Revision Questions

Q1) If the roots of the equation (b – c) x2 + (c – a) x + (a – b) = 0 are equal, then prove that 2b = a + c.

Q2) The marked price of an article is `6000 and rate of GST is 12%. A shopkeeper buys it at a discount and sells it at its marked price. If the sales are intra-state and the shopkeeper paid `36 under GST to the State Government, find (i) the amount (inclusive of GST) paid by the shopkeeper and (ii) the % of discount received by him.

Q3) ABCD is a rectangle where AB = 24 cm and AD = 27 cm. The larger circle of radius 12 cm touches three sides of the rectangle. The smaller circle of radius x cm touches two sides of the rectangle and the larger circle at T. P and R are the centres of the circles. Write PQ, PR and MN in terms of x. Frame an equation in x and solve it.

Q4) The digits of a 3 -digit positive number are in AP and their sum is 15. The number obtained by reversing its digits is 792 more than the original number. Find the original number.

Q5)Water flows through a cylindrical pipe of internal diameter 7 cm at 5 m/s. Calculate: (i) the volume, in litres, of water discharged by the pipe in 1 minute. (ii) the time, in minutes, the pipe would take to fill an empty rectangular tank 4 m by 3 m by 2.31 m.