

B.Com. (Part—II) Examination
BUSINESS MATHEMATICS AND STATISTICS
(Commerce)

Time : Three Hours]

[Maximum Marks : 70

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

(2) All questions carry equal marks.

1. (A) Find the simple interest on an amount of Rs. 1,500 for 10 months at 8% per annum. 3
- (B) If Rahul scored 760 marks out of 900 marks in an annual examination, what was the percentage of the marks he scored ? 3
- (C) The ratio between the age of mother and son is 3 : 2, if the sum of their age is 105. Find their ages. 4
- (D) Find out LCM of 180, 252. 4

OR

- (E) Calculate the compound interest on Rs. 4,000 at 10% p.a. for 3 years. 3
 - (F) Find the HCF of 144, 216. 3
 - (G) A student finishes a book by reading 30 pages per day in 16 days. If he wants to finish the book in 12 days, how many pages should he read every day ? 4
 - (H) A student passes an examination if he scores a minimum 40% of the maximum marks. What are the passing marks in an examination in which the maximum marks are 1500 ? 4
2. (A) Write functions of statistics. 3
 - (B) State the objectives of Tabulation. 3
 - (C) Construct the Cost of Living Index Number :

Group	Index No.	Expenditure	
Food	550	46	
Clothing	215	10	
Fuel and Lighting	220	7	
House Rent	150	12	
Miscellaneous	275	25	4

- (D) Find the Index Number by Fisher's Formula :

$$\begin{array}{ll} \Sigma p_0 q_0 = 1360, & \Sigma p_1 q_0 = 1900 \\ \Sigma p_0 q_1 = 1344, & \Sigma p_1 q_1 = 1880 \end{array} \quad 4$$

OR

(E) Explain two definitions of Statistics. 3

(F) Write methods of collection of primary data. 3

(G) Find out Index Number by Paasche's Method :

$$\Sigma p_1 q_1 = 8432$$

$$\Sigma p_0 q_1 = 5840 \quad 4$$

(H) Compute the Index Number by Laspeyre's Method from the following table :

Commodity	Year 2005	Year 2000	
	Price	Quantity	Price
	(Rs.)	(Kg.)	(Rs.)
Jawar	4	5	2
Wheat	8	10	3
Rice	10	50	4

3. (A) Find out Mean from the following :

Marks	:	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90
Students	:	7	13	20	25	10	8	6	1

3

(B) Find out Mode from the following data :

Marks	Frequency
0-5	29
5-10	195
10-15	241
15-20	117
20-25	52
25-30	10
30-35	6

3

(C) Find out Median :

$$L_1 = 50, L_2 = 60, f_1 = 22$$

$$m = 32.5, C = 25. \quad 4$$

(D) Calculate Geometric Mean :

Marks	:	0-20	20-40	40-60	60-80	80-100
No. of Students	:	4	6	10	3	2

4

OR

(E) Calculate Mode :

Group	:	60-70	70-80	80-90	
Frequency	:	30	38	26	
Modal group	:	70-80			3

(F) Calculate Harmonic Mean from the following :

Marks group	:	0-10	10-20	20-30	30-40	40-50	
No. of Candidates	:	2	3	5	4	1	3

(G) Monthly income of 10 families is given below, find out Mean :

Sr. No.	:	1	2	3	4	5	6	7	8	9	10	
Monthly income (Rs.)	:	100	120	80	85	95	130	200	250	225	275	4

(H) Find out Median :

Roll No.	:	1	2	3	4	5	6	7	8	9	10	
Marks	:	12	30	20	15	25	10	2	40	4	8	4

4. The data of height and weight of 10 students are given below. Use a suitable measure to compare dispersion and give your conclusion :

Students	Height (in inches)	Weight (in Lbs)	
A	53	123	
B	55	120	
C	54	120	
D	57	127	
E	55	122	
F	59	120	
G	55	123	
H	57	125	
I	55	126	
J	50	124	14

OR

Calculate co-efficient of skewness :

Marks	:	10	20	30	40	50	60	70	80	90	
Students	:	10	40	20	0	10	40	16	14	0	14

5. Find Correlation Co-efficient between age and playing habit of the following students :

Age	:	15	16	17	18	19	20	
No. of students	:	250	200	150	120	100	80	
Regular players	:	200	150	90	48	30	12	14

OR

The following are the annual premiums charged by the Life Insurance Corporation of India for a policy of Rs. 1,000. Calculate the premium payable at the age of 26 :

Age in years	Premium (Rs.)	
20	23	
25	26	
30	30	
35	35	
40	42	14