(use this space to make any additional comments for any of the parts)

Ex Paper 5

Qu 2.

	1	2	3	4
1	-	5	19	11
2	-	-	4	7
3	-	5	-	14
4	9	-	6	-

$1 \xrightarrow{5} 2 \xrightarrow{4} 3 \xrightarrow{14} 4 \xrightarrow{9} 1 = 32$ (41)

visit each once

min

better

$1 \to 2$ 5
$1 \to 3$ ~~19~~
$1 \to 4$ 11
$2 \to 1$ x
$2 \to 3$ 4
$2 \to 4$ 7
$3 \to 1$ x
$3 \to 2$ ~~5~~
$3 \to 4$ 14
$4 \to 1$ 9
$4 \to 2$ x
$4 \to 3$ 6

start @ 1 → need to visit 2, 3, 4

"Prim's" → visit 4 (9)
→ visit 2 (7)
→ visit 3 (5)
→ visit 1 (19)

40 → to visit each vertex only once?

~~5~~ ~~19~~ 11
- - 4 (7)
- 5 - 14
(9) - 6 -

if we allow multiple visits?

convert weight matrix to (min) distances

	1	2	3	4
1	0	5	9	11
2	16	0	4	7
3	21	5	0	12
4	9	11	6	0

(1→2, 2→3)

(2→4→1)

(3→2→4→1)

(3→2→3→4)

(4→3→2)

"best"

$1 \xrightarrow{5} 2 \xrightarrow{4} 3 \xrightarrow{5} 2 \xrightarrow{7} 4 \xrightarrow{9} 1$

$= 30$