

# MATHEMATICS 2024

Max. Marks: 75

Time: 3 Hour

## SECTION "A" MULTIPLE CHOICE QUESTIONS (MCQs)

Marks: 15

**NOTE:** (i) Attempt all the Questions of this Section.

(ii) Do not copy down the part questions. Write only the answer against the proper number of the Question and its part according to the question Paper.

(iii) Each question carries 1 Marks

1. Choose the correct Answer for each from the given question:

(i) It is not a commutative operation

\* Difference ✓

\* Union

\* Intersection

\* Symmetric difference

(ii) If  $O(A \times B) = 100$  and  $O(B) = 5$  then  $O(A) =$ :

\* 10

\* 15

\* 20 ✓

\* 25

(iii) If the determinate of a matrix is zero, is called:

\* Singular matrix ✓

\* Non-Singular matrix.

\* Unit matrix

\* Diagonal matrix

(iv) The symbol of similarity of triangles is:

\* =

\*  $\cong$

\*  $\sim$

\*  $\leftrightarrow$

(v) If 1, 9,  $x$  and 45 are in proportion, then  $x =$ :

\* 27

\*  $\frac{1}{5}$

\* 5 ✓

\* 45

(vi) If  $a:b = c:d$  then according to alternando property:

\*  $\frac{a}{b} = \frac{c}{d}$

\*  $\frac{a+b}{b} = \frac{c+d}{c}$

\*  $\frac{b}{a} = \frac{d}{c}$  ✓

\*  $\frac{a}{c} = \frac{b}{d}$

(vii) If  $p$  and  $q$  are the roots of  $2x^2 + 5x + 3 = 0$  then  $p + q =$ :

\*  $\frac{5}{3}$

\*  $\frac{3}{5}$

\*  $\frac{5}{2}$

\*  $-\frac{5}{2}$  ✓

(viii) The inscribed angle of minor arc of a circle is:

\* acute angle ✓

\* right angle

\* obtuse angle

\* reflex angle

(ix) An improper fraction can be reduced into proper fraction by:

\* addition

\* multiplication

\* subtraction

\* division ✓

(x)  $\omega^2 + \omega =$ :

\* 0

\* 1

\* -1 ✓

\* none of these

(xi) The standard deviation is the positive square root of:

\* Median

\* Mode

\* Variance ✓

\* None of thses

(xii) In a right angled triangle, the greatest angle is:

\*  $45^\circ$

\*  $90^\circ$  ✓

\*  $80^\circ$

\*  $110^\circ$

(xiii)  $\operatorname{cosec}^2 \theta - 1 =$ :

\*  $\sin^2 \theta$

\*  $\sec^2 \theta$

\*  $\sin^2 \theta$

\*  $\cot^2 \theta$  ✓

(xiv) Angle between the radial segment and tangent at its outer end point is:

\*  $45^\circ$

\*  $60^\circ$

\*  $90^\circ$  ✓

\*  $120^\circ$

(xv) In a right angled triangle, the opposite side of  $90^\circ$  is called:

\* Base

\* Perpendicular

\* Hypotenuse ✓

\* none of these