

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) What is Statistics ? State the importance of Statistics. 8
- (b) Find the Geometric Mean from the following series : 8
- Size 0.8974, 0.0570, 0.0081, 0.5677, 0.0002, 0.0984, 0.0854, 0.5672.

OR

- (c) Determine the Mean, Median and Mode from the following series :

Wages in Rs.	No. of Workers
Above 330	520
Above 340	470
Above 350	399
Above 360	210
Above 370	105
Above 380	45
Above 390	07

2. (a) What is Dispersion ? Explain the different methods of measuring dispersion. 8
- (b) Find out the Quartile Deviation for the following data : 8
- Height (in cms) : 152, 160, 171, 150, 154, 167, 157, 170, 176, 175, 164

OR

- (c) From the following information compute Coefficient of Variation and state which company's lamps are more uniform ?

Length of life (in hours)	Samples from	
	Company A	Company B
700 and under 900	10	3
900 and under 1100	16	42
1100 and under 1300	26	12
1300 and under 1500	8	3

3. (a) Calculate Bowley's Coefficient of Skewness from the following data : 16
- Size of item : 6 7 8 9 10 11 12
- Frequency : 3 6 9 13 8 5 4 8
- (b) From the information given below, calculate the Karl Pearson's and Bowley's Coefficient of Skewness :

Measure	'A'	'B'
Mean	256.5	240.8
Median	201.0	201.6
Standard Deviation	215.4	181.1
Third Quartile	260.0	242.0
First Quartile	157.0	164.2

OR

- (c) Calculate Karl Pearson's Coefficient of Skewness :

Marks	No. of Candidates
10-20	30
20-30	40
30-40	50
40-50	48
50-60	124
60-70	162
70-80	32
80-90	14

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4. (a) Find the compound interest for 2 years on Rs. 4,000 @ 8% p.a. if :

(i) The interest is payable annually.

(ii) The interest is payable half yearly.

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- (b) The shopkeeper sold the following items during the year 2016 :

	Item sold	Cost per unit	Selling price per unit
A	1000	9	11
B	5000	8	10
C	3000	10	15
D	2000	15	18
E	4000	12	16

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OR

- (c) In an examination, 45% students failed in Hindi and 55% failed in English. If 15% students failed in both the subjects, find the percentage of those students who passed in both the subjects. 8

- (d) Two brother's have their annual incomes in the ratio of 8 : 5 and their expenditure is in the ratio of 5 : 3. If they save Rs. 24,000 and Rs. 20,000 p.a., find their incomes. 8

5. (a) From a frequency distribution table form the following data by inclusive methods taking 4 as the magnitude of the class interval :

10, 17, 15, 22, 11, 16, 19, 29, 25, 26,
32, 14, 17, 20, 23, 27, 30, 12, 18, 24,
36, 21, 28, 33, 38, 34, 13, 20, 21, 31

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- (b) Which group is more uniform in character ?

	Group A	Group B
Mean	25.5	20.0
Standard Deviation	8.68	7.48

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- (c) Coefficient of Skewness = 0.21,
Median = 52, Lower Quartile = 35,
Calculate the Upper Quartile.

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- (d) Find the principal if the interest is worth Rs. 2,800 after 5 years @ 7% p.a.

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(मराठी माध्यम)

1. (अ) सांख्यिकी म्हणजे काय ? सांख्यिकीचे महत्व विशद करा. 8
(ब) इंग्रजी माध्यमानुसार. 8
किंवा
(क) इंग्रजी माध्यमानुसार. 16
 2. (अ) अपकिरण म्हणजे काय ? अपकिरण मोजमापाच्या विविध पद्धति स्पष्ट करा. 8
(ब) इंग्रजी माध्यमानुसार. 8
किंवा
(क) इंग्रजी माध्यमानुसार. 16
- प्रश्न क्र. 3, 4 आणि 5 इंग्रजी माध्यमानुसार.

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(हिन्दी माध्यम)

1. (अ) सांख्यिकी (Statistics) का अर्थ क्या है ? सांख्यिकी का महत्व विशद कीजिए। 8
(ब) अंग्रेजी माध्यम के अनुसार। 8

अथवा

- (क) अंग्रेजी माध्यम के अनुसार। 16
2. (अ) अपकिरण (Dispersion) का अर्थ क्या है ? अपकिरण मापन (Measuring Dispersion) की विभिन्न पद्धतियाँ स्पष्ट कीजिए। 8
(ब) अंग्रेजी माध्यम के अनुसार। 8

अथवा

- (क) अंग्रेजी माध्यम के अनुसार। 16
प्रश्न क्रमांक 3, 4 एवं 5 अंग्रेजी माध्यम के अनुसार।