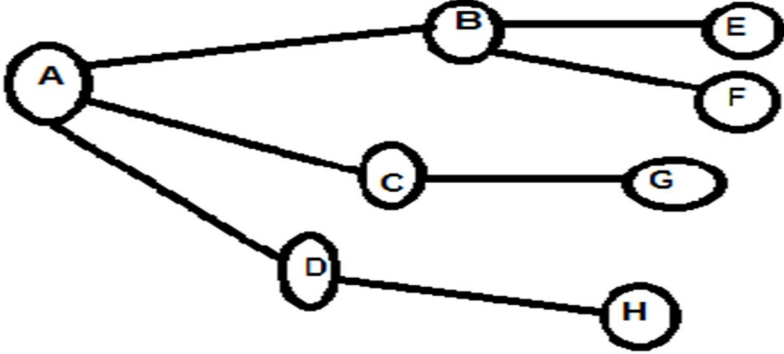


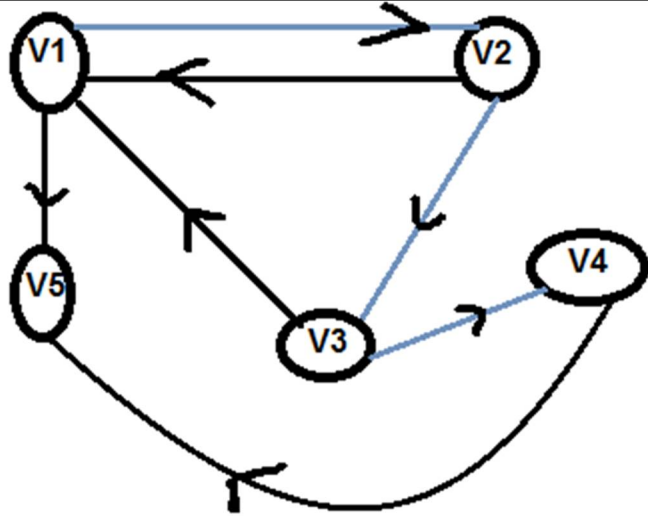
## Design and Analysis of Algorithms

Summer-2020, Final-Semester

Instructor: **Muhammad Adil**<sub>Asst. Prof.</sub> Total Marks: 50

- Attempt all tasks.

Q	Part	Question	Marks
1		Design an algorithm for creating a One Way Linked List	10
2		Convert the following from In-Fix to Pre-Fix and Post-Fix notations.  i. $A + K * F / (D \wedge M)$ ii. $T / W \wedge R + S$	05+05 05+05
3		Apply Breadth-First Technique on the given Tree.  	20
4		Design Adjacency Matrix for the given Graph.	15



5

Design Directed Graph for the given Adjacency Matrix.

15

$$A [ ] = \begin{bmatrix} 0 & 1 & 0 & 1 & 1 \\ 1 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 1 & 1 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{bmatrix}$$