TEST-2
Syllabus:

(Ch# 2,4,7.2,11,(SQ) 12(Theorem #-4,5,6) Define Ch. 2,4,11,12)

MATHEMATICS (SCIENCE) -2020 (9TH CLASS) PAPER: II (OBJETIVE TYPE)
TIME ALLOWED: 20 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. Write $4\frac{2}{3}$ *with radical sign*.

(A) $\sqrt[3]{4^2}$ (B) $\sqrt{4^2}$ (C) $\sqrt[2]{4^3}$ (D) $\sqrt{4^6}$

2. Imaginary part of –I (3i + 2) is.

(A) -2 (B) 2 (C) 3 (D) -3

3. $\left(\frac{25}{16}\right)^{-1/2} =$ _____

(A) $\frac{5}{4}$ (B) $+\frac{4}{5}$ (C) $-\frac{5}{4}$ (D) $-\frac{4}{5}$

4. $(27x^{-1}) - ¿^{2/3} ¿ =$ _____

(A) $\frac{\sqrt[2]{x^2}}{9}$ (B) $\frac{\sqrt{x^2}}{9}$ (C) $\frac{\sqrt[2]{x^2}}{8}$ (D) $\frac{\sqrt{x^3}}{8}$

5. If $\sqrt[3]{35}$ the radicand is_____

(A) 3 (B) 1/3 (C) 35 (D) None

6. 4x + 3y – 2 is an algebraic _____

(A) Sentence (B) Expression (C) Equation (D) In Equation

7. The degree of polynomial $4x^4 + 2x^2 y$ is:

(A) 1 (B) 2 (C) 3 (D) 4

8. $(3+\sqrt{2})(3-\sqrt{2})$ is equal to.

(A) 7 (B) -7 (C) -1 (D) 1

9. Conjugate of surd $a+\sqrt{b}$ is.

(A) $-a+\sqrt{b}$ (B) $a-\sqrt{b}$ (C) $\sqrt{a}-\sqrt{b}$ (D) $\sqrt{a}+\sqrt{b}$

10. $\frac{1}{a-b} - \frac{1}{a+b}$ is equal to.

(A) $\frac{2a}{a^2-b^2}$ (B) $\frac{2b}{a^2-b^2}$ (C) $\frac{-2b}{a^2-b^2}$ (D) $\frac{-2a}{a^2-b^2}$

11. $\frac{a^2-b^2}{a+b}$ is equal to.

(A) $(a-b)$ (B) $(a+b)$ (C) $(a+b)^2$ (D) $(a-b)^2$

12. $(\sqrt{a}+\sqrt{b})(\sqrt{a}-\sqrt{b})$ is equal to.

(A) a^2-b^2 (B) a^2+b^2 (C) $a+b$ (D) $a-b$

13. In a parallelogram opposite sides ae.

(A) Opposite direction (B) Un-Parallel (C) Parallel/congruent (D) None of these

14. In parallelogram opposite angles are opposite angles are.

(A) Congruent (B) Parallel (C) concurrent (D) None of these

15. Medians of the triangle are.

(A) parallel (B) Opposite (C) Concurrent (D) Unparallel

	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۔

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Syllabus:

(Ch# 2,4,7.2,11,(SQ) 12(Theorem #-4,5,6) Define Ch. 2,4,11,12)

MATHEMATICS (SCIENCE) -2020- (9TH CLASS) PAPER: II (ESSAY TYPE)
TIME ALLOWED: 2:10 hours Maximum Marks: 60

(PART – I)

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

(i) Express $(2-\sqrt{-4})(3-\sqrt{-4})$ in standar form $a+bi$.

(ii) Express $\frac{2+3i}{4-i}$ in the standard form $a+bi$.

(iii) Evaluate $(-i)^8$

(iv) Simplify: $5^{23}\div(5^2)^3$

(v) Simplify $\sqrt[3]{\frac{-8}{27}}$

(vi) If $x=\sqrt{3}+2$ then find $x+\frac{1}{x}$

(vii) Solve of x. $|2x+5|=11$

(viii) Define Polynomial.

(ix) Factorize. x^3-y^3-x+y.

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

(i) Simplify $\sqrt[5]{243x^5y^{10}z^{15}}$

(ii) Simplify $(\sqrt{x}+\sqrt{y})(\sqrt{x}-\sqrt{y})(x+y)(x^2+y^2)$

(iii) Define rational expression.

(iv) Simplify: $\frac{9x^2-(x^2-4)^2}{4+3x-x^2}$

(v) Define irrational numbers.

(vi) Represent on number line. $-2\frac{5}{8}$

(vii) Evaluate. $\frac{x^3y-2z}{xz}$ for $x=3, y=-1, z=-2$

(viii) Express as rational number $\frac{p}{q}, 0.\dot{2}\dot{3}$

(ix) Simplify. $\frac{x}{x-y}-\frac{y}{x+y}-\frac{2xy}{x^2-y^2}$.

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

(i). Give rational number between $\frac{\frac{3}{4}\wedge 5}{9}$.

(ii) Find solution Set $|x+2|-3=5-|x-2|$

(iii) Define trichotomy and transitive property.

(iv) One angle of a parallelogram is $130°$. Find the measures of its remaining angles.

(v) What is bisector of an angle?

(vi) Solve for real x and y. $(2-3i)(x+yi)=4+i$.

(vii) Show that $\left(\frac{x^a}{x^b}\right)^{a+b}\times\left(\frac{x^b}{x^c}\right)^{b+c}\times\left(\frac{x^c}{x^a}\right)^{c+a}=1$

(viii) If $z=2+i$, then calculate $z-\acute{z}$.

(ix) Simplify $\frac{4(3)^n}{3^{n+1}-3^n}$.

(PART – II)

Note: Attempt any THREE questions in all. But question No. 9 is Compulsory.

5. (a) If $x=\frac{\sqrt{5}-\sqrt{2}}{\sqrt{5}+\sqrt{2}}$, then find value of $x^3+\frac{1}{x^3}$. **4**

(b) Solve for real x and y ,$(3+4i)^2-2(x-yi)=x+yi$. **4**

6. **(a)** Express $2i^2+6i^3+3i^{16}-6i^{19}+4i^{25}$ in standard form $x+yi$. **4**

(b) The distance of the point of concurrency of the medians of the triangle from its vertices are respectively 1.2cm, 1.4cm and 1.6cm. Find the lengths of its medians. **4**

7. **(a)** Simplify $\frac{1}{a-\sqrt{a^2-x^2}}-\frac{1}{a+\sqrt{a^2-x^2}}$. **4**

(b) If $m+n+p=10, mn+np+mp=27$, then find $m^2+n^2+p^2$. **4**

8. **(a)** Simplify $\frac{2^{\frac{1}{3}}\times(27)^{\frac{1}{3}}\times(60)^{\frac{1}{2}}}{(180)^{\frac{1}{2}}\times(4)^{\frac{-1}{3}}\times(9)^{\frac{1}{4}}}$. **4**

(b) If $z=2+3i$ and $w=5-4i$, then show that $z\acute{w}=\acute{z}\,\acute{w}$. **4**

9. **Prove that any point on the bisector of an angle is equidistant from its arms. Prove.** **8**

OR

Prove that "any point inside an angle equidistant from its arms is on the bisector of it".