

**B.Com. Part—II (Semester—IV) Examination**  
**BUSINESS STATISTICS**

Time : Three Hours]

[Maximum Marks : 80

**SECTION—A**

**Note :—**(1) Answer **All** questions.

(2) Choose the correct answer and rewrite it.

1. Following is the scope of the Statistics :
 

(a) Economics	(b) Nation
(c) Business	(d) All of these
2. Classification is the first step in :
 

(a) Tabulation	(b) Distribution
(c) Representation	(d) Collection
3. A table furnishes information about two sub-groups, the table is called :
 

(a) Four way table	(b) Three way table
(c) Two way table	(d) Simple table
4. Primary data collection means :
 

(a) Collection of the fresh data	(b) Uses of data which is collected back
(c) (a) and (b)	(d) Division of data
5. The following formula of construction of Index No. is developed one of the following authority :
 
$$\text{Index No.} = \frac{\sum p_1 q_0}{\sum p_0 q_0} \times 100$$

(a) Laspeyer	(b) Fisher
(c) Edgeworth	(d) Paasche
6. If the  $\epsilon$  weighted relatives is 21522 and  $\epsilon$  weighted is 100. The weighted Index No. will be :
 

(a) 214.22	(b) 215.22
(c) 213.27	(d) 216.28
7. The Index No. of the base year is always :
 

(a) 200	(b) 300
(c) 100	(d) All of the above

8. If the summation of the Fisher Index No. is 2.535. The Fishers Index No. will be :
- (a) 25.35 (b) 253.5  
(c) 2.53 (d) None of the above
9. If  $\sum x = 23$ ,  $\sum fdx = 43$  and  $n = 97$ . Mean will be :
- (a) 23.43 (b) 23.25  
(c) 22.44 (d) 23.44
10. If  $n = 104$ , then the value of Median will be :
- (a) 52 (b) 52.5  
(c) 26 (d) 26.5
11. If the  $m = 32$  and  $a = 32$ , the value of Mode will be :
- (a) 31 (b) 30  
(c) 33 (d) 32
12. If the  $l_1 = 300$ ,  $l_2 = 400$ ,  $f_1 = 33$ ,  $m = 53$  and  $c = 34$  the Median will be :
- (a) 357.57 (b) 358.57  
(c) 360.57 (d) 361.58
13. If the value of  $\frac{\sum du^2}{n} - \left(\frac{\sum du}{n}\right)^2$  is 220.54, the value of S.D. is :
- (a) 15.85 (b) 13.85  
(c) 14.88 (d) 14.85
14. S.D. = 2.12 and  $a = 12.1$ . The value of C.V. is :
- (a) 17.52% (b) 18.52%  
(c) 19.52% (d) 20.52%
15. If the value of  $a = 23.80$ ,  $z = 24$  and S.D. = 10.92, the value of "J" will be :
- (a) -0.01 (b) -0.02  
(c) +0.02 (d) +0.01
16.  $H = 52$ ,  $l = 30$ , co-efficient of Range is :
- (a) 0.28 (b) 0.27  
(c) 0.29 (d) 0.25
17. If S.D. = 14.85  $\bar{a} = 76.33$ , the value of C.V. is :
- (a) 18.45 (b) 19.45  
(c) 20.45 (d) 21.45

18. If  $r = 0.38$ ,  $N = 11$ , the probable error will be :
- (a) 0.14 (b) 0.16  
(c) 0.19 (d) 0.17
19. If 6 time Probable Error = 0.04, then value of 6<sup>th</sup> time Probable Error will be :
- (a) 0.24 (b) 0.23  
(c) 1.24 (d) 0.22
20. In correlation both variable are always :
- (a) Same (b) Random  
(c) Non-random (d) None of the above 20×1=20

**SECTION—B**

1. Explain the utility of Statistics. 4

**OR**

Explain the objectives of collection of data. 4

2. Compute Index No. from the following data using Paasche's formula :

$$\epsilon_{p_1q_1} = 53,000, \epsilon_{p_0q_1} = 47,000 \quad 4$$

**OR**

Find out the Index No. by Fisher's formula :

$$\epsilon_{p_1q_0} = 535, \epsilon_{p_0q_0} = 381, \epsilon_{p_1q_1} = 600, \epsilon_{p_0q_1} = 408 \quad 4$$

3. Find out Mean from the following :

Height in inches =	55	58	60	61	63	64	65	66	68	
No. of Students =	3	10	14	20	23	17	11	9	4	4

**OR**

Find out the Mode from the following data :

$$35, 38, 40, 45, 50, 50, 57, 58 \quad 4$$

4. Find out the Range co-efficient of the following :

$$H = 50, L = 20 \quad 4$$

**OR**

Find out Standard Deviation from the following series :

Size	=	6	7	8	9	10	11	12	
Freq.	=	3	6	9	13	8	5	4	4

5. Calculate co-efficient of correlation from the following table :

Supply	=	1	2	3	4	5	
Price	=	10	12	14	16	18	4

**OR**

Calculate Probable Error from the following data :

$$r = + .98, n = 10 \quad 4$$

**SECTION—C**

1. Explain the methods of selecting samples. 8

**OR**

Explain the limitation of Statistics. 8

2. Find out the Index Number by Fisher's Index No. Method :

Year	Rice		Wheat		Jowar	
	Price	Qty.	Price	Qty.	Price	Qty.
2018	9.3	100	6.4	11	5.1	5
2019	4.5	90	3.7	10	2.7	3

8

**OR**

Construct the Cost of Living Index from the following table :

Group	Index No. for 2018	Expenditure
A	520	40
B	328	16
C	300	10
D	240	24
E	130	7

8

3. Find out Median from the following :

Age in Years	No. of Students
15–19	4
20–24	20
25–29	38
30–34	24
35–39	10
40–44	4

8

**OR**

Find out Mode from the following information :

Model Class = 12 – 16

Freq. of the previous group of the model group = 12

Freq. of the model group = 16

Freq. of the next group of the model group = 14

$i = 4$  8

4. Calculate co-efficient of variation from the following data :

Ram and Comp. : 318 322 325 312 324 315 308 319 8

**OR**

Calculate the co-efficient of skewness for the following distribution :

Price of Toys in Rs. more than	70	80	90	100	110	120	130	
No. of Toys sold	95	81	76	61	36	16	7	8

5. From the following data calculate the co-efficient of correlation :

$x = 20 \quad 24 \quad 28 \quad 32 \quad 36$

$y = 14 \quad 18 \quad 22 \quad 26 \quad 30$  8

**OR**

From the following data calculate co-efficient of correlation by Karl Pearson's formula :

Wife's Age (Years)	Husband's Age (Years)			
	20–25	25–30	30–35	35–40
15–20	20	10	3	2
20–25	4	28	6	4
25–30	–	5	11	–
30–35	–	–	2	–
35–40	–	–	–	5

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