

**ULANGKAJI TINGKATAN 4**

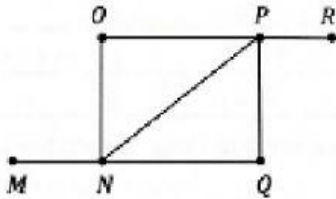
NAMA GURU: \_\_\_\_\_

SUBJEK: MATEMATIK

**BAB 5 : RANGKAIAN  
DALAM TEORI GRAF**

NAMA: \_\_\_\_\_

KELAS: \_\_\_\_\_

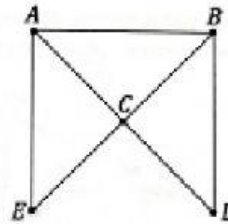
**(12 soalan: Isi dalam bulatan)****SOALAN 1**Nyatakan set bucu,  $V$ , bagi graf berikut.State the set of vertices,  $V$  for the following graph.

- A  $V = \{O, P, N, Q\}$   
 B  $V = \{M, N, O, P, Q, R\}$   
 C  $V = \{(M, N), (O, N), (N, P), (N, Q), (O, P), (P, R)\}$   
 D  $V = \{(M, N), (O, N), (N, P), (N, Q), (O, P), (P, Q), (P, R)\}$

**SOALAN 3**

Rajah berikut menunjukkan satu graf mudah.

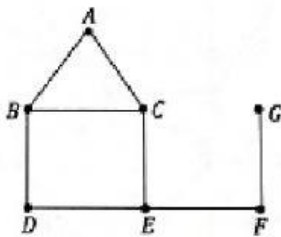
The following diagram shows a simple graph.



Berapakah bilangan darjah bagi graf di atas?

What is the sum of degrees for the graph above?

- A 10                      C 12  
 B 11                      D 14

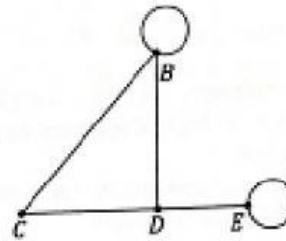
**SOALAN 2**Nyatakan set tepi,  $E$  bagi graf berikut.State the set of edges,  $E$  for the following graph.

- A  $\{(A, B), (A, C), (B, D), (B, C), (C, E), (D, E), (E, F), (F, G)\}$   
 B  $\{(A, B), (A, C), (B, D), (B, C), (C, E), (D, E)\}$   
 C  $\{A, B, C, D, E, F, G\}$   
 D  $\{A, B, C, D, E\}$

**SOALAN 4**

Rajah berikut menunjukkan satu graf mudah.

The following diagram shows a simple graph.



Bucu yang manakah mempunyai darjah yang paling tinggi?

Which vertex has the highest number of degrees?

- A B                      C D  
 B C                      D E

### SOALAN 5

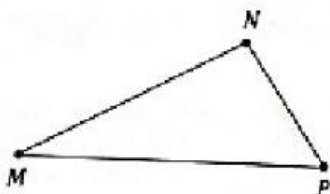
Antara berikut, yang manakah adalah **bukan** rangkaian?

Which of the following is **not** a network?

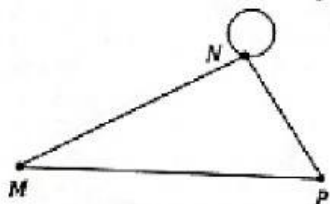
A



B



C



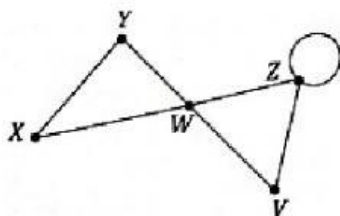
D



### SOALAN 6

Rajah berikut menunjukkan satu rangkaian.

The following diagram shows a network.



Hitung bilangan darjah bagi bucu Z.

Calculate the degree of vertex Z.

A 1

C 3

B 2

D 4

### SOALAN 7

Diberi bahawa suatu rangkaian graf mempunyai 8 tepi. Cari jumlah darjah bagi graf tersebut.

Given that a network graph has 8 edges. Find the sum of degrees of the graph.

A 24

C 14

B 16

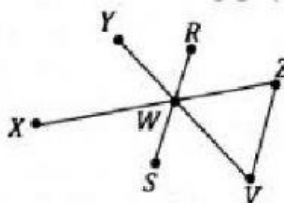
D 8

### SOALAN 8

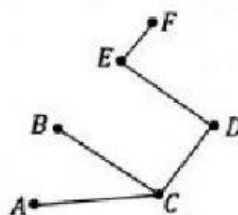
Antara graf berikut, yang manakah ialah satu pokok?

Which of the following graphs is a tree?

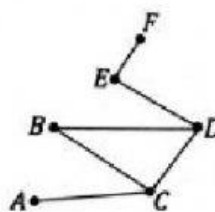
A



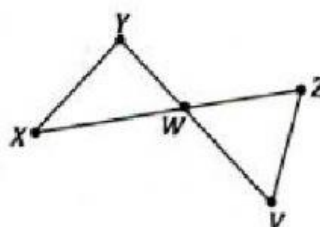
B



C



D



### SOALAN 9

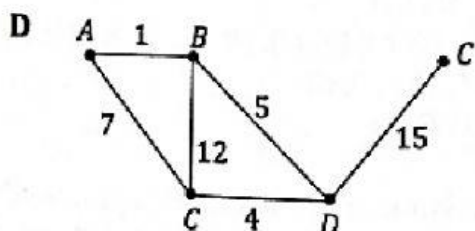
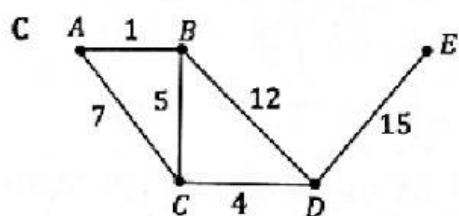
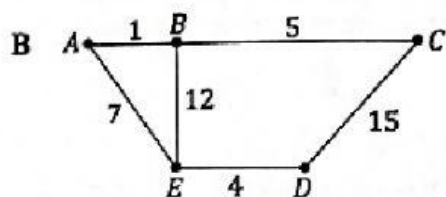
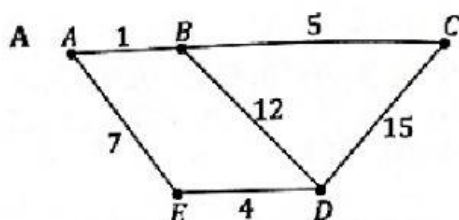
Jadual berikut menunjukkan pasangan bucu dan pemberatnya pada suatu graf.

The following table shows the pairs of vertices and their weight of a graph.

| Pasangan Bucu<br>Vertex Pair | Pemberat<br>Weightage |
|------------------------------|-----------------------|
| (A, B)                       | 1                     |
| (B, C)                       | 5                     |
| (A, C)                       | 7                     |
| (C, D)                       | 4                     |
| (B, D)                       | 12                    |
| (D, E)                       | 15                    |

Antara berikut, yang manakah mewakili graf di atas?

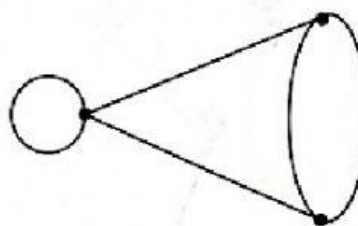
Which of the follow represents the above graph?



### SOALAN 10

Pilih darjah yang memuaskan graf berikut.

Choose the degree that satisfies the following graph.



A 4,3,3

C 3,3,1

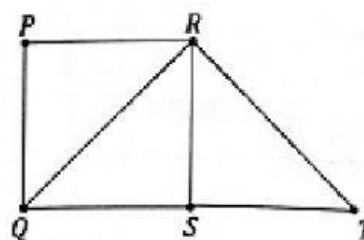
B 3,3,3

D 2,3,3

### SOALAN 11

Rajah berikut menunjukkan suatu graf mudah.

The following diagram shows a simple graph.



Nyatakan bilangan tepi yang perlu dikeluarkan untuk menjadi satu pokok.

State the number of edges that needs to be removed to becomes a tree.

A 1

C 3

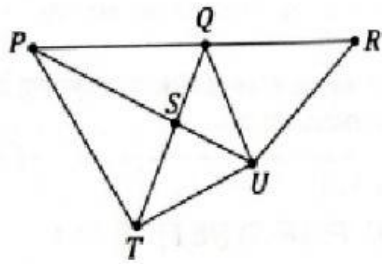
B 2

D 4

### SOALAN 12

Rajah berikut menunjukkan graf G.

The following diagram shows graph G.



Antara berikut, yang manakah **bukan** suatu subgraf bagi graf G?

Which of the following is **not** a subgraph of graph?

