



Date: 7-7-23
GRADE: X

MONTHLY TEST-2 (2023-24)
MATEMATICS (041)

Max Marks: 20
Time: 50 Minutes

GENERAL INSTRUCTIONS:

- *This question paper contains four Sections A, B, C, and D. Each part is compulsory.
- *Section A has Objective type questions and Sections B, C, and D have descriptive type questions
- *Section A comprises 6 questions of 1 mark each
- *Section B comprises 10 questions of 2 marks each
- *Section C comprises 10 questions of 3 marks each

SECTION A

(5 × 1 = 5)

- 1) Roots of quadratic equation $x^2 - 3x + 2 = 0$ are
(a) 3 (b) -1 (c) 2 (d) 4
- 2) Values of k for which the quadratic equation $2x^2 - kx + k = 0$ has equal roots is
(a) 0 only (b) 4 only (c) 8 only (d) 0, 8
- 3) If n th term of an AP is given by
 $a_n = 2n + 3$ then common difference of an AP is
(a) 2 (b) 3 (c) 5 (d) 1
- 4) The 10th term of an AP is 20 and the 19th term is 101.
Then, the third term is
(a) - 43 (b) - 61 (c) - 52 (d) 1
- 5) **Assertion :** Arithmetic between 8 and 12 is 10.

Reason : Arithmetic between two numbers ' a ' and ' b ' is given as $\frac{a+b}{2}$

Which among the following statements about Assertion and Reason is correct.

- (a) both **Assertion** and **Reason** are **correct** and Reason is the **correct explanation** of Assertion.
- (b) both **Assertion** and **Reason** are correct, but Reason is **not the correct explanation** of Assertion.
- (c) If **Assertion** is **correct** but **Reason** is **incorrect**.
- (d) If **Assertion** is **incorrect** but **Reason** is **correct**

SECTION B

Answer the following questions:

(3 × 2 = 6)

- 6) Find the sum of first 51 terms of an A.P whose second and third terms are 14 and 18 respectively.
- 7) Find the value of k for which the quadratic equation $9x^2 + 8kx + 16$ has equal roots?
- 8) Solve: $6x^2 + 40 = 31x$.

SECTION C

Answer the following questions:

(3 × 3 = 9)

- 9) Find the sum of first 40 positive integers divisible by 6 .
- 10) Is it possible to design a rectangular park of perimeter 80m and area 400 m^2 If so find its length and breadth.
- 11) Your friend Veer wants to participate in a 200m race. He can currently run that distance in 51 seconds and with each day of practice it takes him 2 seconds less. He wants to do in 31seconds .



i) Which of the following terms are in AP for the given situation.

a) 51,53,55....

(b) 51, 49, 47....

c) -51, -53, -55....

(d) 51, 55, 59...

ii) What is the minimum number of days he needs to practice till his goal is achieved

(a) 10

(b) 12

(c) 11

(d) 9

iii) Which of the following term is not in the AP of the above given situation?

(a) 41

(b) 30

(c) 37

(d) 39