Paper: Maths		Total Marks: 15
Month Test: May		Obt. Marks: _____
Theme/Unit: _____		Grand Total: 75
Objective:	ID: _____	Time: _____
Name: _____	class: 9th	Section: _____

Q. No. 1: Encircle the correct option: /15

1. The order of matrix [2 1] is ….
   a. 2 – by – 1
   b. 1 – by – 2
   c. 1 – by – 1
   d. 2 – by – 2
2. In matrix, the entries presented in horizontal way are called:
   a. Rows
   b. Columns
   c. Entries
   d. Matrix
3. Under multiplication, which law is does not hold in general:
   a. Associative law
   b. Commutative law
   c. Multiplicative law
   d. Distributive law
4. If $\begin{vmatrix} 2 & 6 \\ 3 & x \end{vmatrix} = 0$, then x is equal to:
   a. 9
   b. -6
   c. 6
   d. -9
5. A matrix A is called null matrix if each of its entry is ……..
   a. 0
   b. 1
   c. 2
   d. 3
6. The value of i^9 is …..
   a. 1
   b. -1
   c. i
   d. -i
7. The standard form of $\frac{1}{1+2i}$ is:
   a. 1+2i
   b. $\frac{1}{5} - \frac{1}{5}i$
   c. $\frac{1}{5} + \frac{1}{5}i$

d. $1 - 2i$

8. Every real number is:
   a. A positive integer
   b. A rational number
   c. A negative integer
   d. A complex number
9. The real part of number -3i+2 is:
   a. 3
   b. 2
   c. -3
   d. -2
10. $\forall\ a, b\ \in R$
   a. A<b OR a=b OR a>b
   b. Trichotomy property
   c. Additive property
   d. Multiplicative property
11. If $a^x = n$ then
   a. $A = \log_x n$
   b. $X = \log_n a$
   c. $X = \log_a n$
   d. $A = \log_n x$
12. The value of $\log_5 n = 2$ then value of n is:

a. 15
b. 25
c. 35
d. 50

13. The scientific notation of 0.00643:
   a. 6.43×10^3
   b. 6.43×10^{-3}
   c. 64.3×10^2
   d. 6.43×10^{-2}
14. The value of log (A x B) is:
   a. Log A + log B
   b. Log A – log B
   c. Log A ÷ log B
   d. Log A x log B
15. The ordinary notation of 7.865×10^8
   a. 786500000
   b. 78650000
   c. 0.00007865
   d. 786500

Paper: Maths		Total Marks: 60
Month Test: May		Obt. Marks: _____
Theme/Unit: _____		Grand Total: 75
Subjective:	ID: _____	Time: _____
Name: _____	class: 9th	Section: _____

Part- I

Q. NO. 2: Answer the following questions:

1) Define matrix.
2) Which satisfy the matrix equation:
$\begin{bmatrix} a+c & a+2b \\ c-1 & 4d-6 \end{bmatrix} = \begin{bmatrix} 0 & -7 \\ 3 & 2d \end{bmatrix}$
3) Find the negative of matrix $\begin{bmatrix} 1 & -5 \\ 2 & 3 \end{bmatrix}$
4) Find the product [-3 0] $\begin{bmatrix} 4 \\ 0 \end{bmatrix}$
5) Find the determinant of $A = \begin{bmatrix} 3 & 1 \\ 2 & 4 \end{bmatrix}$
6) Find multiplicative inverse (if exist) $A = \begin{bmatrix} -1 & 3 \\ 2 & 0 \end{bmatrix}$

Q. No. 3:

1) Represent the number on number line $-2\frac{3}{4}$
2) Express recurring decimals in form of $\frac{p}{q}$ (a). $0.\overline{5}$
3) Simplify radical expressions $5\sqrt{\frac{3}{32}}$
4) Use law of exponent if $(2x^5y^{-4})(-8x^{-3}y^2)$
5) Evaluate 2^{27}
6) Simplify in form of a+bi (-7+3i)(-3+2i)

Q. No. 4:

1) Define the following notation of numbers also give one example.
2) If log 31.09 = 1.4926 find the value of log 0.003109
3) Find the value of x from statement $\log_{81}9 = x$
4) Express log x -2 logx + 3log(x+1) – $\log(x^2-1)$ as a single logarithm.
5) Calculate $\log_3 2 \times \log_2 81$
6) If log 2=0.3010, log3=0.4771, log5=0.6990 find the value of log30.

Part – II

Q. No. 5: (a) If $A = \begin{bmatrix} 1 & 2 \\ 4 & 6 \end{bmatrix}$ and $B = \begin{bmatrix} 3 & -1 \\ 2 & -2 \end{bmatrix}$ then A(Adj A) = (Adj A) A = (det A)I /4

(b). Use cramer's rule to solve system of equations: /4

$3x - y = -1$ $4x + 2y = 8$

Q. No. 6: (a). Solve the equation for real x and y $(2 - 3i)(x + yi) = 4 + I$ /4

(b). Simplify: $\sqrt{\frac{(216)^{\frac{2}{3}} \times (25)^{\frac{1}{2}}}{(0.04)^{-\frac{3}{2}}}}$ /4

Q. No, 7: (a) Prove $\log_a\left(\frac{m}{n}\right) = \log_a m - \log_a n$ /4

(b). Evaluate: (i). $\log_2 \frac{1}{128}$ (ii). $10^P = 40$ /4