Section “A” MCQ’s

(Multiple Choice Question MCQs)

1. Choose the correct answer for each from the given option:

i. Set of first five prime numbers.
   (a) {1, 2, 3, 4, 5} (b) {1, 3, 5, 7, 11} (c) {2, 4, 6, 8, 10} (d) {1, 2, 3, 4, 8}

ii. If A = {1, 2, 3} B = {1, 3, 5} Then A∩B is.
    (a) {1, 2, 3, 5} (b) {1, 2, 3} (c) {1, 3, 5} (d) {1, 3}

iii. If area of a square is 81 cm$^2$, then length of side is.
     (a) 3 cm (b) 9 cm (c) 27 cm (d) 125 cm

iv. In base five system 35 x 45 =
    (a) 12 (b) 16 (c) 18 (d) 12

v. A line joining two points on a circle.
   (a) Hypotenuse (b) Diameter (c) Radius (d) Chord

vi. In a right angled triangle if base = 3 cm, perpendicular = 4 cm, then hypotenuse is.
    (a) 5 cm (b) 10 cm (c) 20 cm (d) 25 cm

vii. Formula of finding volume of sphere is.
     (a) $\frac{3}{4} \pi r^2$ (b) $\frac{3}{4} \pi r^3$ (c) $\frac{4}{3} \pi r^2$ (d) $\frac{4}{3} \pi r^3$

viii. Measure of all sides of a triangle is.
      (a) 90 (b) 120 (c) 180 (d) 360

ix. According to De Morgan’s law (A∩B)´ =
    (a) A∩B (b) A∪B´ (c) A´∩B’ (d) A´∪B´

x. Which number of the following is not a perfect square?
   (a) 64 (b) 81 (c) 120 (d) 144

xi. Rs. 350 were distributed between Ali and Ahmed such that Ahmed got Rs. 200 and Ali got 150- Ratio between share is.
    (a) 3:4 (b) 4:3 (c) 4:7 (d) 7:4

xii. A number system which has base 8 is called.
     (a) Binary system (b) Base five system (c) Octal system (d) Decimal system
xiii. Factors of algebraic expression $4a^2 + 40a$ are.
(a) $4a(a = 40)$  (b) $44a^2$  (c) $a(4a^2 + 40)$  (d) $4a(a + 10)$

xiv. The degree of algebraic expression $2x^4 + 3x^2 + 3$ is.
(a) 1  (b) 3  (c) 4  (d) 6

xv. Solution set of $x + 2y = -3$ and $x + y = 0$ is.
(a) $x = 3, y = 3$  (b) $x = -3, y = 3$  (c) $x = 3, y = -3$  (d) $x = -3, y = -3$

xvi. Age of Amina is 8 years more than Samina, if age of Samina is $X$ years then age of Amina will be.
(a) $x - 8$  (b) $x + 8$  (c) $8x$  (d) $x /8$

xvii. In a right angled triangle $\sin \theta =$
(a) Base/Hyp  (b) Perp/Base  (c) Perp/Hyp  (d) Hyp/Perp

xviii. If $A = \{1, 2, 3, 4\}$, then possible subsets are.
(a) 8  (b) 12  (c) 16  (d) 32

xix. In a right angled triangle side opposite to $90^\circ$ is called.
(a) Base  (b) Perpendicular  (c) Hypotenuse  (d) Parallel

xx. A pentagon is a ____ sided figure.
(a) 4  (b) 5  (c) 7  (d) 8

2. **Simplify the following:**

i. Solve the following in binary number system.  (2 Marks)
$$1111_2 - 1010_2 + 101_2$$

ii. Marium and Arifa started a business with investment of Rs. 60,000 and Rs 80,000 respectively. After one year they earned a profit of Rs 21,000. Find the share of each partner in the profit.  (2 Marks)
iii. Factorize the following. (4 Marks)
   (a) $4x^2 + 12xy + 9y^2$  (b) $b^2 + c^2 - 2bc$

iv. Find mean and median of the following data. (2 Marks)
   $11, 13, 15, 7, 9, 1, 3, 5$

v. Solve the following simultaneous equation. (4 Marks)
   $3x - 5y = 5$
   $2x + y = 12$