Half Yearly Examination – 1

Class – 7 **Full Mark: 40**

Time: 1 Hour

Section – A, attempt all the questions

1. **[3 + 3 + 4]**

a) The temperature of a city falls by 10^0C, then rises by 12^0C and again falls by 5^0C. If the initial temperature was 25^0C, then what will be the final temperature?

b) Simplify: $(3a^2 + 2b^2 + 2ab) – (2a^2 + b^2 – 2ab)$

c) One teacher had 54 chocolates with. She gave two thirds of these to girls and one sixth to boys. How many chocolates were left with her?

2. **[3 + 3 + 4]**

a) Simplify: $3\frac{5}{6} + 7\frac{1}{9}$

b) Two angles are supplementary. One of them is 60° more than the other, find both the angles.

c) A train covers a distance of 353.6 km in 3.2 hours. What is the distance covered by the train in 1 hour?

Section – B, attempt any two questions

3. **[3 + 3 + 4]**

a) Find the value of p, if $\left(\frac{5}{6}\right)^p = \frac{125}{216}$.

b) Find the value of: $\{-(-5)^3 \times (-1)^{81}\}$

c) Write each of the sets in ROSTER forms and also write their cardinal numbers :

P = {letters of the word EXAMINATION} and Q = $\{x \mid x = 2n + 1, n < 5, n \in N\}$

4. **[3 + 3 + 4]**

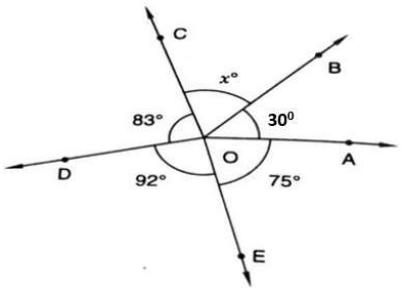
a) Simplify: $4 + \frac{3}{5}[\{-10 \times (55 – |16 – 3|)\} \div (-6)]$

b) The product of two rational numbers is $\frac{8}{9}$. If one of the numbers is $\frac{-4}{15}$, find the other number.

c) From the sum of $3a^2 – 5a + 2$ and $5a^2 – 8a + 9$ subtract $4a^2 – 5a + 9$.

5. **[3 + 3 + 4]**

a) Find x in the given figure:



b) Simplify: $(8^{-1} \times 3^{-1}) \div 6^{-1}$.

c)

i) Is it possible to have a triangle with angles 110°, 50°, 10°? If not, why?

ii) What should be added to $\frac{-8}{9}$ to get $\frac{4}{9}$?