Code : 041

Roll No. | | | | | | |

- Please check that this question paper contains **5** printed pages.
- Code number given on the right hand side of the question paper should be written on the title page of the answer-book by the candidate.
- Please check that this question paper contains **38** questions.
- Please write down the Serial Number of the question before attempting it.

MATHEMATICS–X

Sample Question Paper–02

Time Allowed: 3 hours *Maximum Marks: 80*

GENERAL INSTRUCTIONS:

1. *This Question Paper has* **5** *Sections A-E.*
2. ***Section A*** *has* **20 MCQs** *carrying 1 mark each.*
3. ***Section B*** *has* **5** *questions carrying* **02** *marks each.*
4. ***Section C*** *has* **6** *questions carrying* **03** *marks each.*
5. ***Section D*** *has* **4** *questions carrying* **05** *marks each.*
6. ***Section E*** *has* **3** *case based integrated units of assessment (***04** *marks each) with sub-parts of the values of* **1, 1 and 2** *marks each respectively.*
7. *All Questions are compulsory. However, an internal choice in* **2** *Qs of* **5** *marks,* **2** *Qs of* **3** *marks and* **2** *Questions of* **2** *marks has been provided. An internal choice has been provided in the* **2** *marks questions of Section E*
8. *Draw neat figures wherever required. Take* $\pi = 22/7$ *wherever required if not stated.*

SECTION-A

Section A consists of 20 questions of 1 mark each.

1. The sum of the exponents of prime factors in the prime factorisation of 196 is.

(a) 1 (b) 2 (c) 4 (d) 6

2. If one zero of the quadratic polynomial $x^2 + 3x + k$ is 2, then the value of k is

(a) 10 (b) –10 (c) 5 (d) –5

3. The value of k for which the lines $5x + 7y = 3$ and $15x + 21y = k$ coincide is

(a) 9 (b) 5 (c) 7 (d) 18

4. The roots of the equation $(b - c)\,x^2 + (c - a)\,x + (a - b) = 0$ are equal, then

(a) $2a = b + c$ (b) $2c = a + b$

(c) $b = a + c$ (d) $2b = a + c$