B.Com. (Part—II) Examination

BUSINESS MATHEMATICS AND STATISTICS (Old)

(Commerce)

Time : Three Hours] [Maximum Marks : 70

Note :— (1) Attempt all **FIVE** questions.

(2) All questions carry equal marks.

1. (A) Find the LCM of 42, 28, 70. 3

(B) The amount of Rs. 12,800 is distributed between 'A', 'B' and 'C' in the ratio 3 : 5 : 8. Find the amount each will get. 3

(C) Mohan spends 25% of his income for rent, 15% for education, 45% for food and clothing, even then he saves Rs. 1,200 per month, find his monthly income. 4

(D) The sum of two numbers is 46. Greater number is greater than twice the smaller number by 1, find the number. 4

OR

(E) Find out the HCF of 90 and 50. 3

(F) Find out the difference between simple interest and compound interest on a sum of Rs. 24,000 for 2 years at 5% p.a. 3

(G) A man buys 50 chairs at the rate of Rs. 60 each, he sells all at the rate of Rs. 80 each, find out his gain in rupees and percentage. 4

(H) Rajesh is 5 years younger than Salma. If the sum of their ages is 27 years find their present ages. 4

2. (A) Discuss the importance of statistics. 3

(B) Explain the Direct Investigation Method. 3

(C) Construct Fisher's Ideal Index Number :

$\Sigma p_0q_0 = 104$, $\Sigma p_0q_1 = 118$

$\Sigma p_1q_1 = 120$, $\Sigma p_1q_0 = 109$ 4

(D) Construct the cost of Living Index Number :

Article	Index Number	Weight
Food	352	48
Clothing	220	10
Rent	230	8
Fuel	160	12
Miscellaneous	190	15

4

OR

(E) Give the types of Tabulation. 3

(F) Explain Random Sampling Method. 3

(G) Calculate Index Number from the following data :

$\Sigma p_1 q_1 = 2374, \quad \Sigma p_0 q_1 = 1904$ 4

(H) Find out Laspeyre's Price Index Number :

$\Sigma p_1 q_0 = 4140, \quad \Sigma p_0 q_0 = 3320$ 4

3. (A) Find out Median :

Marks (m)	**No. of Students (f)**
10–20	15
20–30	21
30–40	35
40–50	52
50–60	49
60–70	17
70–80	3
80–90	1

3

(B) Find out Mean from the following :

Marks (m) :	20	25	30	35	40	45	50	55	60	65
Students (f) :	2	7	10	17	19	23	9	7	5	1

3

(C) Calculate Geometric Mean :

Marks (m) :	17	18	30	25	10	70	65
No. of Students (f) :	2	3	3	5	4	2	1

4

(D) Find out Value of Mean :

Median = 35.67 Mode = 35.45 4

OR

(E) Mode group = 300 – 400

$f_1 = 30, \ f_0 = 18, \ f_2 = 20$

Find out the Value of Mode. 3

(F) Find out Median from the following :

Cost (per ton)	Frequency
3–5	3
5–7	17
7–9	23
9–11	28
11–13	35
13–15	20

3

(G) Find out Mean from the following series :

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

4

(H) Calculate Harmonic Mean :

Age	:	55	60	64	65	70	72	75
No. of persons	:	3	4	6	7	5	2	1

4

4. The following are the scores of two batsmen 'A' and 'B' :

A	:	91	12	20	80	50	45	30	29	96	10
B	:	50	45	40	30	35	42	37	49	48	36

Who is better run-getter ? Who is more consistent ? 14

OR

Calculate Co-efficient of Skewness :

Marks	:	20	25	27	28	30	35	42	50	62
Students	:	3	7	15	20	21	19	20	13	2

14

5. Calculate co-efficient of correlation between the height and weight of 10 students :

Sr. No. of (student)	:	1	2	3	4	5	6	7	8	9	10
Height (in inches)	:	57	59	62	63	64	65	58	66	70	72
Weight (in lbs)	:	113	117	126	125	130	128	110	132	140	149

14

OR

Interpolate the number of workers earning up to Rs. 750 :

Monthly Income (in Rs.)	No. of Workers
up to 500	50
up to 600	150
up to 700	300
up to 800	500
up to 900	700
up to 1000	800

14