Multan Board 2017 (Second Group)

Roll No.(in Figures): .... (in Words): ....

Maximum Marks: 60 **(SUBJECTIVE TYPE)** Time Allowed : 2.10 Hours

PART - I

Q2. Write short answers to any SIX (6) questions: (2×6=12)

(i) Define Symmetric Matrix. (ii) Find the product of $\begin{bmatrix} 1 & 2 \end{bmatrix}\begin{bmatrix} 4 \\ 0 \end{bmatrix}$

(iii) Simplify $\sqrt{(5-3i)^2}$ and write in the form of $a+bi$ (iv) Evaluate. i^{27}

(v) Express in Scientific Notation. 5700 (vi) Find the value of x when $\log_{64} 8 = \dfrac{x}{2}$

(vii) Simplify. $\dfrac{8a(x+1)}{2(x^2-1)}$ (viii) Simplify. $\sqrt{21} \times \sqrt{7} \times \sqrt{3}$ (ix) Factorize. $128am^2 - 242an^2$

Q3. Write short answers to any SIX (6) questions: (2×6=12)

(i) Use factorization to find the square root. $4x^2 - 12x + 9$ (ii) Define Linear Equation.

(iii) Find the solution set of $|3x + 10| = 5x + 6$

(iv) What is meant by an Ordered Pair?

(v) Find the values of 'm' and 'c' by expressing the given equation $x - 2y = -2$ in the form of $y = mx + c$

(vi) Find the distance between the given pairs of points. A(−8, 1), B(6, 1)

(vii) Find the mid-point of the line segment of the given pairs of points A(2, −6), B(3, −6)

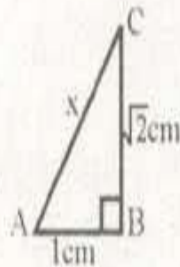(viii) What is meant by (S.S.S. ≅ S.S.S)?
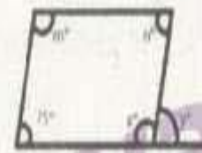
(ix) Find the unknown values in the given figure.

Q4. Write short answers to any SIX (6) questions: (2×6=12)

(i) What is meant by Converse of Theorem?

(ii) 3cm, 4cm and 7cm are not the lengths of a triangle. Give the reason in detail.

(iii) Define Proportion.

(iv) In the given figure ΔLMN, $\overline{LA}$ bisects ∠L if $m\overline{LM}$ = 6cm, $m\overline{LN}$ = 4cm and $m\overline{MN}$ = 8cm then find $m\overline{MA}$ and $m\overline{AN}$

(v) State Converse of Pythagoras Theorem.
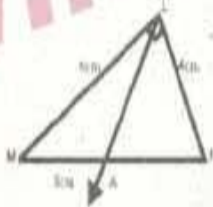
(vi) Find the value of unknown x in ΔABC. (vii) Define Triangular Region.

(viii) Construct ΔABC in which $m\overline{AB}$=4.8cm, $m\overline{BC}$=3.7cm, m∠B= 60°

(ix) Define Circumcentre of a Triangle.

PART - II

Note: Attempt any three questions. Question number 9 is compulsory. (8×3=24)

Q5. (a) Solve by Cramer's Rule. 2x − 2y = 4, 3x + 2y = 6   4

(b) Simplify. $\dfrac{2^{1/3} \times (27)^{1/3} \times (60)^{1/2}}{(180)^{1/2} \times (4)^{-1/3} \times (9)^{1/4}}$ 4

Q6. (a) Use Log table to find the value of $\dfrac{(438)^3 \sqrt{0.056}}{(388)^4}$ 4

(b) If $p = 2 + \sqrt{3}$ then find $P^2 + \dfrac{1}{p^2}$ 4

Q7. (a) If x − 1 is a factor of $x^3 - kx^2 + 11x - 6$, then find the value of k   4

(b) Find square root by Division Method. $9x^4 - 6x^3 + 7x^2 - 2x + 1$ 4

Q8. (a) Find the solution set of $\dfrac{1}{2}\left(x - \dfrac{1}{6}\right) + \dfrac{2}{3} = \dfrac{5}{6} + \dfrac{1}{3}\left(\dfrac{1}{2} - 3x\right)$ 4

(b) Construct ΔXYZ and draw its medians. $m\overline{XY}$ = 4.5cm, $m\overline{YZ}$ = 3.4cm, $m\overline{ZX}$ = 5.6cm   4

Q9. Prove that any point on the right bisector of a line segment is equidistant from its end points.   8

(OR) Prove that Parallelograms on the same base and between the same parallel lines (or of the same altitude) will be equal in area.