Zealous International School

Mid-Year Examination 2024-25

Grade: IX

Name																				

(In Block Letters)

Date: _____ **Subject: - MATHS** **Time: 3 Hours** **T. Marks: 100**

Index No				

Instructions

Put your Name and Date at given place.

Read the paper thoroughly and answer those questions first for which you are sure about the answers.

Every question is with different instructions. Focus & follow it.

Don't need to write all the questions. You can put the Question no. put it correctly.

Re check the paper/ answer script after completion.

========== don't write under this line ==========

	SEGMENT A	SEGMENT B	SEGMENT C	Total
Question. No	Q1	Q2 to Q9	Q10 to Q13	
Total. No.	15	30	20	100
Marks Obtained				

Invigilated By _____ **Invigilator's Sign _____**

Checked By _____ **Checker's Sign _____**

Re Checked By _____ **Re Checker's Sign _____**

Objectives (MCQS) **15 Marks**

Section "A"

1. **The additive inverse of $\sqrt{5}$ = _____**

   a) **$-\sqrt{5}$** b) **$-\frac{1}{\sqrt{5}}$** c) **$\frac{1}{\sqrt{5}}$** d) **10i**

2. **$\sqrt{-4}$ x $\sqrt{-4}$ =**

   a) **4** b) **16** c) **2** d) **none**

3. **π is a _____number:**

   a) **Irrational** b) **rational** c) **10.** d) **none**

4. **In triangle ABC, two sides are equal to 4cm it is called _____ triangle.**

   a) **Isosceles triangle** b) **scalene triangle** c) **both a and b** d) **none**

5. **Base in the Natural logarithm is _____**

   a) **10** b) **e** c) **22/7** d) **none**

6. **Factors of $a^2 + 2a – 24$ are:**

   a) **a+4, a-6** b) **a-4, a+6** c) **a+3, a-8** d) **a+8, a-3**

7. **Two perpendicular lines meet at an angle of _____**

   a) **45^0** b) **180^0** c) **90^0** d) **190^0**

8. **A polynomial consisting of three terms is called _____**

   a) **Monomial** b) **Trinomial** c) **Multinomial** d) **no**

9. **Factors of $x^3 + y^3$ is:**

   a) **$(x-y)(x^2+xy+y^2)$** b) **$(x+y)(x^2-xy+y^2)$** c) **$(x+y)(x^2-xy-y^2)$** d) **$(xy)(x^2-xy-y^2)$**

10. **A triangle having all the three sides congruent is called triangles. _____-**

    a) **scalene** b) **congruent** c) **both a and b** d) **none**

11. **If there is no common factor is known in given expression, then HCF is _____**

    a) **0** b) **1** c) **2** d) **3**

12. **The square root of $36a^2-60ab+25b^2$ is _____**

    a) **(6a+b)** b) **(6a-5b)** c) **(6a+6b)** d) **(a+b)**

13. **Diagonals of a square are _____ to each other.**

    a) **Collinear** b) **perpendicular** c) **congruent** d) **Non congruent**

14. **How many acute angles are there in an acute angled triangle?**

    a) **1** b) **2** c) **3** d) **none**

15. **The diagonal of _____ does not divide it into two congruent triangles.**

    a) **Rectangle** b) **Parallelogram** c) **Square** d) **Trapezium**

Subjective **60 Marks**

Section "B"

Note: Attempt and Three (06) questions. All question carries equal marks. (30)

Q2: If Z_1 = -4+6i and $Z_2 = 2\frac{1}{2}$ -2i, Verify that. $\overline{Z_1 + Z_2} = \overline{Z_1} + \overline{Z_2}$

Q3: Find the value of the following by using logarithm.

a) $\frac{(99.87)}{(8.369)\times(0.785)}$

Q4: Factorize: (x+1) (x+2) (x+3) (x+4)-48

Q5: If $\frac{1}{x} = 2\sqrt{28}$ -11, find x (rationalization method)

Q6: Factorize. $\frac{1}{100}x^4 - 100y^4$

Q7: Factorize the following. $a^3b^3 + 27b^6$

Q8: Factorize the following. $d^3 - 6d^2c + 12dc^2 - 8c^3$

Q9: Reduce weather the following into their lowest form. $\frac{3a^2+3ab}{3a^2+6ab+3b^2}$

Section "C"

Note: Attempt and Three (03) questions. All question carries equal marks. (30)

Q10: Find the value of: a^2+b^2 and ab, when a+b = 8 and a-b = 6

Q11: Find the product of: $(c^2 - \frac{1}{c^2})$ $(c^4 - \frac{1}{c^4} + 1)$

Q12: If in the correspondence of two right-angled triangles, the hypotenuse and one side of one triangle are congruent to the hypotenuse and the corresponding side of the other, then the triangles are congruent. (H.S≅H.S).

Q13: In a Parallelogram

- **The opposite's sides are congruent**
- **The opposite's angles are congruent**
- **The diagonals bisect each other**