

(Please Write your Roll No. immediately)

Roll No. 147.....

Mid-Term Examination

B. Tech – III Semester
Paper Code: CIC 205
Time: 1 hour

NOV, 2023
Subject: DM
Max. Marks: 30

Note: Q. No. 1 is compulsory. Attempt any two more Questions from the rest.

Q.1. Explain briefly:

(2x5=10 Marks)

- ☒ (a) What is a group and semigroup?
- ☒ (b) What is Euler circuit and Hamiltonian circuit?
- ☒ (c) Explain isomorphism?
- ☒ (d) What is homomorphism?
- ☒ (e) What is graph coloring and chromatic number of a graph?

Q.2 (a) Explain cosets and Lagrange's theorem.

(5 Marks)

(b) Explain groups and coding.

(5 Marks)

Q.3 (a) Explain BFS with example.

(5 Marks)

(b) Explain DFS with example.

(5 Marks)

Q.4 Define the following:

(I) Minimum Spanning tree (5 Marks)

(II) Five color theorem (5 Marks)