Time: 1 Hour   **M.M. : 20**

Name: …………………………………............. Roll No..…….......... T. sign......................................

General instructions:

- **All Questions are compulsory.**
- **Do neat and clean work.**
- **This Question paper has 4 sections A, B ,C and D**

Section – A (½ ×4 = 2 Marks)

1. $\left(\frac{3}{5}\right)^0 = ?$
   a) 5/3.   b) 3/5.   c) 0.   d) 1

2. $(X + 5)(X - 3) = ?$
   a) $X^2 + 5X - 15$.   b) $X^2 - 3X - 15$.   c) $X^2 + 2X + 15$.   d) $X^2 + 2X - 15$

3. **Assertion (A): Subtract $3x - 4y - 7z$ from the sum of $x - 3y + 2z$ and $-4x + 9y - 11z$. It's solution is $6x + 10y + 2z$.**
   Reason (R) : In order to subtract an algebraic expression from another, we change the signs of all the terms of the expression which is to subtracted and then two expressions are added.
   a) Both A and R are true and R is the correct explanation of A.
   b) Both A and R are true but R is not the correct explanation of A.
   c) A is true but R is false.
   d) A is false but R is true.

4. **Assertion (A) : $2 \times 2 \times 2 \times 2 \times 2$ is equal to 25.**
   Reasons (R) : The power of a number says how many times to use the number in a multiplication
   a) Both A and R are true and R is the correct explanation of A.
   b) Both A and R are true but R is not the correct explanation of A.
   c) A is true but R is false.
   d) A is false but R is true.

Section – B (Each question is of 2 Marks)

5. **Find the value of X for which $\left(\frac{5}{3}\right)^4 \times \left(\frac{5}{3}\right)^5 = \left(\frac{5}{3}\right)^3 x$**

6. **Multiply : $(5X^2 - 6X + 9)$ by $(X^2 + 7X - 8)$**

7. **Simplify and express the result in power notation with positive exponent**
   (I) $(-3)^4 \times (1/2)^4$

   (II) $\left(\frac{1}{2^3}\right)^2$

Section – C (Each question is 3 Marks)

8. **Simplify : (I) $(1.5 x - 4y)(1.5 x + 4y + 3) - 4.5 x + 12 y$**
   (II) $(x + y)(x^2 - xy + y^2)$

9. **Simplify and evaluate them as directed:**
   (I) $x(x + 3) + 2$ for $x = -1$

(II) $3y (2y – 7) – 3 (y + 4) –63$ for $y = 3$

10. In a stack there are 5 books each of thickness 20 mm and 5 paper sheets each of thickness 0.016 mm. What is the total thickness of the stack.

Section – D (Case study - 3 Marks)

11. A playground is in shape of a square. The area of the square PQRS is 256 m^2 with each side (x + 2) m. One day Suraj along with his two friends Ajay and Aman went to play there with bicycle. Someone stole Suraj bicycle, but Ajay and Aman helped him by contributing Rs.(4a + 60) and Rs.(6a + 10) respectively, to buy a new bicycle. The cost of bicycle was Rs.4200.

On basis of this information given in passage answer following questions.
 - (I) Find the value of X.
 - (II) What is the value of a?
 - (III) What is the perimeter of the playground?