KEMENTERIA PENDIDIKAN MALAYSIA — POLITEKNIK MALAYSIA JABATAN MATEMATIK, SAINS DAN KOMPUTER		COURSE CODE/ COURSE NAME		DBM2033 DISCRETE MATHEMATICS
		COURSEWORK ASSESSMENT		QUIZ 2
		SESSION		DECEMBER 2018
NAME	Liew Yi Hong	DURATION	15 MINS	CLO1
REGISTRATION NO.	050DT18F1004			CLO2 10 MARKS
PROGRAMME/ SECTION	DDT2A	TOTAL MARKS		CLO3 10 MARKS

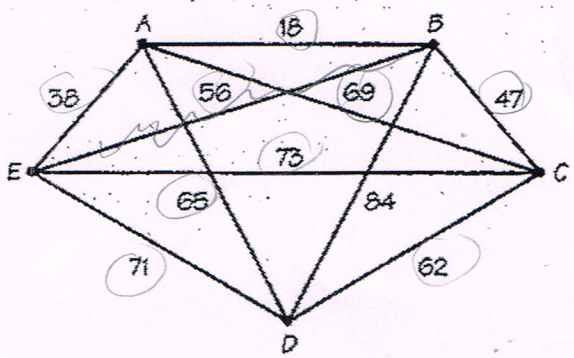
Instructions

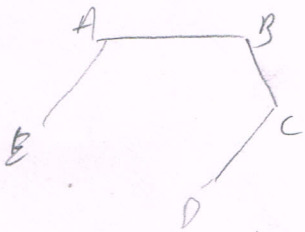
- Answer ALL questions. Write your answers in the spaces provided.
- Show your working to get marks. You may use a non-programmable scientific calculator.

Question 1

CLO2, C3 [5 marks]

Use Kruskal's algorithm to solve the minimum cost spanning tree on the following graph:

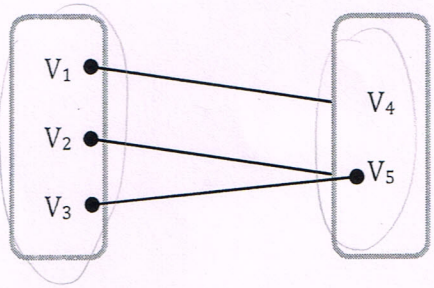




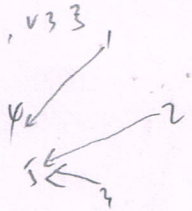
Question 2

CLO2, C3 [5 marks]

Is this bipartite graph? Explain your answer.



V1 = {v1, v2, v3}



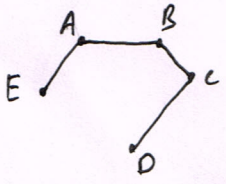
Question 1

Kruskal's algorithm

Add 5-1=4

Edge	AB	AE	BC	BE	DC	AD	BE	DE	EC	BD
Weight	18	38	47	56	62	65	69	71	73	84
Add	Yes	Yes	Yes	No	Yes	No	No	No	No	No

Total weight = 165



Question 2

It is bipartite graph because V_2 and V_3 in V_1 is connect to V_5 in V_2. V_5 is the connector for them. There is more than one element pointed to V_5. There is no same element in both side.

$V_1 = \{V_1, V_2, V_3\}$

$V_2 = \{V_4, V_5\}$

$V_1 \cap V_2 = \{\}$

$V_1 \cup V_2 = V$

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