Paper: __Maths_____ Total Marks: _15_____

Month Test: __November_____ Obt. Marks: _____

Theme/Unit: _1 to 5_____ Grand Total: ___75_____

Objective: ID: _____ Time: _____

Name: _____ class: ___9th _____ Section: _____

Q. No. 1: Encircle the correct option:

1. Which is order of a square matrix?
   a. 2-by-2 c. 2-by-1
   b. 1-by-2 d. 3-by-2
2. If $\begin{vmatrix} 2 & 6 \\ 3 & x \end{vmatrix} = 0$ then x = _____
   a. 9 b. -6 c. 6 d. -9
3. $\begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$ is called _____ matrix.
   a. Unit c. Diagonal
   b. Scalar d. None
4. $(\frac{25}{16})^{-1/2}$ = _____
   a. 5/4 b. 4/5 c. -5/4 d. -4/5
5. Write $4^{2/3}$ with radical sign:
   a. $\sqrt[3]{4^2}$ b. $\sqrt{4^3}$ c. $\sqrt[2]{4^3}$ d. $\sqrt{4^6}$
6. The value of i9 is _____
   a. 1 b. -1 c. I d. –i
7. If ax = n, then _____
   a. $a = \log_x n$ c. $x = \log_a n$
   b. $x = \log_n a$ d. $a = \log_n x$
8. The logarithm of unity to any base is _____
   a. 1 b. 10 c. -1 d. 0
9. 4x + 3y – 2 is an algebraic _____
   a. Expression c. Equation
   b. Sentence d. Inequation
10. Log e = _____ where e ≈ 2.718
    a. 0 b. 0.4343 c. 00 d. 1
11. The degree of polynomial $4x^4$ _ $2x^2y$ is _____
    a. 1 b. 2 c. 3 d. 4
12. $A^3 + b^3$ is = _____
    a. $(a-b)(a^2+ab+b^2)$ c. $(a+b)(a^2-ab+b^2)$
    b. $(a-b)(a^2-ab+b^2)$ d. $(a-b)(a^2+ab-b^2)$
13. The factor of $x^2 – 5x + 6$ are _____
    a. X+1, x-6 c. X+6, x-1
    b. X-2, x-3 d. X+2, x+3
14. Find m so that $x^2 + 4x + m$ is a complete square:
    a. 8 b. -8 c. 4 d. 16
15. $X^4 – 16$ is = _____-
    a. $(x^2 +4)(x^2-4)$ c. $(x^2 -4)(x^2-4)$
    b. $(x^2 +4)(x^2+4)$ d. $(x^2 +4)2$

Paper: __Maths_____		Total Marks: _60_____
Month Test: __November_____		Obt. Marks: _____
Theme/Unit: _1 to 5_____		Grand Total: ___75_____
Obj / Sub: _____	ID: _____	Time: _____
Name: _____	class: ___9th _____	Section: _____

Q. No. 2: Solve the following questions:

1) Define diagonal matrix.
2) Find determinant B = $\begin{bmatrix} 1 & 3 \\ 2 & -2 \end{bmatrix}$
3) Find negative of a matrix: $\begin{bmatrix} 2 & 4 \\ -2 & 1 \end{bmatrix}$
4) Simplify: $\sqrt[3]{-125}$
5) Evaluate: i^{50}
6) Simplify: $(5^2)^3$ / $(5^2)^3$

Q. No. 3: Solve the following questions:

1) Find value of x $\log_{64} 8 = \frac{x}{2}$
2) Write into single logarithm: log21 + log 5
3) Write in scientific notation 0.00643
4) Reduce lowest form: $\frac{8a(x+1)}{2(x^2-1)}$
5) Define rational expression:
6) If a+b = 10, a-b=6, then find value of (a^2+b^2)

Q. No. 4: Solve the following:

1) Write in simple form: $\sqrt{180}$
2) Simplify $(3+\sqrt{3})(3-\sqrt{3})$
3) Use remainder theorem find remainder 4x3 – 4x + 3 is divided (2x-1)
4) Factorize: $128am^2 – 242an^2$
5) Factorize: x^2 -11x -42
6) Define mantissa

Q. No. 5(a): Use matrix find creamero's rule. 2x+y=3, 6x+5y=1 /4

(b): Use law of exponent to simplify /4

$$\frac{(81)^n.3^5 – (3)^{4n-1}(24^3)}{(9^{2n})(3^3)}$$

Q. No. 6(a): Use log table find value $\frac{0.678*9.01}{0.0234}$ /4

(b): Simplify: $\frac{1}{2+\sqrt{3}} + \frac{2}{\sqrt{5}-\sqrt{3}} + \frac{1}{2+\sqrt{5}}$ /4

Q. No. 7(a): Factorize(x+2)(x+3)(x+4)(x+5)-15 /4

(b): Simplify and write your answer in the form of a+bi: $\frac{2+3i}{4-i}$ /4