 100 (c) 504 (d) 2520	1
9	The number of polynomials having zeroes as -2 and 5 is (a) 1 (b) 2 (c) 3 (d) more than 3	1
10	Assertion (A): 6^n cannot end with the digit zero, where n is a natural number. Reason (R): Any number ends with the digit zero , if its prime factorization includes $2^m \times 5^n$ where m and n are whole numbers. (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.	1

SECTION B**(Questions 11 – 13 carry 2 marks)**

11	Find the zeroes of the polynomial $\sqrt{5}x^2 - 7x - 6\sqrt{5}$ and verify the relations between the zeroes and the coefficient of the polynomial .	2
12	If α and β are the zeroes of the polynomial $3x^2 + 5x + 7$, find the quadratic polynomial whose zeroes are $\frac{\alpha}{\beta^2}$ and $\frac{\beta}{\alpha^2}$. Or If 1 is a zero of the polynomial $p(x) = ax^2 - 3(a-1)x - 1$, then find the value of a and also the zero of the polynomial .	2
13	Solve the following pair of linear equations for x and y. $mx - ny = m^2 + n^2$ $x + y = 2m$	2

SECTION C**(Questions 14 – 15 carry 3 marks)**

14	A and B each has a certain number of mangoes. A says to B “If you give 30 of your mangoes, I will have twice as many as left with you”. B replies “If you give me 10, I will have thrice as many as left with you.” How many mangoes does each have? Or In $\triangle ABC$, $\angle A = x^\circ$, $\angle B = (3x)^\circ$ and $\angle C = y^\circ$. If $3y - 5x = 30^\circ$, show that the triangle is a right angled triangle.	3
15	Prove that $7 - 2\sqrt{3}$ is an irrational number.	3

SECTION D**(Questions 16 – 17 carry 5 marks)**

16	If α and β are the zeroes of the quadratic polynomials $f(x) = 3x^2 - 7x - 6$, find a polynomial k whose zeroes are (i) α^2 and β^2 (ii) $2\alpha + 3\beta$ and $3\alpha + 2\beta$	5
17	A train covered a certain distance at a uniform speed . If the train would have been 6km/h faster , it would have taken 4 hours less than the scheduled time and if the train were slower by 6km/h , it would have taken 6 hours more than the scheduled time. Find the length of the journey .	5

SECTION E**(Questions 18 – 19 carry 4 marks)**

18	Khushi wants to organize her birthday party. She is very health conscious: thus, she decided to serve only fruits at the party. She has 36 apples and 60 bananas at home and decided to serve them. She does not want to discriminate among guests so she decided to distribute the fruits equally among all. Based on the above information and answer the following questions (i) How many guests khushi can invite at the most? (ii) How many apples and bananas will each guest get? (iii) (a) If she decided to add 42 mangoes, how many maximum guests can she invite? OR (b) If she decided to add 3 more bananas and remove 6 apples, how many maximum guests can she invite?		4
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19	Essel world is one of India's largest amusement parks that offer a diverse range of thrilling rides, water attractions and entertainment options for visitors of all ages. The park is known for its iconic "water kingdom" section, making it a popular destination for family outings and fun – filled adventure. The ticket charges for the park are Rs 150 per child and Rs250 per adult. On a day, the cashier of the park found that 300 tickets were sold and an amount of Rs 55,000 was collected . Based on the above , answer the following questions : (i) If the number of children visited be x and the number of adults visited be y , then write the given situation algebraically. (ii)(a) How many children visited the amusement park that day? OR (b) How many adults visited the amusement park that day? (iii) How much amount will be collected if 250 children and 100 adults visit the amusement park?	4
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