

Bachelor of Commerce (B.Com.) Semester—II Examination
STATISTICS AND BUSINESS MATHEMATICS
Compulsory Paper—1

Time : Three Hours]

[Maximum Marks : 80

N.B. :— (1) **ALL** questions are compulsory.

(2) All questions carry equal marks.

1. (A) Explain the functions of Statistics. 8

(B) Calculate the Median from the following distribution of salaries of the employees.

Salary in 100 Rs.	No. of Employees
Below—20	20
20—30	18
30—40	10
40—50	08
50 and above	13

8

OR

(C) Calculate G.M. and H.M. from the following :

Sr. No.	Size	Sr. No.	Size
1	1238	6	0.874
2	178.7	7	0.989
3	89.8	8	0.012
4	78.4	9	0.008
5	9.7	10	0.0009

16

2. (A) Define the term Mean Deviation. Write its advantages and disadvantages. 8

(B) Find out Quartile Deviation and its co-efficient :

Size of Item—2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13

Frequency—3, 8, 10, 12, 16, 14, 10, 8, 17, 5, 4, 1

8

OR

(C) A purchasing agent obtains samples of a particular quality of Lamps from two companies. He got the samples tested in his own laboratory for length of life with the following results.

Length of life (Hours)	Sample of	
	Company A	Company B
700—900	10	3
900—1100	16	42
1100—1300	26	12
1300—1500	8	3

Which company's lamps are more uniform ?

16

3. (A) From the following data find out Karl Pearson co-efficient of Skewness :

Measurement	10	11	12	13	14	15
Frequency	2	4	10	8	5	1

Mode decided $Z = 12$

8

(B) Calculate Bowley's co-efficient of Skewness

Size of item	6	7	8	9	10	11	12
Frequency	3	6	9	13	8	5	4

8

OR

(C) Find out co-efficient of Skewness by Karl Pearson's method from the following series :

Wages in Rs.	No. of Workers
More than 0	685
More than 10	500
More than 20	423
More than 30	389
More than 40	209
More than 50	73
More than 60	50
More than 70	00

16

4. (A) Divide Rs. 1,020 between Anita, Babita and Kavita, so that Anita gets $\frac{2}{3}$ rd of what Babita gets, Babita gets $\frac{1}{4}$ th of what Kavita gets. Find out share of each. 8
- (B) A sum of money borrowed on 15th Oct., 2016 at 17.5 per annum, was to be repaid on 10th March, 2017 of the following year with Rs. 490 simple interest; what was the sum ? 8

OR

(C) In an examination 30% students failed in Hindi and 25% failed in English. If 10% students failed in both the subjects, find the percentage of those students who passed in both the subjects. 8

(D) A grain merchant purchased 50 quintals of good rice at the rate of Rs. 1,100 per quintal and 5 quintals of cut rice at the rate of Rs. 600 per quintal. He mixes them and sells in retail at the rate of Rs. 12 per kg. Find out the percentage of profit or loss on sale made by him. 8

5. (A) If the mean and median of a moderately asymmetrical series are 26.8 and 27.9 respectively, what would be its most probable mode ? 4
- (B) Coefficient and variation of two series are 58% and 69%. Their standard deviations are 21.2 and 15.6 respectively; what are their Arithmetic mean ? 4
- (C) Karl Pearson's coefficient of Skewness of a distribution is +0.32, its Standard Deviation is 6.5 and Mean 29.6; find out the mode. 4
- (D) Find the compound interest on Rs. 20,000 for 4 years at 5% p.a. 4

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(मराठी माध्यम)

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|--|----|
| 1. (अ) सांख्यिकीचे कार्ये स्पष्ट करा. | 8 |
| (ब) इंग्रजी माध्यमानुसार. | 8 |
| किंवा | |
| (क) इंग्रजी माध्यमानुसार. | 16 |
| 2. (अ) माध्य विचलनाची व्याख्या द्या. माध्य विचलनाचे गुणदोष लिहा. | 8 |
| (ब) इंग्रजी माध्यमानुसार. | 8 |
| किंवा | |
| (क) इंग्रजी माध्यमानुसार. | 16 |
| 3. (अ) इंग्रजी माध्यमानुसार. | 8 |
| (ब) इंग्रजी माध्यमानुसार. | 8 |
| किंवा | |
| (क) इंग्रजी माध्यमानुसार. | 16 |
| 4. (अ) इंग्रजी माध्यमानुसार. | 8 |
| (ब) इंग्रजी माध्यमानुसार. | 8 |
| किंवा | |
| (क) इंग्रजी माध्यमानुसार. | 8 |
| (ड) इंग्रजी माध्यमानुसार. | 8 |
| 5. (अ) इंग्रजी माध्यमानुसार. | 4 |
| (ब) इंग्रजी माध्यमानुसार. | 4 |
| (क) इंग्रजी माध्यमानुसार. | 4 |
| (ड) इंग्रजी माध्यमानुसार. | 4 |

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(हिन्दी माध्यम)

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|----|--|----|
| 1. | (अ) सांख्यिकी के कार्यों को स्पष्ट कीजिये। | 8 |
| | (ब) अंग्रेजी माध्यम के अनुसार। | 8 |
| | अथवा | |
| | (क) अंग्रेजी माध्यम के अनुसार। | 16 |
| 2. | (अ) माध्य विचलन की परिभाषा दीजिये। माध्य विचलन के गुण एवं दोष बतलाइये। | 8 |
| | (ब) अंग्रेजी माध्यम के अनुसार। | 8 |
| | अथवा | |
| | (क) अंग्रेजी माध्यम के अनुसार। | 16 |
| 3. | (अ) अंग्रेजी माध्यम के अनुसार। | 8 |
| | (ब) अंग्रेजी माध्यम के अनुसार। | 8 |
| | अथवा | |
| | (क) अंग्रेजी माध्यम के अनुसार। | 16 |
| 4. | (अ) अंग्रेजी माध्यम के अनुसार। | 8 |
| | (ब) अंग्रेजी माध्यम के अनुसार। | 8 |
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| | (ड) अंग्रेजी माध्यम के अनुसार। | 8 |
| 5. | (अ) अंग्रेजी माध्यम के अनुसार। | 4 |
| | (ब) अंग्रेजी माध्यम के अनुसार। | 4 |
| | (क) अंग्रेजी माध्यम के अनुसार। | 4 |
| | (ड) अंग्रेजी माध्यम के अनुसार। | 4 |