TEST-3
Syllabus:

(Ch# 5,6,16, (Theorem #-1,2,3) SQ-13,15,16 Define of these chapter.

MATHEMATICS (SCIENCE) -2020- (9TH CLASS) PAPER: II (OBJECTIVE TYPE)
TIME ALLOWED: 15 Min **Marks: 15**

Note: Four possible answers A, B, C and D to each question are given. The choice which you think is correct fill that circle in front of that question with marker or Pen ink in the answer-book. Cutting or filling two or more circle will result in zero mark in that question.

1.1 What will be added to complete the square of $9a^2 - 12ab$?
A. $-16b^2$ B. $16b^2$ C. $4b^2$ D. $-4b^2$

2. Factorise of $x^2 - 5x + 6$:
(A) x + 1 , x – 6 (B) x – 2 , x – 3 (C) x + 6 , x – 1 (D) x + 2 , x + 3

3. What will be added to complete the square of $9a^2 - 12$ ab?
(A) $4b^2$ (B) 16 a^2 (C) $-16b^2$ (D) $-4b^2$

4. Find m so that $x^2 - 4x + m$ is a complete square.
(A) 8 (B) – 8 (C) 4 (D) 16

5. The factors of $5x^2 - 17$ xy $- 12y^2$ are.
(A) (x+4y)(5x+3y) (B) (x-4y)(5x-3y) (C) (x-4y)(5x+3y) (D) (5x-4y)(x+3y)

6. H.C.F. of $5x^2$ y^2 and 20 x^3 y^3 is.
(A) $5x^2y^2$ (B) 20 x^3y^3 (C) 100 x^5y^5 (D) 5xy

7. H.C.F. of (x – 2) and (x^2 + x – 6) is:
(A) x2 + x – 6 (B) x + 3 (C) x – 2 (D) x + 2

8. H.C.F. of $a^3 + b^3$ and $a^2 - ab + b^2$
(A) a+B (B) $a^2 - ab + b^2$ (C) $(a-b)^2$ (D) $a^2 + b^2$

9. The square root of a2 – 2a + 1 is.
(A) ±(a - 1) (B) ±(a + 1) (C) (a - 1) (D) (a + 1)

10. L.C.M of $a^2 + b^2$ and $a^4 - b^4$ is
(A) $a^2 + b^2$ (B) $a^2 - b^2$ (C) a – b (D) $a^4 - b^4$

11. What should be added to complete the square of x^4 +64:
(A) $8x^2$ (B) $-8x^2$ (C) $16x^2$ (D) $4x^2$

12. A triangular _____ is the union of a triangle and its interior.
(A) Region (B) Interior (C) Area (D) Exterior

13. If the length and breadth of a rectangle are 'a' and 'b' then the area will be.
(A) a + b (B) a - b (C) a / b (D) a x b

14. Altitude of any triangle is perpendicular distance from _____ to opposite side.
(A) Vertex (B) Side (C) Midpoint (D) None

15. Congruent figures are _____ in area.
(A) Same (B) Different (C) Empty (D) None

	A B C D		A B C D		A B C D		A B C D		A B C D
1	Ⓐ Ⓑ Ⓒ Ⓓ	4	Ⓐ Ⓑ Ⓒ Ⓓ	7	Ⓐ Ⓑ Ⓒ Ⓓ	10	Ⓐ Ⓑ Ⓒ Ⓓ	13	Ⓐ Ⓑ Ⓒ Ⓓ
2	Ⓐ Ⓑ Ⓒ Ⓓ	5	Ⓐ Ⓑ Ⓒ Ⓓ	8	Ⓐ Ⓑ Ⓒ Ⓓ	11	Ⓐ Ⓑ Ⓒ Ⓓ	14	Ⓐ Ⓑ Ⓒ Ⓓ
3	Ⓐ Ⓑ Ⓒ Ⓓ	6	Ⓐ Ⓑ Ⓒ Ⓓ	9	Ⓐ Ⓑ Ⓒ Ⓓ	12	Ⓐ Ⓑ Ⓒ Ⓓ	15	Ⓐ Ⓑ Ⓒ Ⓓ

نوٹ: معروضی سوال نامے کو توجہ سے پڑھیں اور ہر MCQ کی درست آپشن A,B,C,D کو پین کی سیاہی یا مار کر سے اس طرح پُر کریں کہ سیاہی دائرے سے باہر نہ نکلے۔ ایک سے زیادہ دائروں کو پُر کرنے یا کاٹ کر پُر کرنے کی صورت میں مذکورہ جواب غلط تصور ہوگا۔

TEST-3

Syllabus:

(Ch# 5,6,16, (Theorem #-1,2,3) SQ-13,15,16 Define of these chapter.

MATHEMATICS (SCIENCE) 2020-(9TH CLASS) Paper: (Essay Type)
Time Allowed: 2:10 hours Maximum. Marks:60

(PART – I)

2. Write short answers to any SIX (6) questions: **12**

(i) Define H.C.F.

(ii) Factorize $(x^2-y^2)z+(y^2-z^2)x$.

(iii) Factorize $3x-243x^3$.

(iv) Factorize $x^2-y^2-4xz+4z^2$.

(v) Find H.C.F $102xy^2z, 85x^2yz, 187xyz^2$.

(vi) Find square root by factorization. $(x^2+3x+2)(x^2+4x+3)(x^2+5x+6)$.

(vii) Find square root of $4x^2-12xy+9y^2$.

(viii) Find L.C.M of $x^2-25x+100$ and x^2-x-20.

(ix) The sum of two numbers is 120 and their H.C.F is 12. Find the numbers.

3. Write short answers to any SIX (6) questions: **12**

(i) 3cm, 4cm and 7cm are not the lengths of the triangle. Give reason.

(ii) If 3cm and 4cm are two sides of a right-angle triangle then what should be the third length of the triangle.

(iii) A plane is at height of 300m and is 500m away from the airport. How much distance will it travel to land at airport.

(iv) The three sides of a triangle are of measure 8, x and 17 respectively. For what value of 'x' will it become base of a right triangle.

(v) What is zero of a polynomials?

(vi) Find square root of $4x^4+12x^3+x^2-12x+4$.

(vii) Use remainder theorem to find remainder when $(2x-1)^3+6(3+4x)^2-10$ is divided by $(2x+1)$.

(viii) Find a polynomial $p(x)$ of degree 3 that has 2, -1 and 3 as zeros.

(ix) Determine if $(x-2)$ is a factor of x^3-4x^2+3x+2.

4. Write short answers to any SIX (6) questions: **12**

(i). Factorize $x^2-21x+108$.

(ii) Factorize $3x^2-38xy-13y^2$

(iii) Factorize $(x^2+5x+4)(x^2+5x+6)-3$.

(iv) Factorize $8x^3-125y^3-60x^2y+150xy^2$.

(v) Find remainder when $9x^2-6x+2$ is divided by $(x-3)$.

(vi) Find square root of $4+25x^2-12x-24x^3+16x^4$.

(vii) Define L.C.M.

(viii) Find L.C.M $39x^7y^3$ and $91x^5y^6z^7$

(ix) Simplify $\frac{x^2+x-6}{x^2-x-6} \times \frac{x^2-4}{x^2-9}$.

(PART – II)

Note: Attempt any THREE questions, but question 9 is compulsory.

5. **(a)** The expression $a x^3-9x^2+bx+3a$ is exactly divisible by x^2-5x+6. Find values of 'a' and 'b'. **4**

(b) Simplify $\frac{x^4-8x}{2x^2+5x-3} \times \frac{2x-1}{x^2+2x+4} \times \frac{x+3}{x^2-2x}$.

4

6. **(a)** Factorize $(x+1)(x+2)(x+3)(x+6)-3x^2$. **4**

(b) For what value of 'm' and 'l' the expression $49x^4-70x^3+109x^2+lx-m$ will become a perfect square. **4**

7. **(a)** Factorize the cubic polynomial $3x^3-x^2-12x+4$ by factor theorem. **4**

(b) Simplify $\left(\frac{x^2+y^2}{x^2-y^2}-\frac{x^2-y^2}{x^2+y^2}\right) \div \left(\frac{x+y}{x-y}-\frac{x-y}{x+y}\right)$.

4

8. **(a)** For what value of 'k' is $(x+4)$ the H.C.F of $x^2+x-(2k+2)$ and $2x^2+kx-12$. **4**

(b) In a parallelogram ABCD $m\acute{A}B=10\,cm$. The altitudes corresponding to sides $m\acute{A}B$ and $m\acute{A}D$ are respectively 7cm and 8cm. Find $m\acute{A}D$. **4**

9 **Prove that parallelograms on the same base and between the same parallel lines are equal in area.** **8**

OR

Prove that triangles on the same base and of the same altitudes are equal in area.