

AR-1089

B.Com. (Part—II) Examination

BUSINESS MATHEMATICS AND STATISTICS

(Commerce)

Time : Three Hours]

[Maximum Marks : 70

Note :—(1) **ALL** questions are compulsory.

(2) All questions carry equal marks.

1. (A) The HCF of two numbers is 12 and their LCM is 72. If the first number is 36, find the other number. 3
- (B) Divide Rs. 90,000 among Radha, Sudha and Medha in 2 : 3 : 1 respectively. Find the amount each of them received. 3
- (C) Mr. Sanket bought a machine for Rs. 4,80,000 and sold it for Rs. 5,01,600. What was his percentage of profit ? 4
- (D) Find out simple interest on Rs. 7,20,000 @ 8% for 30 months. 4

OR

- (E) $42 : x$ $90 : 135$ are in the proportion. Find the value of x . 3
- (F) The sum of two numbers is 46. Greater number is greater than twice the smaller number by 1. Find the numbers. 3

- (G) A shopkeeper increase the Cost Price by 20% and give 8% discount on selling price. If the cost price is Rs. 645 then for what value the customer will purchase an article ? 4
- (H) The sum of two numbers is 125 and their difference is 25. Find the numbers. 4
2. (A) Explain the functions of Statistics (any three). 3
- (B) Distinguish between Classification and Tabulation. 3
- (C) Construct the Fisher's Ideal index number from the following data :
- $$\begin{array}{ll}\Sigma p_0q_0 = 381 & \Sigma p_1q_1 = 600 \\ \Sigma p_0q_1 = 428 & \Sigma p_1q_0 = 535\end{array}\quad 4$$
- (D) Construct the cost of living index numbers. Group—Food, Cloth, Fuel, House Rent, Misc. : 4

Index No.

Weight

550

46

215

10

220

7

150

12

275

25

4

OR

- (E) Explain the objects of Classification. 3
- (F) Explain the definition of Statistics. 3

- (G) Compute the Laspeyre's Index Number from the following table :

Commodity	Year 2010		Year 2015
	Quantity	Price in Rs.	Price in Rs.
Rice	50	20	50
Wheat	10	15	40
Jawar	05	10	20

4

- (H) Calculate the Pasche's Index Number from the following data :

Commodity	Base Price	Current Year	
	in Rs.	Quantity	Price in Rs.
	-		
A	10	15	12
B	07	20	05
C	05	20	09
D	16	05	14

4

3. (A) Calculate the Mean from the following data :

Central Value	Frequency	
10	03	
12	07	
14	12	
16	20	
18	08	
20	05	3

- (B) Find out the mode value of the following information :

Mode Group = 1200 – 1600

$$F_0 = 40 \quad F_1 = 41 \quad F_2 = 27. \quad 3$$

- (C) Find out Median from the following Frequency distribution :

Wages in Rs.	No. of Workers	
100—200	30	
200—300	42	
300—400	70	
400—500	104	
500—600	98	
600—700	34	
700—800	06	
800—900	02	4

- (D) Calculate the Geometric Mean from the following table :

Marks	No. of Students	
17	2	
18	3	
30	3	
25	5	
10	4	
70	2	
65	1	4

OR

(E) Calculate Median from the following series :

M = 10, 17, 15, 20, 35, 25, 23, 40, 30. 3

(F) The Mean and Median are 321 and 354 respectively. Find out the value of Mode. 3

(G) Find out the Harmonic Mean from the following data :

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

(H) Find out the Mean from the following series :

Size	Frequency	
3.5	10	
4.5	15	
5.5	25	
6.5	40	
7.5	20	
8.5	10	
9.5	04	
10.5	02	4

4. The distribution of wages in the factories situated the same town given below. In which of them there a great variation in wages ?

Weekly Wages in Rs.	No. of Workers	
	Factory 'A'	Factory 'B'
Below — 1000	20	15
1000 — 1500	18	20
1500 — 2000	30	35
2000 — 2500	25	30
2500 — 3000	20	18
3000 and over	15	17

OR

Calculate the co-efficient of skewness based on Median from the following distribution :

Income in Rs.	No. of Persons
Above — 1000	00
Above — 900	50
Above — 800	100
Above — 700	200
Above — 600	400
Above — 500	600
Above — 400	750
Above — 300	850
Above — 200	940
Above — 100	1000

5. From the following table calculate the co-efficient of Correlation and Probable Errors :

Sr. No.	Marks in A/c	Marks in Stat.
01	42	56
02	44	49
03	58	53
04	55	58
05	89	65
06	98	76
07	66	58

14

OR

Interpolate the No. of workers earning upto Rs. 750 :

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

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(मराठी माध्यम)

सूचना :—(1) सर्व प्रश्न सोडविणे अनिवार्य आहेत.

(2) सर्व प्रश्नांना समान गुण आहेत.

(3) प्र. क्र. 2 मधील उर्वरीत प्रश्न व त्यांची उत्तरे आणि बाकी सर्व प्रश्न इंग्रजी माध्यमाने सोडवायची आहेत.

2. (अ) सांख्यिकीचे कोणतेही तीन कार्ये स्पष्ट करा. 3
(ब) वर्गीकरण व सारणीयन यातील फरक स्पष्ट करा. 3
किंवा
(इ) वर्गीकरणाचे उद्दिष्टे स्पष्ट करा. 3
(फ) सांख्यिकीच्या व्याख्या स्पष्ट करा. 3

(हिन्दी माध्यम)

सूचना :—(1) सभी प्रश्न अनिवार्य हैं।

(2) सभी प्रश्नों के अंक समान हैं।

(3) प्रश्न क्र. 2 के उर्वरीत उपप्रश्न बाकी सभी प्रश्न अंग्रेजी माध्यम के अनुसार हल कीजिये।

2. (अ) सांख्यिकी के कोई भी तीन कार्य स्पष्ट कीजिये। 3
(ब) वर्गीकरण व सारणीयन में अंतर स्पष्ट कीजिये। 3
अथवा
(इ) वर्गीकरण की उद्दिष्ट्ये स्पष्ट कीजिये। 3
(फ) सांख्यिकी की व्याख्या स्पष्ट कीजिये। 3