



SECI1013: DISCRETE STRUCTURE  
SEM 1 2023/2024

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Date : 3/1/2024

Marks
15

Question 1

[4 Marks]

A parent-teacher committee consisting of 4 people is to be formed from 20 parents and 5 teachers. Find the probability that the committee will consist of these people :

- a) All parents  
b) 1 teacher and 3 parents

$$a) \frac{20C4}{25C4} = 0.383$$

$$b) \frac{5C1 \times 20C3}{25C4} = 0.45$$

Question 2

[3 Marks]

The probability that Alif lives in campus is 0.37. If the probability that he will buy a new notebook, given that he lives in campus is 0.75, find the probability that he will live on campus and buy a new notebook.

Let  $A$  = Alif live in campus  $P(A) = 0.37$

$B$  = Alif buy new notebook  $P(B|A) = 0.75$

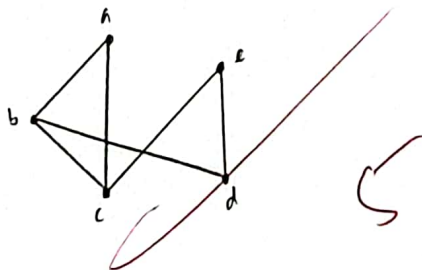
$$P(B|A) = \frac{P(B \cap A)}{P(A)}$$

$$P(A \cap B) = 0.37 \times 0.75 = 0.2775$$

Question 3

[5 Marks]

Draw the graph based on the following adjacency matrix:



	a	b	c	d	e
a	0	1	1	0	0
b	1	0	1	1	0
c	1	1	0	0	1
d	0	1	0	0	1
e	0	0	1	1	0

Question 4

[3 Marks]

Based on your answer in Question 3 above, find the degree of each vertex a, b and c.

$$\deg(a) = 2$$

$$\deg(b) = 3$$

$$\deg(c) = 3$$