

General Mathematics (New)

10th (Fresh/Reappear)

۱۔ ہر سوال کے سامنے چار دائرے دیئے گئے ہیں، صرف صحیح جواب والا دائرہ بھریں۔

۲۔ دائروں کو شیڈ (بھرنے) کے لیے نیلے یا کالے رنگ کا پیرا کر استعمال کریں۔

۳۔ جواب میں ایک سے زائد دائرے بھرنے سے جواب غلط تصور ہو گا۔

Time: 20 Minutes

SECTION-A

Marks: 15

Q1: Choose the correct option i.e, A,B,C or D?

- The solution set of $\left|\frac{5x}{3}\right| = 5$ is.
☒ {3,-3} ☐ {4,-4} ☐ {3,3} ☐ {4,4}
- One root of quadratic equation $x^2 - 8x + 15 = 0$ is.
☐ 1 ☐ 2 ☒ 3 ☐ 4
- Transpose of matrix $\begin{bmatrix} 2 & -3 \\ -4 & 1 \end{bmatrix}$ is.
☒ $\begin{bmatrix} -4 & 1 \\ 2 & -3 \end{bmatrix}$ ☐ $\begin{bmatrix} 2 & -4 \\ -3 & 1 \end{bmatrix}$ ☐ $\begin{bmatrix} -3 & 2 \\ 1 & -4 \end{bmatrix}$ ☐ $\begin{bmatrix} 1 & 3 \\ 4 & 2 \end{bmatrix}$
- Determinant of the matrix $\begin{bmatrix} -3 & 1 \\ 1 & 2 \end{bmatrix}$ is.
☐ -6 ☒ 6 ☐ 7 ☐ -7
- $\begin{bmatrix} 2 & 3 \\ 4 & 7 \end{bmatrix} + \begin{bmatrix} -3 & 9 \\ 1 & 6 \end{bmatrix} = \underline{\hspace{2cm}}$.
☒ $\begin{bmatrix} -1 & 12 \\ 5 & 13 \end{bmatrix}$ ☐ $\begin{bmatrix} 12 & -1 \\ 13 & 5 \end{bmatrix}$ ☐ $\begin{bmatrix} 12 & 13 \\ 5 & -1 \end{bmatrix}$ ☐ $\begin{bmatrix} 5 & 13 \\ -1 & 12 \end{bmatrix}$
- In an isosceles triangle, the measure of the vertex angle is 120° , measures of base angle, will be.
☐ 120° ☐ 90° ☒ 60° ☐ 30°
- Area of a semi circular having radius of 14cm is.
☐ 108cm^2 ☒ 218cm^2 ☐ 308cm^2 ☐ 418cm^2
- Volume of cylindrical tin with $r=3.5\text{cm}$ and $h=12\text{cm}$.
☒ 262cm^3 ☐ 462cm^3 ☐ 262cm^2 ☐ 462cm^2
- A(3,0), B(0,3) then $|AB| = \underline{\hspace{2cm}}$.
☐ $3\sqrt{2}$ ☐ $2\sqrt{2}$ ☒ 18 ☐ 16

10. The degree of the polynomial $y^2 + 2y + 4 = 0$ is.
☐ 4 ☒ 2 ☐ 1 ☐ 4
11. $(a+b)^2 + (a-b)^2 =$ _____
☐ $2ab$ ☐ $4ab$ ☐ a^2+b^2 ☒ $2(a^2+b^2)$
12. One of the factor of $x^2 + 6x + 8$ is.
☐ $x+2$ ☒ $x-2$ ☐ $x+4$ ☐ $x+6$
13. $(a+b)(a^2 - ab + b^2) =$ _____
☒ $a^3 + b^3$ ☐ $a^3 - b^3$ ☐ $(a+b)^3$ ☐ $(a-b)^3$
14. LCM of $x^2 + 2x + x + 2$ and $x^2 + 4x + 4$ is.
☒ $(x+1)(x+2)$ ☐ $(x+1)^2(x+2)$
☐ $(x+1)(x+2)^2$ ☐ $(x+1)^2(x+2)^2$
15. The value of x in $2\sqrt{x} - 3 = 7$ is.
☐ 20 ☒ 25 ☐ 30 ☐ 35

GENERAL MATHEMATICS (NEW)

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Note: Time allowed for Section-B & Section-C is 2:40 Hours.

SECTION-B

Marks: 36

Q2: Attempt any NINE parts. Each part carries 4 marks?

- Find the value of $a^2 + b^2$, when $a + b = 4$ and $a - b = 2$?
- Rationalize $\frac{1}{\sqrt{7} + \sqrt{3}}$?
- Factorize the expression $x^4 + \frac{1}{x^4} - 7$? a
- Find the square root by factorization method $(x-y)^2 + 6(x-y) + 9$?
- The sum of three consecutive odd integers is 81. Find the numbers?
- Solve by completing square method $x^2 + 6x - 40 = 0$?
- Solve by quadratic formula $x^2 - 8x + 15 = 0$?
- If $E = \begin{bmatrix} a & b \\ c & d \end{bmatrix}$ is a matrix, then show that $(E^t)^t = E$?
- Find the measure of the angles $(x+8), (2x-5)$ when they are supplementary angles?
- Construct a triangle ABC, when $m\overline{AB} = 4.5\text{cm}$, $m\angle A = 45^\circ$, $m\angle B = 60^\circ$?

11. Find the area of an equilateral triangle, when the length of whose one side is 8cm?
12. The area of a parallelogram is 140m^2 . If its altitude is 12m. Find its base?

SECTION-C

Marks: 24

Q3: Attempt any THREE questions. All questions carry equal marks?

1. Find the value of "a" when $2x^2 - ax^2 - 2ax + 3x + 2$, is exactly divisible by $x+1$?
2. Solve the system of equations by matrix method $2x + y = 1$, $x - 2y = 2$?
3. Radii of two circles are 2cm and 3cm and their centers are 8cm apart. Draw direct common tangents to the circle?
4. Show that the point A(1,2), B(3,4) and C(0,-1) are the vertices of scalene triangle?