

100-120	12
120-140	9
N = 50	

18. Calculate the quartile deviation and coefficient of quartile deviation from the data given below:

Maximum Load (short-tons)	Number of cables
9.3-9.7	2
9.8-10.2	5
10.3-10.7	12
10.8-11.2	17
11.3-11.7	14
11.08-12.2	6
12.3-12.7	3
12.8-13.2	1

19. Compute the Karl Pearson's coefficient of skewness from the following data:

Height (in inches)	Number of Persons
58	10
59	18
60	30
61	42
62	35
63	28
64	16
65	08

20. To calculate a Spearman rank-order correlation on data without any ties we will use the following data:

Exam	Marks									
English:	56	75	45	71	62	64	58	80	76	61
Maths:	66	70	40	60	65	56	59	77	67	63

NOVEMBER/DECEMBER 2018

BACS32 — STATISTICAL METHODS AND THEIR APPLICATIONS - I

Time : Three hours

Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. What is the scope of statistics?
2. What is Descriptive Statistics?
3. Define Arithmetic mean.
4. What is Median in statistics?
5. Define Arithmetic Range.
6. What is quartile deviation in statistics?
7. What is kurtosis?
8. What is skewness?
9. What is positive correlation?
10. What is Karl Pearson's Coefficient of Correlation?

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Write the limitation of Statistical methods.
Or
(b) Write the general rules for diagrams and graphs.
12. (a) Calculate the mean deviation from the arithmetic mean in respect to the marks obtained by nine students given: 7, 4, 10, 9, 15, 12, 7, 9, 7.
Or
(b) The Arithmetic and Geometric Means of two positive numbers are 15 and 9 respectively. Find the numbers.
13. (a) Calculate the standard deviation for the sample data using Actual Mean Method: 2, 4, 8, 6, 10, 12.
Or
(b) The wheat production (in Kg) of 20 acres is given as: 1120, 1240, 1320, 1040, 1080, 1200, 1440, 1360, 1680, 1730, 1785, 1342, 1960, 1880, 1755, 1720, 1603, 1470, 1750, and 1885. Find the quartile deviation and coefficient of quartile deviation.
14. (a) Write the Nature of Skewness and its Characteristics.

Or

- (b) Below is given the IQ scores of 120 students of a class. Calculate the skewness based on median.

IQ score:	50-60	60-70	70-80	80-90	90-100
No. of std:	5	8	10	18	25

IQ score:	100-110	110-120	120-130	130-140
No. of std:	21	19	10	4

15. (a) Calculate the Karl Pearson's coefficient of correlation for the following data.
- | | | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|----|----|
| X: | 28 | 45 | 40 | 38 | 35 | 33 | 40 | 32 | 36 | 33 |
| Y: | 23 | 34 | 33 | 34 | 30 | 26 | 28 | 31 | 36 | 35 |

Or

- (b) Compute the coefficient of rank correlation between sales and advertisement expressed in thousands of dollars from the following data:
- | | | | | | | | | |
|----------------|----|----|----|----|----|----|----|----|
| Sales: | 90 | 85 | 68 | 75 | 82 | 80 | 95 | 70 |
| Advertisement: | 7 | 6 | 2 | 3 | 4 | 5 | 8 | 1 |

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Explain in detail with sample diagram (a) Quartile (b) Deciles.
17. Calculate the mean deviation and mean and standard deviation of the following distribution:

Classes	Frequencies
20-40	3
40-80	6
80-100	20