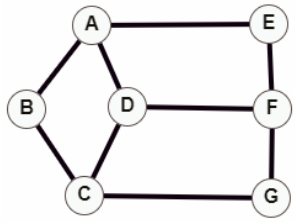
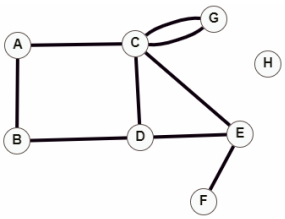
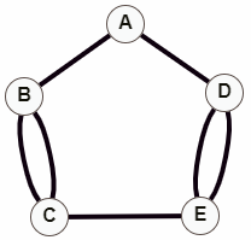
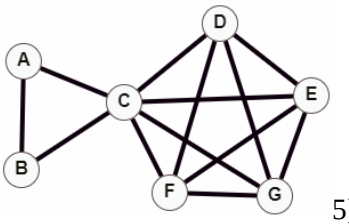
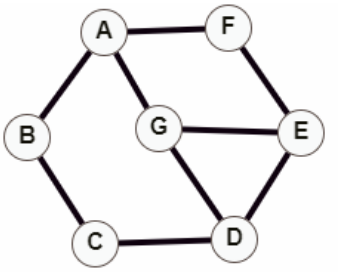
Subject: DM **SEM: 04** **AY: 2024-25**

Tutorial-1
Unit: Graphs & Trees

1	Define the graph. State and prove first theorem of graph theory	Apply
2	Find the degree of all vertex of graph. 1]  2]  3]  4]  5] 	Understanding
3	Draw a graph with five vertices a, b, c, d, e such that deg (a) =3, b is an odd vertex, deg(c)=2 and e and d are adjacent.	Evaluate
4	Show that the maximum number of edges in a simple graph with n vertices is $\frac{n(n-1)}{2}$.	Understanding
5	Prove that in a graph the number of the vertices with odd degree is even.	Analysing
6	A graph has five vertices of degree 4 and two vertices of degree 2. How many edges does it have?	
7	Draw K_7 , $K_{3,5}$, $K_{2,6}$ and find number of edges for each graph.	Application