TEST PAPER: MATHEMATICS

Time: 80 Minutes **Class:** 8th I.C.S.E.

Max. Marks: 40 Marks **Date:** 29th 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:

a. Simplify:

$$4t - (2p + 2t) - (-5p + 3t)$$

b. i. Subtract 3x + y – 3z from 9x – 5y + z
ii. Write down all the factors of $3x^2y$.

c. i. Add: $5x^2 + 7y - 8$, $4y + 7 - 2x^2$ and $6 - 5y + 4x^2$.
ii. Expand:

$$\left(\frac{3}{2}m + \frac{2}{3}n\right)\left(\frac{3}{2}m - \frac{2}{3}n\right)$$

Question 2:

a. i. Find the remainder when $5x^2 + 12x + 1$ is divided by (x + 2).
ii. Evaulate 29^3 using identities

b. Evaluate: $\sqrt[3]{(27 \times 64)}$.

c. Find the quotient and remainder when $(7 + 15x - 13x^2 + 5x^3)$ is divided by $(4 - 3x + x^2)$.**Question 8:**

Question 3:

a. i. Find the cube root of (-125/512)
ii. Use the Identity (x + a) (x + b) = x2 + (a + b) x + ab to find the following: 501 × 502

b. Find the smallest number to multiply 11025 so as to get a perfect cube.

c. i. Find the smallest number by which 1944 must be multiplied so that the product is a perfect cube.
ii. What least number must be multiplied to 6912 so that the product becomes a perfect cube?

Question 4:

a. State true or false:
(i) Cube of any odd number is even.
(ii) A perfect cube does not end with two zeros.
(iii) If square of a number ends with 5, then its cube ends with 25.
(iv) There is no perfect cube which ends with 8.
(v) The cube of a two digit number may be a three digit number.
(vi) The cube of a two digit number may have seven or more digits.

b. Expand using identities:
(i) $(b - 7)^2$ (ii) $(xy + 3z)^2$ (iii) $(6x^2 - 5y)^2$

c. i. Multiply the binomials:
(i) $(2x + 5)$ and $(4x - 3)$ (ii) $(y - 8)$ and $(3y - 4)$
ii. Subtract 3pq (p – q) from 2pq (p + q).