



TEST PAPER: MATHEMATICS

Time: 90 Minutes

Class: 10th I.C.S.E.

Max. Marks: 50 Marks

Date: 22nd July, 2018

Marking Scheme: Four questions carry 10 marks each. Questions have 3 subparts each. Subparts (a) and (b) carry 3 marks each and subpart (c) carries 4 marks.

Question 1:

- Find the values of k for each of the following quadratic equations, so that they have two equal roots.
 - $2x^2 + kx + 3 = 0$
 - $kx(x - 2) + 6 = 0$
- How many multiples of 4 lie between 10 and 250?
- A train travels 360 km at a uniform speed. If the speed had been 5 km/h more, it would have taken 1 hour less for the same journey. Find the speed of the train.

Question 2:

- Write the first three terms in each of the following sequences defined by the following:
 - $a_n = 2n + 5$,
 - $a_n = (n-3)/4$
- Deepti deposits Rs.400 p.m. in a bank which pays 5.5% simple interest on recurring deposits. Find the amount she gets at the end of 2 years.
- The difference of squares of two numbers is 180. The square of the smaller number is 8 times the larger number. Find the two numbers.

Question 3:

- Which is better investment: 7% Rs.100 shares at Rs.120 or 8% Rs.10 shares at Rs.13.50?
- A company with 100 shares of Rs.5 each, declares an annual dividend of 5%.
 - What is the total amount of dividend paid by the company?
 - What would be the annual income of a man who has 40 shares in the company?
 - If he received only 3% on his investment, find the price he paid for each share.
- Find a G.P. for which sum of the first two terms is -4 and the fifth term is 4 times the third term.

Question 4:

- A man invested Rs.45000 in 15% Rs.100 shares quoted at Rs.125. When the market value of these shares rose to Rs.140, he sold some shares, just enough to raise Rs.8400. Calculate:
 - the number of shares he still holds.
 - the dividend due to him on these shares.
- A man wants to buy 62 shares available at Rs132(par value of Rs100).
 - How much should he invest?
 - If the dividend is 7.5%, what will be his annual income?
 - If he wants to increase his income by Rs. 150, how many extra shares should he buy?

- c. The sum of the 4th and 8th terms of an AP is 24 and the sum of the 6th and 10th terms is 44. Find the first three terms of the AP.

Question 5:

- a. Rajaram wants Rs.34575 at the end of 5 years by depositing a certain sum of money on a monthly basis in a bank paying 6% simple interest p.a. What should be the monthly instalment.
- b. A man invests a sum of money in Rs.100 shares paying 15% dividend quoted at 20% premium. If his dividend is Rs. 540, Calculate:
- His total investment
 - The rate of return on his investment.
- c. The diagonal of a rectangular field is 60 metres more than the shorter side. If the longer side is 30 metres more than the shorter side, find the sides of the field.