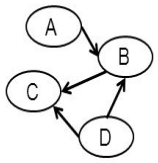
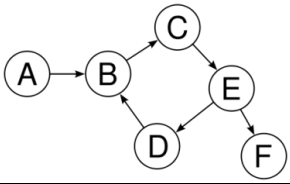
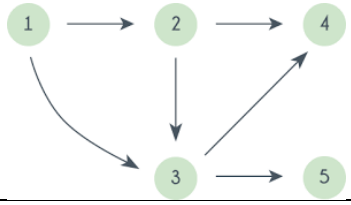
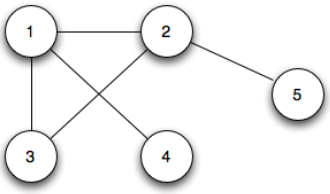
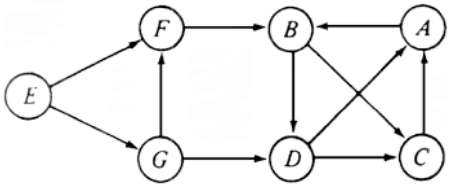
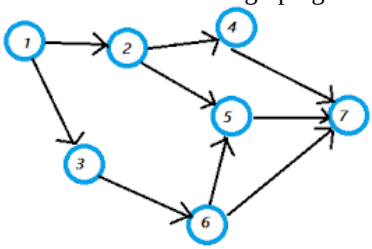
GIET UNIVERSITY, GUNUPUR – 765022
B. Tech –2nd Semester (2024-2025): ASSIGNMENT
BESBS 2040– Data Structures and Algorithms
ASSIGNMENT-V

Date of issue:	**SECTION: FOR ALL SECTIONS**	
Date of submission:	**Each question carries 5 marks**	
SLNO	**QUESTION**	**CO/PO**
1	What is Heap Tree and its types? Explain the procedure for construction of Max heap Tree and Min Heap Tree both with suitable example.	CO1/PO1
2	Write down the process of mid square method and folding method in Hash functions.	CO1/PO2
3	What is hash function? Use the division method to generate hash addresses for the given key values: 10, 19, 35, 43, 62, 59, 31, 49, 77, 33	CO1/PO2
4	What is path matrix? Write down adjacency matrix and incidence matrix of the following graph. Also represent the linked concept for memory representation of below graph. 	CO3/PO2
5	Define the path matrix? State the difference by writing down adjacency matrix and incidence matrix of the following graph. Also represent the linked concept for memory representation of below graph. 	CO3/PO2
6	Write the algorithm for BFS on a directed graph and write down the explanation. 	CO3/PO3
7	Write the algorithm for Depth First Search of a graph. Write down the DFS order of the graph given below. 	CO3/PO2
8	Write the algorithm for implementing Breadth First Search in a graph. Write down BFS order for the following graph: 	CO3/PO3
9.	Construct a Max-Heap Tree for a given list of elements: 20, 30, 10, 50, 90, 70	CO1/PO1
10.	Find the in-degree and out-degree of each vertex of the graph given below: 	CO1/PO1