SECI 1143: PROBABILITY & STATISTICAL DATA ANALYSIS
2024/2025 – SEMESTER 2

QUIZ 1

Marks:
15

Name : _____

Student ID : _____ Section : _____

Date : _____

QUESTION 1 **[3 MARKS]**

A school counselor is analyzing the weekly pocket money received by 15 randomly selected students to understand their spending capacity. The data (in RM) collected from the students are as follows:

| 15 |20 | 25 | 30 | 35 | 40 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 |

a) What is the **mean** of the pocket money received by the students? (1 marks)

b) What is the **median** of the pocket money received by the students? (2 marks)

QUESTION 2 **[7 MARKS]**

A supermarket manager recorded the number of items purchased by 50 customers during a weekend promotion. The data is grouped as follows **(Table 1):**

Table 1: Items Purchased by 50 Customers During the Weekend Promotion

Number of Item Purchased	Frequency
1 – 5	6
6 – 10	10
11 – 15	18
16 – 20	9
21 – 25	7
26 – 30	10

a) Fill in the missing information below () based on the data given in **Table 1**. (3 marks)

Class Interval (in kg)	Midpoint (in kg)	Frequency	Cumulative Frequency
1 – 5		6	
6 – 10		10	
11 – 15		18	
16 – 20		9	
21 – 25		7	
26 – 30		10	
Total		50	

b) Calculate the median number of items purchased using the formula: (4 Marks)

$$median = L + (\frac{(\frac{N}{2} - cf_p)}{f_{med}}) \times W$$

QUESTION 3 **[5 MARKS]**

A manager collected the weekly number of customer complaints received over 8 weeks, as shown below:

Number of complaints per week:

$$12,\ 15,\ 11,\ 18,\ 14,\ 17,\ 13,\ x$$

Given that the **75th percentile** of this data set is **16**, determine the missing data point (***x***).