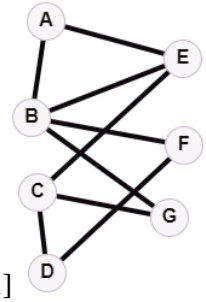
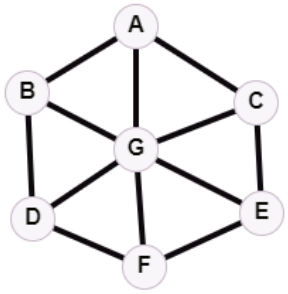
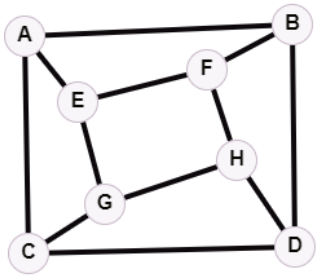
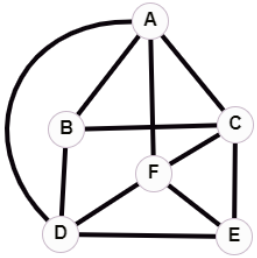
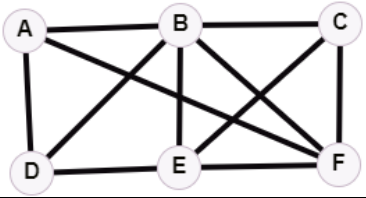
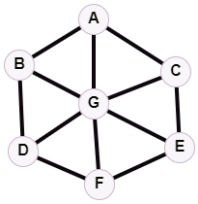
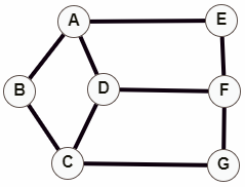
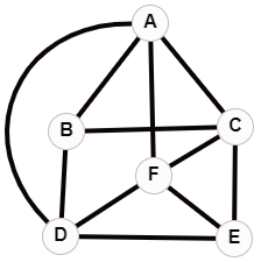
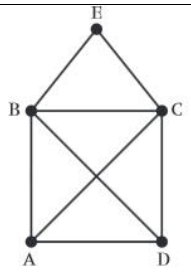
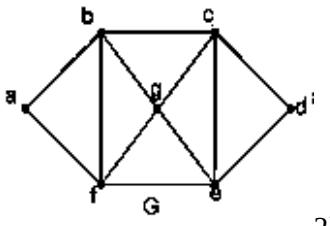
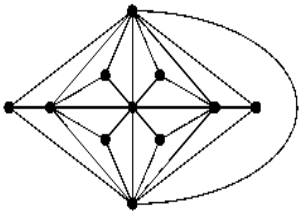
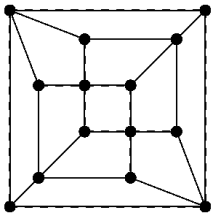
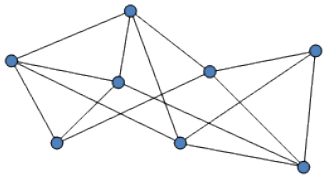
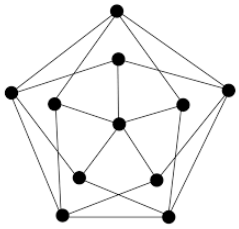
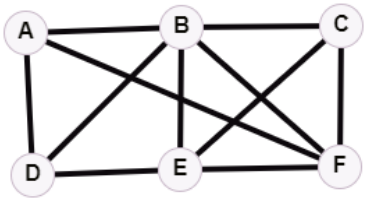
**Subject: DM (01CE0409)** **SEM: 04** **AY: 2023-24**

## Assignment: 6

## Unit: Planar & Non-Planar Graph

| | | |
|---|---|---|
| 1 | Apply graph embedding Check whether following graphs are planar or not.<br>1]  <br>2]  <br>3]  <br>4]  | Evaluate |
| 2 | Apply graph embedding and check the following graph are planar or not<br>(1) Petersen graph (2) Complete graph $K_3$ , $K_7$ (3) Complete bipartite graph $K_{4,3}$ , $K_{7,1}$ | Understanding |
| 3 | Prove that kuratowski's first is non-planar. | Understanding |
| 4 | Show that this graph is planar by draw in it in the plane without any edges crossing .Verify Euler's formula for this graph.<br>  | Analyzing |
| 5 | Verify the Euler's formula in the following graphs.<br>1]  <br>2]  <br>3]  | Application |

| | | |
|---|---|---|
| | 4]   | |
| 6 | Apply the Euler 's formula on<br>(1) Petersen graph (2) $K_{3,4}$ , $K_{2,3}$ (3) $K_4$ , $K_6$ | Evaluate |
| 7 | Find the dual graph of following<br>1]   2]  <br>3]  | Apply |
| 8 | Find the chromatic number of following graphs<br>1] Petersen graph<br>2]  3]  <br>4]   | APPLY |
| 9 | Apply region coloring | Apply |

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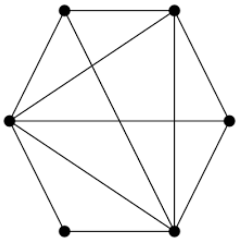
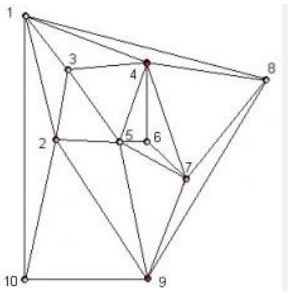
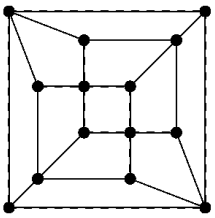
| | 1]  2]   3]  | |