KEMENTERIA PENDIDIKAN MALAYSIA

POLITEKNIK MALAYSIA

JABATAN MATEMATIK, SAINS DAN KOMPUTER

NAME	Erwin Jain	COURSE CODE/ COURSE NAME		DBM2033 DISCRETE MATHEMATICS	
REGISTRATION NO.	050PT16F2042	COURSEWORK ASSESSMENT		QUIZ 2	
PROGRAMME/ SECTION	DDT 2A	SESSION		DECEMBER 2018	
		DURATION	15 MINS	CLO1	3
				CLO2	10 MARKS
				CLO3	
		TOTAL MARKS		10 MARKS	

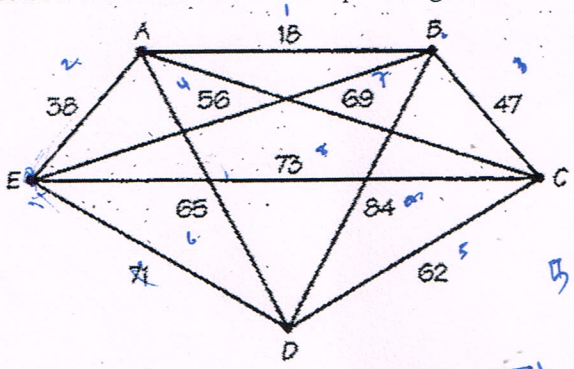
Instructions

- 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]

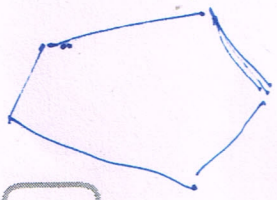
Use Kruskal's algorithm to solve the minimum cost spanning tree on the following graph:



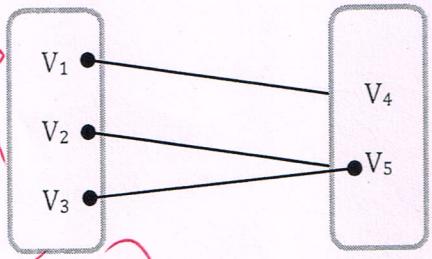
Question 2

CLO2, C3 [5 marks]

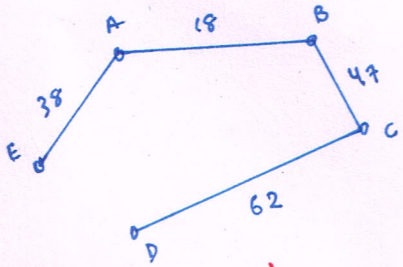
Is this bipartite graph? Explain your answer.



No because not one to one.



5 - 1 = 4 (1)



edges	AB	AE	BC	BE	CD	AD	DE	CE	BD
width	18	38	47	56	62	65	71	73	84
ADD	Yes	Yes	Yes	No	Yes	No	No	No	No

(1 1/2)

1/2

165

write your answer.

KEMENTERIA PENDIDIKAN MALAYSIA — POLITEKNIK MALAYSIA		COURSE CODE/ COURSE NAME		DBM2033 DISCRETE MATHEMATICS	
		COURSEWORK ASSESSMENT		QUIZ 2	
		SESSION		DECEMBER 2018	
JABATAN MATEMATIK, SAINS DAN KOMPUTER		DURATION	15 MINS	CLO1	
NAME	IVY CHELSY			CLO2	10 MARKS
REGISTRATION NO.	05DDT18F1001			CLO3	
PROGRAMME/ SECTION	DDT2A	TOTAL MARKS		10 MARKS	

1

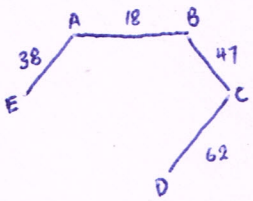
Instructions

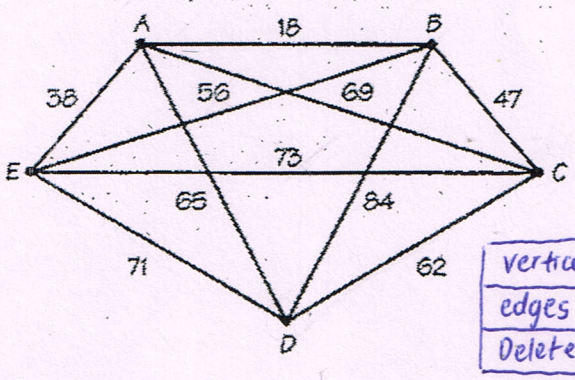
- Answer ALL questions. Write your answers in the spaces provided.
- Show your working to get marks. You may use a non-programmable scientific calculator.

Question 1

CLO2, C3 [5 marks]

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





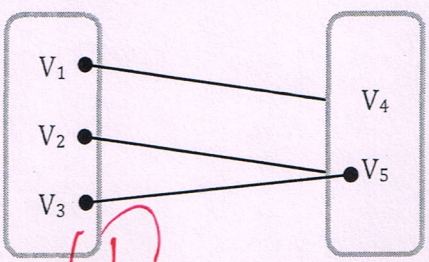
Minimum cost spanning tree = 155

vertices	DB	ED	AE	AD	DC	EB	BC	EA	AB
edges	84	71	69	65	62	56	47	38	18
Delete	✓	✓	✓	✓	✗	✓	✗	✗	✗

Question 2

CLO2, C3 [5 marks]

Is this bipartite graph? Explain your answer.



1

Yes, it is a barpatite graph because it doesn't have odd cycle. Barpatite graph doesn't contain odd cycle where each vertices has more edges to connect with each other.

6

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	MUHD AZMIZAN TAN	DURATION	15 MINS	CLO1
REGISTRATION NO.	05DD18F1134			CLO2 — 10 MARKS
PROGRAMME/ SECTION	DD12A			CLO3
		TOTAL MARKS		10 MARKS

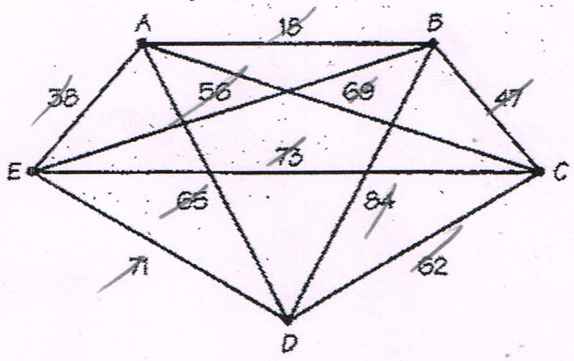
Instructions

- 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]

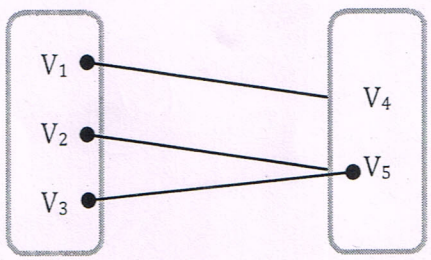
Use Kruskal's algorithm to solve the minimum cost spanning tree on the following graph:

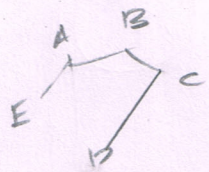


Question 2

CLO2, C3 [5 marks]

Is this bipartite graph? Explain your answer.





AB	AE	BC	EB	DC	AD	AC	ED	EC	BD
15	38	47	56	62	65	69	71	73	84
YES	YES	YES	NO	YES	NO	NO	NO	NO	NO

No pencil?

So total?

NO. Because

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JABATAN MATEMATIK, SAINS DAN KOMPUTER

NAME	Liew Yi Hong	COURSE CODE/ COURSE NAME		DBM2033 DISCRETE MATHEMATICS	
REGISTRATION NO.	05DDT18F1004	COURSEWORK ASSESSMENT		QUIZ 2	
PROGRAMME/ SECTION	DDT2A	SESSION		DECEMBER 2018	
		DURATION	15 MINS	CLO1	
				CLO2	10 MARKS
				CLO3	
		TOTAL MARKS		10 MARKS	

10
Good

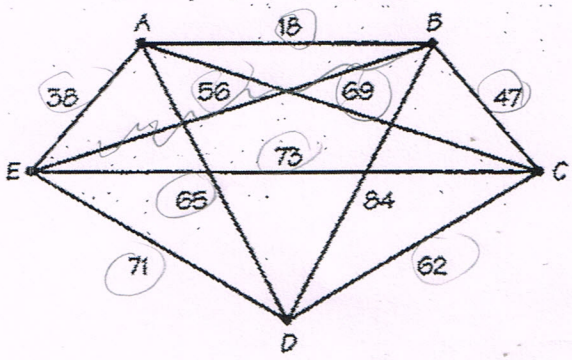
Instructions

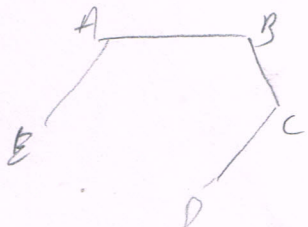
- Answer ALL questions. Write your answers in the spaces provided.
- Show your working to get marks. You may use a non-programmable scientific calculator.

Question 1

CLO2, C3 [5 marks]

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

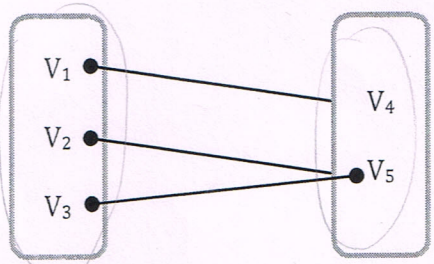




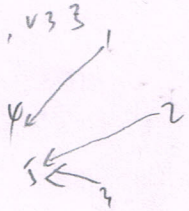
Question 2

CLO2, C3 [5 marks]

Is this bipartite graph? Explain your answer.



V1 = {v1, v2, v3}



Question 1

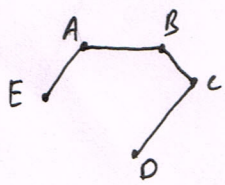
Kruskal's algorithm

Add 5 - 1 = 4

9

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.

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

$V_2 = \{V_4, V_5\}$

$V_1 \cap V_2 = \{\}$

$V_1 \cup V_2 = V$

5

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JABATAN MATEMATIK, SAINS DAN KOMPUTER

NAME	Nurul Ibtisyam	COURSE CODE/ COURSE NAME		DBM2033 DISCRETE MATHEMATICS	
REGISTRATION NO.	05DDT18F1142	COURSEWORK ASSESSMENT		QUIZ 2	
PROGRAMME/ SECTION	DDT2A	SESSION		DECEMBER 2018	
		DURATION	15 MINS	CLO1	
				CLO2	10 MARKS
				CLO3	
		TOTAL MARKS		10 MARKS	

10 Good

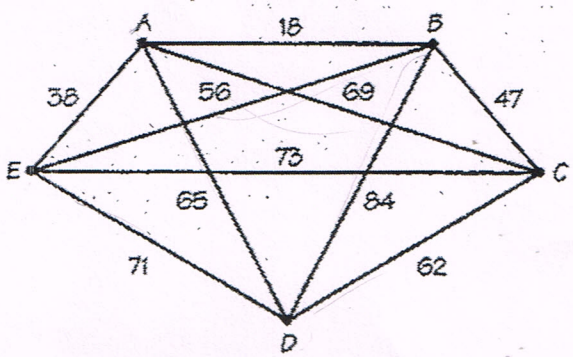
Instructions

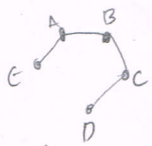
- Answer ALL questions. Write your answers in the spaces provided.
- Show your working to get marks. You may use a non-programmable scientific calculator.

Question 1

CLO2, C3 [5 marks]

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

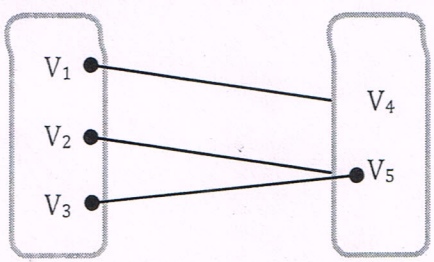




Question 2

CLO2, C3 [5 marks]

Is this bipartite graph? Explain your answer.



Q.1

kruskal's algorithm

5 - 1 = 4

Edge	AB	BC	CD	DE	EA	AC	AD	BE	BD	EC
Weight	18	47	62	71	38	69	65	56	84	73
Add	YES	YES	YES	NO	YES	NO	NO	NO	NO	NO

Total weight = 165

8

Q.2

$V = \{v_1, v_2, v_3, v_4, v_5\}$

$V_1 \cap V_2 = \{\}$

$V_1 \cup V_2 = V$

8

Yes, it is bipartite graph because there is no same elements in both side.

KEMENTERIA PENDIDIKAN MALAYSIA

POLITEKNIK MALAYSIA

JABATAN MATEMATIK, SAINS DAN KOMPUTER

NAME	MARCELLO AK NIGA	COURSE CODE/ COURSE NAME		DBM2033 DISCRETE MATHEMATICS	
REGISTRATION NO.	05DDT18F1006	COURSEWORK ASSESSMENT		QUIZ 2	
PROGRAMME/ SECTION	DDT2A	SESSION		DECEMBER 2018	
		DURATION	15 MINS	CLO1	
				CLO2	10 MARKS
				CLO3	
		TOTAL MARKS		10 MARKS	

Instructions

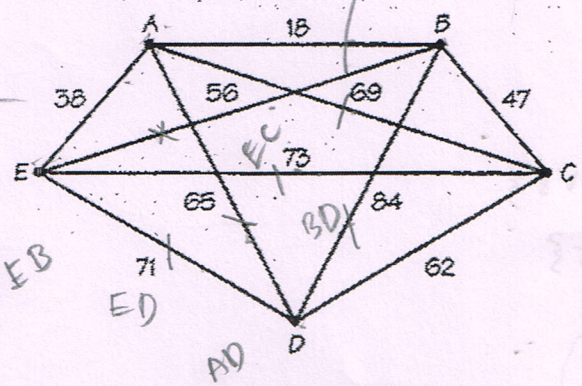
- Answer ALL questions. Write your answers in the spaces provided.
- Show your working to get marks. You may use a non-programmable scientific calculator.

Question 1

CLO2, C3 [5 marks]

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

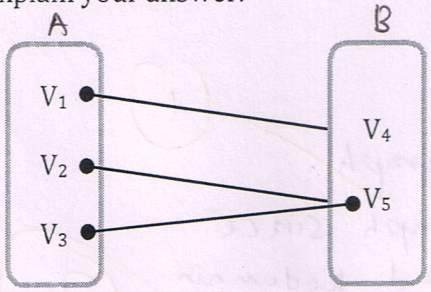
add
5-1
=4
yes



Question 2

CLO2, C3 [5 marks]

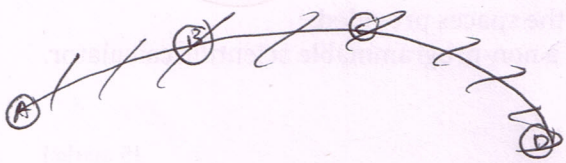
Is this bipartite graph? Explain your answer.

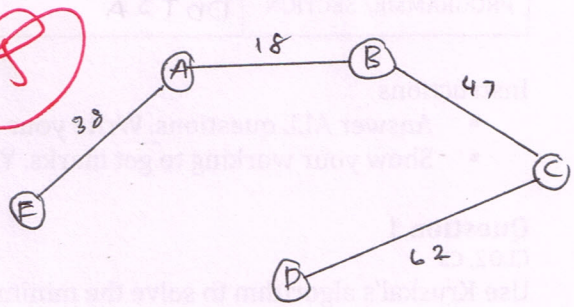


Question 1

Edge	AB	AE	BC	BE	CD	AD	BE	ED	EC	BD
weight	18	38	47	56	62	65	69	71	73	84
Add	Yes	Yes	Yes	NO	Yes	NO	NO	NO	NO	NO

minimal weight = 165

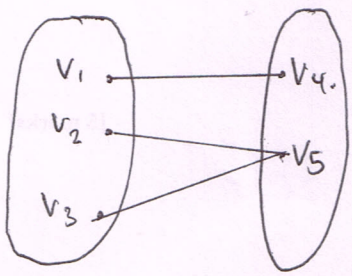




Question 2

A = { V_1, V_2, V_3 }

B = { V_4, V_5 }



- This is a bipartite graph. (1)
- It is a bipartite graph since the domain and kodomain does not have common element. (2)

KEMENTERIA PENDIDIKAN MALAYSIA / POLITEKNIK MALAYSIA		COURSE CODE/ COURSE NAME		DBM2033 DISCRETE MATHEMATICS
		COURSEWORK ASSESSMENT		QUIZ 2
		SESSION		DECEMBER 2018
JABATAN MATEMATIK, SAINS DAN KOMPUTER		DURATION	15 MINS	CLO1 / CLO2 / CLO3 — 10 MARKS
NAME	HASRUL SYAFIK BIN HAIRAN			
REGISTRATION NO.	056DDT18F1055			
PROGRAMME/ SECTION	DDT 2A	TOTAL MARKS		10 MARKS

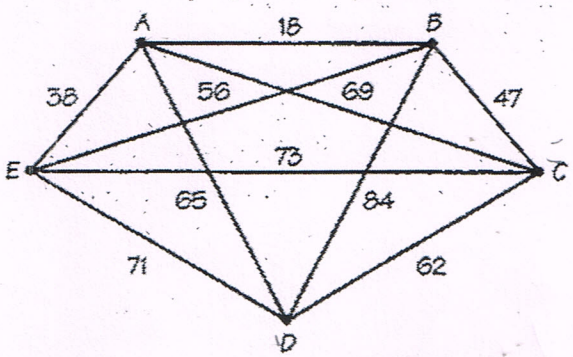
Instructions

- 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]

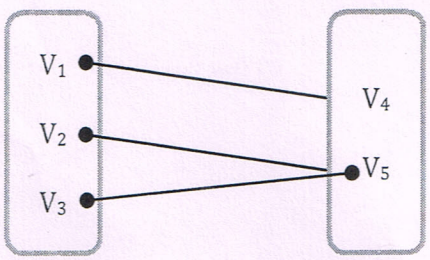
Use Kruskal's algorithm to solve the minimum cost spanning tree on the following graph:



Question 2

CLO2, C3 [5 marks]

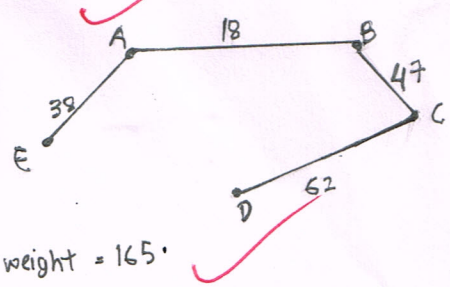
Is this bipartite graph? Explain your answer.



Question 1

edge	AB	AE	BC	BE	CD	EC	AC	ED	EC	BD
weight	18	38	47	56	62	65	69	71	73	84
Add	Yes	Yes	Yes	NO	Yes	No	No	NO	No	NO

5-1=4



weight = 165

Question 2

Yes, it is a Bipartite graph since it is contains no odd cycles. It is also has its vertex set partitioned into two subset of A and B vertic

A = {V1, V2, V3}

B = {V4, V5}

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	DIANA TRIN ANAK SUDOK@ REGGIE	DURATION	15 MINS	CLO1 CLO2 10 MARKS CLO3
REGISTRATION NO.	05DDT18F1066			
PROGRAMME/ SECTION	DDT2A	TOTAL MARKS		10 MARKS

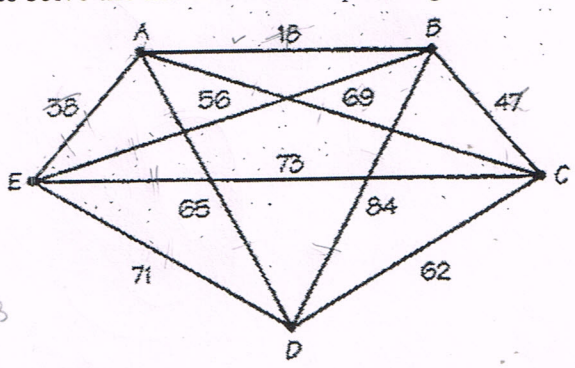
Instructions

- 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 [5 marks]

CLO2, C3

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



Small → Big

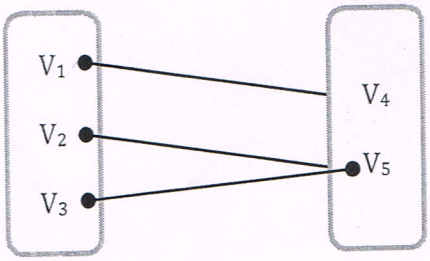
AB = 18
AE = 38
BC = 47
BE = 56
CD = 62
AD = 65
AC = 69
ED = 71

EC = 73
BD = 84

Question 2 [5 marks]

CLO2, C3

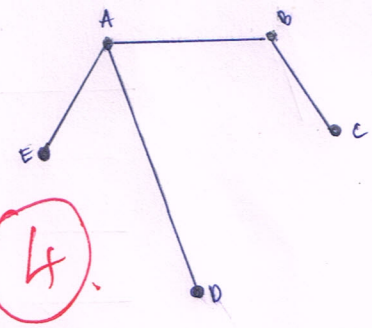
Is this bipartite graph? Explain your answer.



Question 1

5 − 1 = 4 edges

Edges	AB	AE	BC	BE	CD	AD	AC	ED	EC	BD
weight	18	38	47	56	62	65	69	71	73	84
Add	Yes	Yes	Yes	NO	NO	Yes	NO	NO	NO	NO



4

Total weight = 168

Question 2. - yes it is bipartite graph because:
a) It is only contain, so there are no circle.
b) We need

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	SYAHIRAH BINTI YAMAN	DURATION	15 MINS	CLO1	
REGISTRATION NO.	05DDT18F1073			CLO2	10 MARKS
PROGRAMME/ SECTION	DDT2A-S1	TOTAL MARKS		CLO3	
				10 MARKS	

5

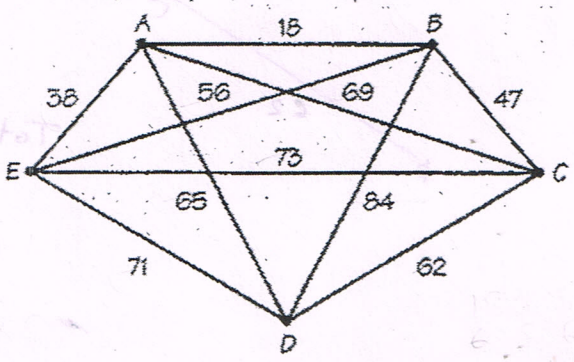
Instructions

- 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]

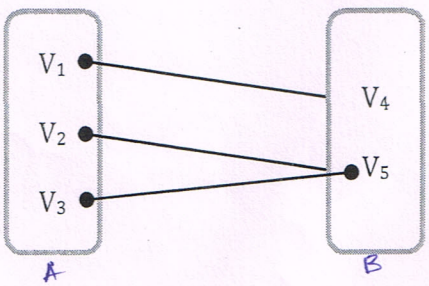
Use Kruskal's algorithm to solve the minimum cost spanning tree on the following graph:



Question 2

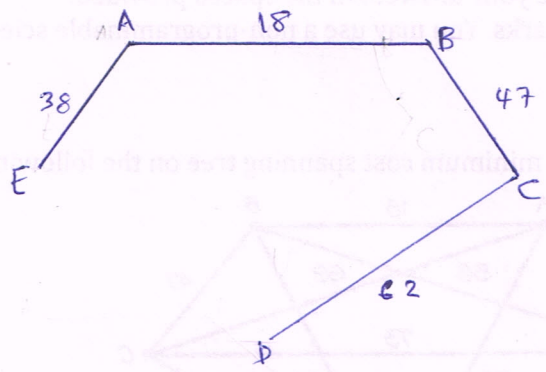
CLO2, C3 [5 marks]

Is this bipartite graph? Explain your answer.



Question 1

Edges	AB	AE	BC	AC	~~DC~~ CD	~~CE~~ AD	BE	DE	CE	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

This is ~~a~~ not a bipartite graph because $A \cup B = \{\}$ and $A \cap B = \{v\}$