TEST PAPER: MATHEMATICS

Time: 60 Minutes **Class: 9th I.C.S.E.**

Max. Marks: 40 Marks **Date: 11th April, 2018**

Marking Scheme: *Three 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:

1. Shyam deposited Rs. 150 per month in his bank for eight months under the Recurring Deposit Scheme. Find the maturity value of his deposit, if the rate of interest is 8% per annum and the interest is calculated at the end of every month ?

2. A boat can cover 10 km up the stream and 5 km down the stream in 6 hours. If the speed of the stream is 1.5 km/h, find the speed of the boat in still water.

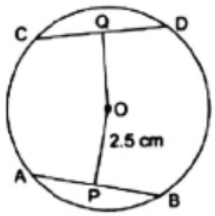
3. A manufacturer produces a good which cost him Rs.500. He sells it to a wholesaler at a price of Rs.500 and wholesaler sells it to retailer at a price of Rs.600. The retailer sells it to the customer at a price of Rs.800. If the sales tax charged is 5%. Find the tax charged under VAT by : (i) manufacturer, (ii) wholesaler and (iii) retailer. Find the tax paid by the customer.

Question 2:

1. If the point A(a, 2) is equidistant from the points B(8, -2) and C(2, -2), find the value of a.

2. Find the value of 'p', if the following quadratic equation has equal roots: $4x^2 - (p - 2)x + 1 = 0$

3. In the figure, P and Q are the mid-points of AB and CD respectively. What is the length of OQ?



Question 3:

1. Find the matrix X such that A + X = 2 B + C.

   $Given\ A = \begin{pmatrix} 2 & -1 \\ 2 & 0 \end{pmatrix}\ B = \begin{pmatrix} -3 & 2 \\ 4 & 0 \end{pmatrix}\ and\ C = \begin{pmatrix} 1 & 0 \\ 0 & 2 \end{pmatrix}$

2. If (4a + 9b) : (4c + 9d) = (4a – 9b) : (4c – 9d) , show that a : b = c : d.

3. 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 :

   (i) the number of shares he still holds. (ii) the dividend due to him on these shares.

Question 4:

1. A rectangular garden is to be designed whose breadth is 3 m less than its length. Its area is to be 4 sqm more than the area of a garden that has already been made in the shape of an isosceles triangle with its base as the breadth of the rectangular garden and of altitude 12 m. find its length and breadth.

2. Use a graph paper for the question:

   (i) The point P (2, – 4) is reflected about the line x = 0 to get the image Q. Find the coordinates of Q.

   (ii) Point Q is reflected about the line y = 0 to get the image R. Find the co-ordinates of R.

   (iii) Name the figure PQR.

   (iv) Find the area of figure PQR.

3. AD is a diameter of a circle and AB is a chord. If AB = 30 cm and its perpendicular distance from the centre of the circle is 8 cm, then what is the length of the diameter AD?