



# TEST PAPER: MATHEMATICS

Time: 50 Minutes

Class: 10<sup>th</sup> I.C.S.E.

Max. Marks: 30 Marks

Date: 9<sup>th</sup> May, 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:

- a. The 4th term of a G.P. is square of its second term, and the first term is  $-3$ . Determine its 7th term.
- b. A company with 10000 shares of Rs.100 each, declares an annual dividend of 5%.
  - (i) What is the total amount of dividend paid by the company?
  - (ii) What would be the annual income of a man, who has 72 shares, in the company?
  - (iii) If he received only 4% on his investment, find the price he paid for each share.
- c. A motor boat whose speed is 18 km/h in still water takes 1 hour more to go 24 km upstream than to return downstream to the same spot. Find the speed of the stream.

## Question 2:

- a. Insert three numbers between 1 and 256 so that the resulting sequence is a G.P.
- b. The 17th term of an AP exceeds its 10th term by 70. Find:
  - (i) The common difference
  - (ii) The first term if the 10<sup>th</sup> term is 90.
- c. Rohan's mother is 26 years older than him. The product of their ages (in years) 3 years from now will be 360. Find Rohan's present age.

## Question 3:

- a. The altitude of a right triangle is 7 cm less than its base. If the hypotenuse is 13 cm, find:
  - (i) length of altitude
  - (ii) length of base
- b. Find the values of  $k$  for each of the following quadratic equations, so that they have two equal roots.
  - (i)  $2x^2 + kx + 3 = 0$
  - (ii)  $kx(x - 2) + 6 = 0$
- c. Ahmed has a recurring deposit account in a bank He deposits Rs. 2500 per month for 2 years. If he gets Rs. 66250 at the time of maturity, find:
  - (i) interest paid by the bank
  - (ii) rate of interest.