

Syllabus :(Ch. 1 , 9(theorem,1,2 , 13.1 13.2)**MATHEMATICS (SCIENCE)****-019-(OBJECTIVE)****Paper: (Objective Type)****Time allowed: 20 Minutes****Maximum Marks: 15**

Note: You have four choices for each objective type questions as A, B, C and D. The choice which you think is correct fill that circle to front of that question number. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero mark in that question.

Q. No.	QUESTIONS	(A)	(B)	(C)	(D)
1.	An equation which contains the square of unknown (variable) quantity, but no higher power is present called:	Linear Equation	Quadratic Equation	3 rd degree Equation	None of these
2.	Pure quadratic equation is:	$x^2 - 7x + 6 = 0$	$4x + 5 = 0$	$4x^2 = 7$	$x = 16$
3.	The number of methods to solve a quadratic equation is:	1	2	3	4
4.	Which equation is called exponential equation?	$2(2x-1) + \frac{3}{2x-1} = 5$	$5^{1+x} + 5^{1-x} = 26$	$2x^4 - 5x^3 - 4x^2 - 5x + 2 = 0$	None of these
5.	A solution of equation which does not satisfy the equation is called:	Real root	Extraneous root	Imaginary root	Unequal root
6.	An equation in which variable occurs under radical sign is called:	Exponential Equation	Reciprocal Equation	Radical Equation	Variable Equation
7.	The standard form of $\frac{2x+1}{x+2} - \frac{x-2}{x+4} = 0$ is :	$x^2 + 9x + 8 = 0$	$x^2 - 9x + 8 = 0$	$x^2 + 9x - 8 = 0$	$x^2 - 9x - 8 = 0$
8.	The solution set of equation $25x^2 - 1 = 0$ is:	$\{\pm 1\}$	$\left\{\frac{1}{\pm 5}\right\}$	$\left\{\frac{1}{\pm 5}\right\}$	$\left\{\frac{1}{\pm 5}\right\}$
9.	The quadratic formula of $ax^2 + bx + c = 0$ is:	$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$	$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$	$x = \frac{-b \pm \sqrt{b^2 + 4ac}}{2a}$	$x = \frac{b \pm \sqrt{b^2 - 4ac}}{2a}$
10.	An equation of the form $2x^4 - 5x^3 + 14x^2 - 5x + 2 = 0$ is called:	Exponential Equation	Reciprocal Equation	Radical equation	Variable equation
11.	A circle of radius "r" has a circumference of:.	πr^2	$2\pi r$	$2\pi r^2$	$\frac{1}{2} \pi r$
12.	A circle of radius "r" has a area:	πr^2	$2\pi r$	$2\pi r^2$	$\frac{1}{2} \pi r$
13.	The distance of any point of the circle to its Centre is called:	Radius	Diameter	A Chord	An arc
14.	How many escribed circles of a triangle can be drawn?	One	Two	Three	Four
15.	A line intersecting a circle is called:	Tangent	Secant	Chord	Boundary

A B C D**A B C D****A B C D****A B C D****A B C D**

1	(A) (B) (C) (D)	4	(A) (B) (C) (D)	7	(A) (B) (C) (D)	10	(A) (B) (C) (D)	13	(A) (B) (C) (D)
2	(A) (B) (C) (D)	5	(A) (B) (C) (D)	8	(A) (B) (C) (D)	11	(A) (B) (C) (D)	14	(A) (B) (C) (D)
3	(A) (B) (C) (D)	6	(A) (B) (C) (D)	9	(A) (B) (C) (D)	12	(A) (B) (C) (D)	15	(A) (B) (C) (D)

نوٹ: معروضی سوال نامے کو توجہ سے پڑھیں اور ہر MCQ کی درست آپشن A, B, C, D کو پین کی سیاہی یا مارکر 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۔

Syllabus:(Ch. 1 , 9(theorem,1,2 , 13.1 13.2)

MATHEMATICS (SCIENCE)

Paper : II (Essay Type)

-019(10th Class)

Time Allowed; 2:10 hours

Maximum Marks: 60

(PART – 1)

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

12

- Solve $3y^2 = y(y - 5)$ by factorization.
- Write the standard form of quadratic equation in y variable.
- Solve $x^2 + 2x - 2 = 0$ by quadratic formula.
- Write the names of the methods for solving a quadratic equation.

$$\sqrt{3}x^2 + x = 4\sqrt{3}$$

- Solve by quadratic formula.
- Differentiate between reciprocal and exponential equation.
- Write the difference between circumference, diameter and chords.
- Differentiate between major arc and minor arc.
- What is the difference between arc and segment of the circle?

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

12

$$\sqrt{3x+100} - x = 4$$

- Solve
- Solve $5^{1+x} + 5^{1-x} = 26$
- Solve $x^{\frac{2}{3}} + 54 = 15x^{\frac{1}{3}}$
- What is extraneous root?
- Solve $2^x + 64 \cdot 2^{-x} - 20 = 0$
- Solve
- How to make the inscribed an equilateral triangle in a given circle?

$$|\overline{AB}| = 3.5\text{cm} \quad |\overline{BC}| = 5\text{cm}$$

- If and are the lengths of two chords of an arc, then locate the Centre of the arc.
- Calculate the length of a chord which stands at a distance 5cm from the center of a circle whose radius is 9cm.
- Differentiate between a sector and a segment of a circle.

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

12

$$2x + 5 = \sqrt{7x + 16}$$

- Solve
- Define and draw the sector of a circle.
- Write $\frac{x+3}{x+4} - \frac{x-5}{x} = 1$ in the standard form and point out pure quadratic equation.
- Solve $x^4 - 13x^2 + 36 = 0$.
- Divide an arc of any length into three equal parts
- Solve by factorization $x^2 - 11x = 152$
- Solve the following equation $3x^{-2} + 5 = 8x^{-1}$
- Prove that, the diameters of a circle bisect each other
- Differentiate between Interior and Exterior of a circle?

(PART – 2)

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

- Q. 5 (a) Solve $lx^2 + mx + n = 0$, $l \neq 0$ by completing square. 4
- (b) Solve $7(x + 2a)^2 + 3a^2 = 5a(7x + 23a)$ by completing square. 4

- Q. 6 (a) Solve $\sqrt{4a+x} - \sqrt{a-x} = \sqrt{a}$ 4

- (b) Solve $\sqrt{x^2 + 3x + 9} + \sqrt{x^2 + 3x + 4} = 5$ 4

- Q. 7 (a) Solve $(x-1)(x-2)(x-8)(x+5) + 360 = 0$ 4
- (b) Solve the equation using quadratic formula $-(1+m) - lx^2 + (21+m)x = 0$. 4

- Q. 8 (a) If $|\overline{AB}| = 4\text{cm}$, $|\overline{BC}| = 6\text{cm}$, such that $\overline{AB} \perp \overline{BC}$, construct a circle through points A, B and C. Also measure its radius. 4
- (b) Solve the equation $x^4 - 2x^3 - 2x^2 + 2x + 1$ 4

- Q.9. Prove that one and only one circle can pass through three non-collinear points. 8

OR

Prove that A Straight line, drawn from the centre of a circle to bisect a chord (Which is not a diameter) is Perpendicular to the chord.