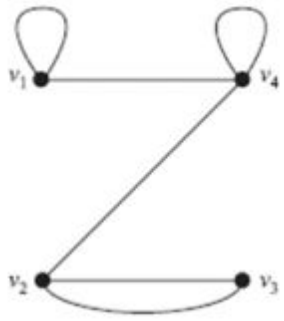
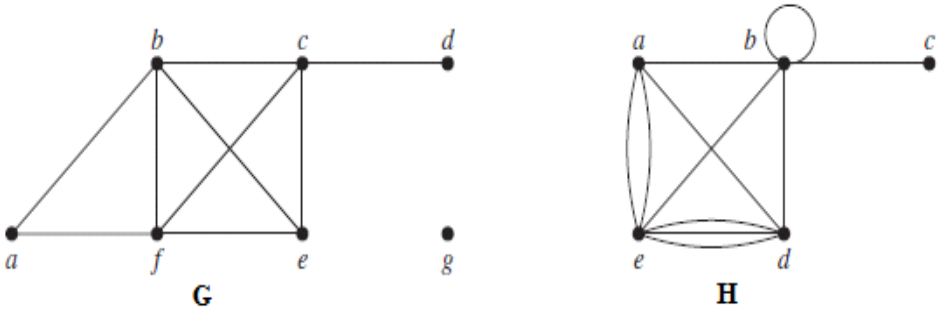
United College of Engineering and Research, Allahabad

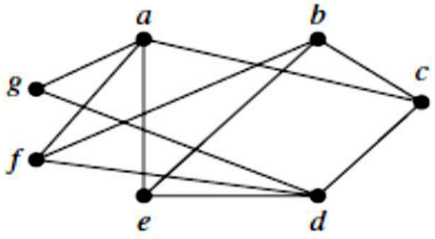
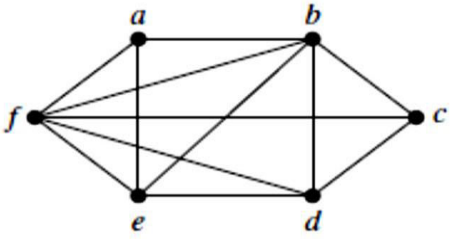
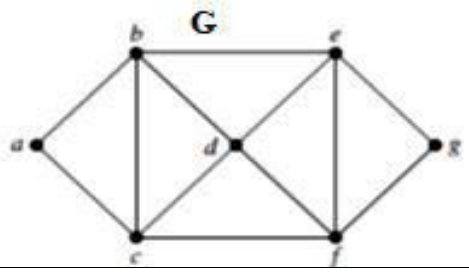
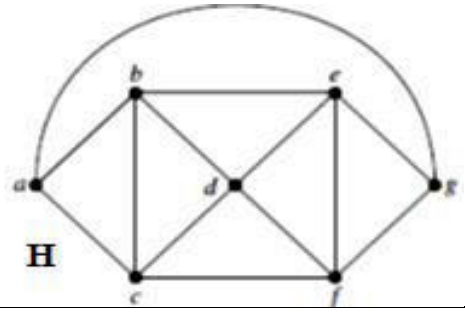
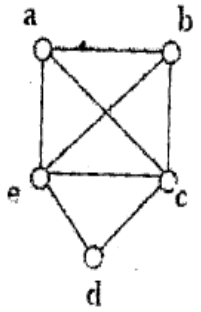
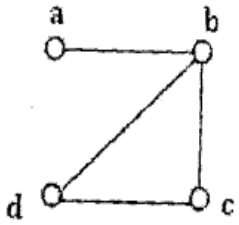
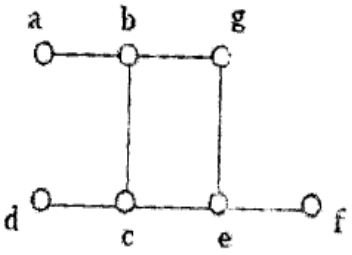
Department of Computer Science & Engineering

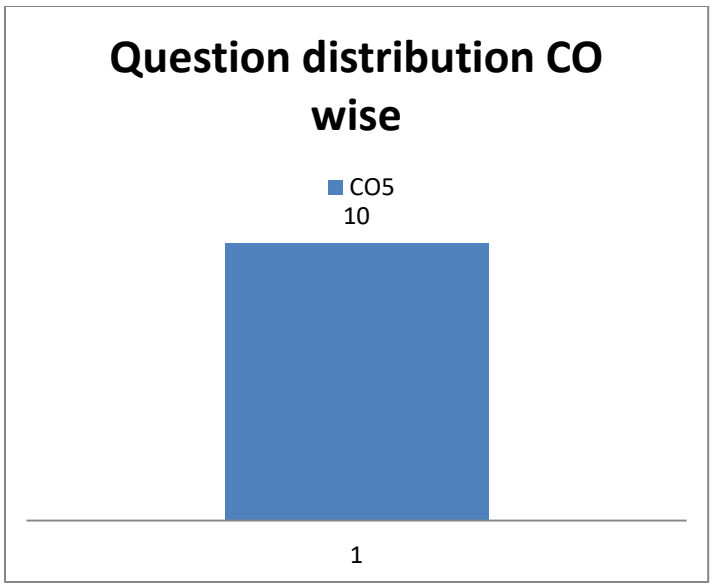
B.Tech.

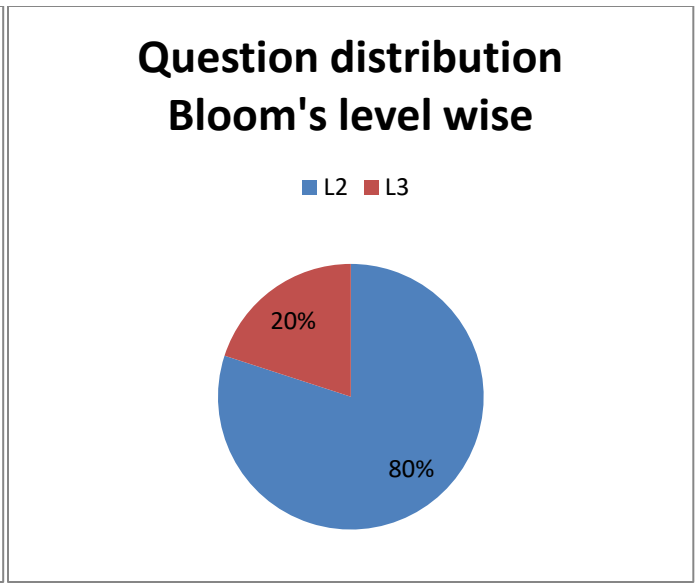
Discrete Structure and Theory of Logic (KCS-303)

Assignment-5

Q. No.	Question	CO	Bloom's level
1	Show that there does not exist a graph with 5 vertices with degrees 1, 3, 4, 2, 3 respectively.	CO5	L2
2	Define planar graph. Prove that for any connected planar graph, v – e+ r = 2 Where v, e, r is the number of vertices, edges, and regions of the graph respectively.	CO5	L2
3	Find the adjacency matrix A = [a_{ij}] of graph given in following figure:- 	CO5	L2
4	What are the degrees and what are the neighborhoods of the vertices in the graphs G and H displayed in Figure ? 	CO5	L2
5	Are the graphs G and H displayed in the figure bipartite?	CO5	L3

	 G  H		
6	What are the chromatic numbers of the graphs G and H shown in figure  	CO5	L2
7	Define Multigraph. Explain with example in brief.	CO5	L2
8	Let G be a graph with 10 vertices. If 4 vertices has degree 4 and 6 vertices has degree 5, then find the number of edges of G.	CO5	L3
9	Which of the following simple graph have a Hamiltonian circuit or, if not a Hamiltonian path?  G1  G2  G3	CO5	L2
10	Explain the following terms with examples. i. Homomorphism and Isomorphism graphs ii. Euler and Hamiltonian Graph iii. Planar and Complete bipartite graph	CO5	L2


Question distribution CO wise
CO5
10
1


Question distribution Bloom's level wise
L2
L3
20%
80%