



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions (6x5=30)

- (i) What is an exponential function? By taking any exponential function, draw its graph.**
- (ii) Find the values of x for which the inequality $x^2 - 5x + 6 < 0$ is true.**
- (iii) If the price of 12 eggs is Rs 300, how many eggs can be bought with Rs. 225?**
- (iv) Explain the method for displaying and comparing quantitative data.**
- (v) How many committees of 5 members can be chosen from a group of 8 persons when each committee must include 2 particular persons?**
- (vi) Construct the truth table of $\sim q \wedge (p \rightarrow q) \rightarrow \sim p$.**

Answer the following questions. (3x10=30)

Q.2 Solve the system by any appropriate method

$$\begin{aligned} 3x + y - z &= -4, \\ x + y - 2z &= -4, \\ -x + 2y - z &= 1. \end{aligned}$$

Q.3 A box contains 10 red, 30 white and 20 black marbles. A marble is drawn at random.

Find the probability that it is either red or white.

Q.4 11 years ago, Ali's age was 5 times of Waheed's age. But after 7 years, Ali's age will be 2 times of Waheed's age. Find their ages.