SECTION – I

2- Attempt any six parts. (6 x 2 = 12)

i	Define rectangular matrix with examples.	ii	If $M = \begin{bmatrix} 1 & 2 \\ 3 & 2 \end{bmatrix}$ and $N = \begin{bmatrix} 2 & 4 \\ 7 & 0 \end{bmatrix}$ then find MN.
iii	Define complex number.	iv	Simplify. $\left(\frac{14x^{-2}y^{-4}}{7x^{-3}y^{-6}}\right)^{-2}$
v	Express in scientific notation. 0.00057	vi	Write in form of Single logarithm. $3 \log x = 2 \log y$
vii	Define Conjugate surds.	viii	Factorize $4x^2 - (2y + 1)^2$
ix	Factorize $8x^3 + 27y^3$		

3- Attempt any six parts. (6 x 2 = 12)

i	Define least common multiple of two expressions.	ii	Find H.C.F by factorization of $x^2 + 3x + 2$, $x^2 + 4x + 3$
iii	Find the solution set of Equation. $\|2x - 4\| = \|x + 5\|$	iv	Solve the inequalities, $\frac{2x+3}{3} \leq \frac{x-6}{4}$
v	Find ordinate, if abscissa is - 4 in $2y = 7x + 8$	vi	Find the distance between the points (5 , 2) and (-7 , - 3)
vii	Find the mid point of the points A (- 4, - 5) and B (7 , 9)	viii	From the adjoin figure, Find the measure of unknown number x and y. 
ix	What is meant by median of a triangle?		

4- Attempt any six parts. (6 x 2 = 12)

i	Define an angle bisector and also draw its figure.	ii	Define an equilateral triangle.
iii	What is difference between ratio and proportion?	iv	Define median of a triangle.
v	Define acute angled triangle.	vi	The measures of one side and a diagonal of rectangle are 3 cm and 5 cm respectively. What is the perimeter of the rectangle?
vii	Define triangle and write the formula of its area.	viii	What is meant by centroid of triangle?
ix	Construct a triangle if the sides are 3 cm, 3.5 cm and 5 cm.		

SECTION – II

Note- Attempt any three questions. Question No.9 is Compulsory. (8 x 3 = 24)

5- a) Solve the system of linear equations by matrix inverse method. (04)

$x + 1 + y = 0$; $2x - y - 2 = 0$

b) Simplify $\frac{2^{\frac{1}{2}} \times 3 \times 15^{\frac{1}{2}}}{(45)^{\frac{1}{2}} \times (4)^{-\frac{1}{2}} \times 9^{-\frac{1}{4}}}$ (04)

6- a) Find the number x which satisfies the equation, $\log(x - 2) + \log(2) = 2$ (04)

b) If $x + \frac{1}{x} = 2$, then find the values of $x^2 + \frac{1}{x^2}$ and $x^3 + \frac{1}{x^3}$ (04)

7- a) Factorize the following expression $(x^2 - 2x - 17)(x^2 - 2x - 6) + 18$ (04)

b) The product of two algebraic expression is $y^4 - 5y^3 + 2y^2 + 20y - 24$ and H.C.F is $y+2$, then find their L.C.M. (04)

8- a) Solve the equation. $\frac{1}{5}(x-1) - \frac{1}{6}(x-2) = \frac{1}{7}(x-3) - \frac{1}{8}(x-4)$ (04)

b) Draw the altitudes of triangle PQR with the given data.
$m\overline{PQ} = 7$ cm , $m \angle P = 45^0$, $m \angle Q = 60^0$ (04)

9- Prove that :The right bisectors of the sides of a triangle are concurrent. (08)

OR

Prove that : Parallelograms on equal bases and having the same altitudes are of equal area. (08)