Zealous International School



Prelim Examination 2023-24

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| Name |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

(In Block Letters)

Date:

Subject: - Math’s Time: 2.5 Hours T.Marks=75

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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===============

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Question No | Section A | Section B | Section c | T.MARKS |
| Total .No | 15 | 36 | 24 | 75 |
| Marks  obtained |  |  |  |  |

Invigilated By Invigilator’s Sign \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Checked By Checker’s Sign \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Re Checked By Re Checker’s Sign \_\_\_\_\_\_\_\_\_\_\_\_\_

# Section “A” Objectives (MCQS) Marks 15

1. 100 **= \_\_\_\_**

**a)** 600’’ **b)**  3600’’ **c)** 600’  **d) 600**

1. **5 radians =**

a) 1150 b) 2250 c) 1350 d) 450

1. **sec 450 = \_\_\_\_\_\_\_\_\_**

a) b) c) 1 d) none

1. **In a proportion p:q::r:s is called .**

a) First proportional b) mean c) fourth proportional d) none

1. **If two circle of radii 5cm and 3cm touch each other internally then the distance between their centers is \_\_\_\_\_\_\_**

a) 5cm b) 7cm c) 10cm d) 3cm

1. **A circle which touches all the sides of the triangle is called \_\_\_\_\_\_\_**

a) Circumcircle b) encircle c) encircle d) tri-circle

1. **The symbol of congruent of triangle is \_\_\_\_\_\_\_**

a) b) c) d) =

1. **The correct formula of mode A is .**

a) (ad – bd) b) (bd – bd) c) (ad – bc) d) none

1. **The matrix inversion method is .**

a) X = A-1 B b) X = A-1 c) X = A-1 B-1 d) all of these.

1. **\_\_\_\_\_ Triangles are always similar.**

a) right b) scalene c) equilateral d) acuter angle

1. **In a right angled triangle the greatest angle is \_\_\_\_\_\_**

**a) 1000 b) 900** **c) 800** **d) 800**

1. **In a right angled triangle hypotenuse is opposite side to.**

a) acute angle b) right angle c) obtuse angle d) none

1. **Arithmetic mean’s is based on the use of \_\_\_\_\_\_ observation of data.**

a) Middle b) Extreme c) All d) None

**14. The ungrouped data must be ordered first to find \_\_\_\_\_\_\_.**

a) A.M. b) Mode c) Median d) Range

1. If data contain a number equal to 0, then \_\_\_\_\_ cannot be computed.
2. **A.M b) GM c) H.M d) Media**

# Subjective Marks 60

**Section “B”**

Q 2: Attempt and six (06) questions. All question carry equal marks (30) 1. If A = { 1,2,3,4,6,8} and B = {2,4,6,8,10,11} then find:

* 1. **A-B b. A B**

3. If U = { 1,2,3,,,,,,,,10,11.12.}, A = {1,3,5,7} B = {2,4,6,8} then find De Morgan’s law’s

**= If a:b = c:d = e:f then show that.**

**5. Let A = then compute M12, M22, M21, A12, A22, A21**

**= Prove that a:b = c:d if.**

**(ii) =**

**7. Find the value of m and remaining two roots of the equation 2x3 -3mx2+9=0,**

**If it’s one root is 3.**

**8. Resolve the following into partial fraction.**

**9. Theorem: one and only one circle can pass through three non-collinear pints.**

**Given: Three non-collinear points, say A, B and C.**

**To prove: one and only one circle can pass through**

**OR**

**Show that: (1+ω)(1+ ω**2) **)(1+ ω**4) **)(1+ ω**8)= **(ω + ω**2)4

**Section “C”**

**Q 2: Attempt and (03) questions. All question carry equal marks (30)**

1. `**In a right angled triangle, the square of the length of hypotenuse is equal to sum of the squares of the length of the other two sides.**

**Given: triangle ABC is a right angled triangle, having right angle at C. The measures of sides AB, AC, and BC, are c , b and a respectively.**

**To Prove. C2 = a2 + b2**

1. **(i) A ladder make angle 60o with the ground and reaches a height of 6cm on the wall, find the length of the ladder.**

**(ii)If a point on the rim of a 21cm diameter fly wheel travels 5040 meters per minute through, how many radian does the wheel turn in a second?**

1. **Construct the triangle ABC and draw its circumference in each case.**
2. **mAB = 5.5cm, mAC = 6cm AND m ∠ A = 500**

**OR**

**Resolve the following into partial fractions.**

1. **Find A.M , G.M , H.M , Median and mode in the following (whenever possible)**
2. **3.2,6,10,12,12,-20,25,28,30,30.8**
3. **14,12,18,19,0,-19,-18,-12,-14**
4. **Find the solution by matrix inversion method or Cramer’s rule.**
5. **2x – 4y = -12**

**2y + 3x = 0**