

## Mathematics Test

### Chapter 10: Algebraic Expressions

Maximum Marks: 10

Time: 20 minutes

**A. Choose the correct option: [1 × 4 = 4]**

|     |                                             |     |                     |     |                |     |                     |
|-----|---------------------------------------------|-----|---------------------|-----|----------------|-----|---------------------|
| 1.  | Identify the binomial out of the following: |     |                     |     |                |     |                     |
| (a) | $3xy^2 + 5y - x^2y$                         | (b) | $x^2y - 5y - x^2yp$ | (c) | $xy + yz + zx$ | (d) | $7xy^2 + 6y - y^2x$ |

|     |                                                                 |     |                |     |                       |     |            |
|-----|-----------------------------------------------------------------|-----|----------------|-----|-----------------------|-----|------------|
| 2.  | Which of the following pair of terms is a pair of unlike terms? |     |                |     |                       |     |            |
| (a) | $7a^2bc, 21cba^2$                                               | (b) | $12abc, 17bac$ | (c) | $7pq^2r^3, 14q^2p^3r$ | (d) | $14a, 22a$ |

|     |                                                             |     |                                                             |     |                                                                      |     |                                                             |
|-----|-------------------------------------------------------------|-----|-------------------------------------------------------------|-----|----------------------------------------------------------------------|-----|-------------------------------------------------------------|
| 3.  | Factors of the term $-17x^3y^2z$ are                        |     |                                                             |     |                                                                      |     |                                                             |
| (a) | $-17 \times x \times x \times x \times y \times y \times z$ | (b) | $-17 \times x \times y \times y \times y \times z \times z$ | (c) | $-17 \times x \times x \times x \times y \times y \times z \times z$ | (d) | $-17 \times x \times x \times x \times y \times z \times z$ |

|     |                                                 |     |    |  |    |     |   |
|-----|-------------------------------------------------|-----|----|--|----|-----|---|
| 4.  | The value of $3x^2 - 5x + 3$ when $x = (-1)$ is |     |    |  |    |     |   |
| (a) | 1                                               | (b) | 11 |  | 10 | (d) | 5 |

**B. Answer the following questions:**

1. Draw the factor tree diagram of the following algebraic expression: [2]

$$23x^2yz^3 - a^3bp + 11z^3x - p^2q^2r^2 + 27$$

2. Simplify:  $(3p^3 + q^2 - 24r) - (p^2 + 25q^2 + 13r) + (p^2 + 2pq - q^2)$  [2]

3. Find the value of the following polynomial for  $m=2$ ,  $n= (-3)$ ,  $p=4$ ,  $q= (-5)$  [2]

$$m^2n^2 + n^2p^3 - q^2 + 3mnq$$