4. Here is the age of fifty (50) respondents who responded for a sample survey of socialism among university undergraduates in Sri Lanka.

25	34	68	36	40	45	29	61	60	31
20	37	25	53	48	60	68	36	45	35
39	44	49	33	27	45	37	55	39	44
51	53	31	28	41	33	46	45	20	59
33	39	38	50	36	39	37	45	36	70

i. Summarize the data in frequency graph using class intervals as 20 – 29, 30 – 39....

(02 Marks)

ii. Explain the data set with appropriate measures of central tendency.

(06 Marks)

iii. Explain what can you say about the standard deviation of the data set.

(02 Marks)

iv. Find five number summary and illustrate results using and appropriate graphical method.

(05 Marks)

5.

i. "Correlation analysis is a method of statistical evaluation used to study strength of a relationship between two numerically measured continuous variables." Explain.

(05 Marks)

ii. A personal manager wishes to find out if a test carried out during and employee's interview and a skill assessment at the end of basic training is a guide to performance after working for the company for one year.

4. Here is the age of fifty (50) respondents who responded for a sample survey of socialism among university undergraduates in Sri Lanka.

25	34	68	36	40	45	29	61	60	31
20	37	25	53	48	60	68	36	45	35
39	44	49	33	27	45	37	55	39	44
51	53	31	28	41	33	46	45	20	59
33	39	38	50	36	39	37	45	36	70

i. Summarize the data in frequency graph using class intervals as 20 – 29, 30 – 39....

(02 Marks)

ii. Explain the data set with appropriate measures of central tendency.

(06 Marks)

iii. Explain what can you say about the standard deviation of the data set.

(02 Marks)

iv. Find five number summary and illustrate results using and appropriate graphical method.

(05 Marks)

5.

i. "Correlation analysis is a method of statistical evaluation used to study strength of a relationship between two numerically measured continuous variables." Explain.

(05 Marks)

ii. A personal manager wishes to find out if a test carried out during and employee's interview and a skill assessment at the end of basic training is a guide to performance after working for the company for one year.

The table below shows the results of the interview test of 10 employees and the performance after one year.

Interview Test	65	71	79	77	85	78	85	90	81	62
Performance after one year	65	74	82	64	87	78	61	65	79	69

a) Represent the data in an appropriate graph.

(04 Marks)

b) *Find out what whether there is any relationship between the results of interview and skill assessment at the end of basic training with using a proper statistic technique.*

(06 Marks)

6.

i.   What does it mean by time series data?

(02 Marks)

ii. Explain the time series patterns with using proper examples.

(04 Marks)

iii. Following information is about the production units by the garment workers in a certain company in 2015 – 2018 in "000".

Quarter	2015	2016	2017	2018
Q1	12	15	18	22
Q2	20	23	23	31
Q3	16	20	24	28
Q4	21	25	28	33

The table below shows the results of the interview test of 10 employees and their performance after one year.

Interview Test	65	71	79	77	85	78	85	90	81	62
Performance after one year	65	74	82	64	87	78	61	65	79	69

a) Represent the data in an appropriate graph.

(04 Marks)

b) Find out what whether there is any relationship between the results of interview and skill assessment at the end of basic training with using a proper statistic technique.

(06 Marks)

6.

i. What does it mean by time series data?

(02 Marks)

ii. Explain the time series patterns with using proper examples.

(04 Marks)

iii. Following information is about the production units by the garment workers in a certain company in 2015 – 2018 in "000".

Quarter	Year			
	2015	2016	2017	2018
Q1	12	15	18	22
Q2	20	23	23	31
Q3	16	20	24	28
Q4	21	25	28	33

a) Prepare a table which consist of following derivations according to the time series decomposition – additive model.

- ➢ Centered Moving Averages
- ➢ De – trended series
- ➢ De-seasonalized series

(06 Marks)

b) Construct a time series plot with real observations, centered moving averages de- seasonalized values.

(03 Marks)

7. Write short note on following concepts.

i.   Descriptive and Inferential Statistics
ii. Data Types
iii. Parameter and Statistic
iv. Pictorial form of data presenting
v.   Skewness and Kurtosis

(03 x 05 = 15 Marks)

@@@@@@@@@@@