National University

Of Computer & Emerging Sciences, Karachi-Campus
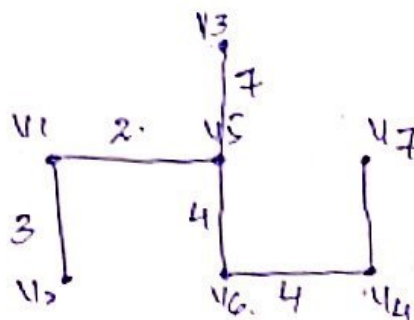
GRAPH THEORY QUIZ-2 [Max Marks:15]

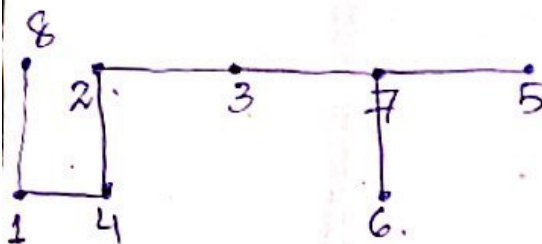Instructor: Dr. Nazish Kanwal   Sections: 5B,5D & 5F   Date: October 21", 2022.

Q.1 [4 marks] Construct a minimum spanning tree of the weighted graph of order 7 by applying **Kruskal's algorithm** whose weight matrix is given below.

	1	2	3	4	5	6	7
1	0	3	8	5	2	6	5
2	3	0	8	5	3	5	6
3	8	8	0	9	7	9	8
4	5	5	9	0	6	4	4
5	2	3	7	6	0	4	6
6	6	5	9	4	4	0	4
7	5	6	8	4	6	4	0

Q.2 [5 marks] Find the tree associated with the Prüfer sequence: (7,7,3,2,4,1).

$(7,7,3,2,4,1)$
$(7,3,2,4,1,5)$
$(3,2,4,1,5,6)$
$(2,4,1,5,6,7)$
$(4,1,5,6,7,3)$
$(1,5,6,7,3,2)$
$(5,6,7,3,2,4)$

here 1 & 8
are missing
so add edge
of 18

Q.3 [4 marks] Find the depth-first search tree with root i for the graph given below.