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

Time : Three Hours]   [Maximum Marks : 80

SECTION—A

Note :— (1) Answer **all** the questions.

(2) Choose the correct answer and rewrite it.

(1) _____ is the science of counting.

(a) Algebra   (b) Mathematics

(c) Statistics   (d) Trigonometry

(2) The process of collecting data is called :

(a) Collection of data   (b) Data control

(c) Data issuing   (d) None of these

(3) Data are classified into the categories :

(a) Primary   (b) Primary and secondary

(c) Secondary   (d) None of these

(4) One of the following is the first step in tabulation :

(a) Collection   (b) Distribution

(c) Classification   (d) Representation

(5) Construct Fishers Index No. $\epsilon p_0 q_0 = 240$, $\epsilon p_0 q_1 = 330$, $\epsilon p_1 q_0 = 542.00$, $\epsilon p_1 q_1 = 748.60$:

(a) 225   (b) 226

(c) 227   (d) 228

(6) If $\epsilon p_1 = 51$ and $\epsilon p_0 = 35$. The Index No. will be :

(a) 145.17   (b) 145

(c) 14.17   (d) 45.17

(7) $\epsilon Iw = 35718$ and $\epsilon w = 97$ the weighted Index No. will be :

(a) 268   (b) 36.23

(c) 68.23   (d) 368.23

(8) $\epsilon p_1 q_0 = 174$ and $\epsilon p_0 q_0 = 146$ the Laspeyr's Index No. will be :

(a) 29.17   (b) 19.17

(c) 119.17   (d) 219.17

(9) If n_e is $\varepsilon mf = 13910$ and "n" is 250 the Mean will be :

(a) 55.00

(b) 55.64

(c) 56.64

(d) 65.64

(10) If $l_1 = 69.5$ and value of $\dfrac{l_2 - l_1}{f_1}(m - c) = 4.33$. The value of "Median" will be :

(a) 73.83

(b) 83.73

(c) 74.83

(d) 84.73

(11) If the value of $l_1 = 18$ and the value of $\dfrac{f_1 - f_0}{2f_1 - f_0 - f_2} = 0.66$ and $l_2 - l_1 = 6$ the value of mode will be :

(a) 21

(b) 23

(c) 22

(d) 24

(12) If mean = 39.47 and mode = 39.72 then the value of "median" will be :

(a) 38.65

(b) 39.65

(c) 93.55

(d) 39.55

(13) The value of $\dfrac{\varepsilon dx^2}{n} - \left(\dfrac{\varepsilon dx}{n}\right)^2$ is 2131.8. The value of S.D. is :

(a) 46.17

(b) 47.17

(c) 17.46

(d) 74.6

(14) S.D. = 2.61 mean = 17.25 the value of C.V. is :

(a) 14.13

(b) 15.13

(c) 13.15

(d) 13.14

(15) If the value of a = 589.20, m = 582.86, S.D. = 172. The value of "J" will be :

(a) 0.11

(b) 11.00

(c) 10.00

(d) 0.10

(16) The value of $\varepsilon fdx^2 = 4879$, $\varepsilon fdx = -501$, n = 719, i = 10. The value of S.D. will be :

(a) 26.10

(b) 27.25

(c) 25.1

(d) 24.1

(17) H = 90, l = 40 Co-efficient of Range is :

(a) 1.384

(b) 0.384

(c) 2.384

(d) 3.384

(18) Find Positive Moderate Degree correlation :

    (a) 1.00   (b) 0.25

    (c) 0.52   (d) 0.76

(19) In correlation both variables are always ......

    (a) Random   (b) Non-Random

    (c) Same   (d) Opposite

(20) The Range of the correlation is ....

    (a) −1 to 0   (b) 0 to 1

    (c) −1 to 1   (d) .50 to .75   20×1=20

SECTION—B

1.   Explain the meaning and definition of Tabulation.   4

OR

Explain the functions of statistics.   4

2.   Compute the Index Number by Laspeyr's method.   4

Years	Bricks		Timber		Iron		Cement	
	Price	Qty.	Price	Qty.	Price	Qty.	Price	Qty.
2016	1,400	200	1,900	18	2,200	40	280	170
2018	1,800	–	2,800	–	2,000	–	319	–

OR

Find Index Number by Fisher's Ideal Formula $\varepsilon p_0 q_0 = 240$, $\varepsilon p_1 q_0 = 600$, $\varepsilon p_1 q_1 = 480$, $\varepsilon p_0 q_1 = 192$.   4

3.   Calculate the Median from the following data $l_1 = 29.5$, $l_2 = 39.5$, $m = 31$, $c = 17$, $f_1 = 15$.   4

OR

Calculate Mode from the following data

    Mode group $= 350 - 360$, $i = 10$

        $F_0 = 71$, $F_1 = 189$, $F_2 = 105$.   4

4.   Calculate Mean Deviation from the following data :

Length of Service (in years)= 15, 20, 25, 30, 35, 40, 45

Income Tax Payers   = 5, 6, 8, 9, 10, 14, 18.   4

OR

Find out Standard Deviation from the following data :

    $\varepsilon f dx^2 = 390$, $\varepsilon f dx = -34$,

    $n = 70$, $i = 10$.   4

5. Find out the co-efficient of correlation

$\epsilon dx = 800, \epsilon dy = 15$

$\epsilon dx^2 = 260000, \epsilon dy^2 = 55$

$\epsilon dxdy = 2300, n = 6.$ 4

OR

Find out Probable Error :

$r = .98, n = 10.$ 4

SECTION—C

1. Discuss the meaning and importance of statistics.   8

OR

Explain the meaning and stages of collection of Data.   8

2. Calculate Fisher's Ideal Number from the following information :

Year	Rice Price	Rice Qnt.	Wheat Price	Wheat Qnt.	Jowar Price	Jowar Qnt.
2016	9.3	100	6.4	11	5.1	5
2018	4.5	90	3.7	10	2.7	3

    8

OR

Construct the cost of living Index Number from the following table :

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

    8

3. Find the Median from the following :

Age in years	No. of students
14–19	4
20–24	20
25–29	38
30–34	24
35–39	10
40–44	4

    8

OR

Calculate the Arithmetic Average from the following :

Age   =   28, 27, 26, 25, 24, 23, 22, 21, 20, 19, 18

No. of mothers   =   5,   8,   6,   14,   21,   9,   9,   12,   6,   5,   2   8

4. Calculate the Standard Deviation from the following table giving the distribution of 542 members of the House of Commons :

Age	No. of members
20–30	3
30–40	61
40–50	132
50–60	153
60–70	140
70–80	51
80–90	2

8

OR

Calculate the Mean Deviation and co-efficient of Mean Deviation from the following series :

Size = 6, 8, 10, 12, 14, 16, 18

F = 2, 8, 19, 24, 17, 12, 10

8

5. Calculate the co-efficient of correlation between the values of x and y given below :

x	y
78	125
89	137
97	156
69	112
59	107
79	136
68	123
61	108

8

OR

Calculate the co-efficient of correlation and probable error :

n = 69

$\varepsilon fdx^2 = 58$

$\varepsilon fdy^2 = 219$

$\varepsilon fdxdy = 34$

$\varepsilon fdx = -10$

$\varepsilon fdy = 19$

8