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SEAT No. :

P3012

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F.Y. B.B.A.(CA)

CA 105 : BUSINESS STATISTICS

(2019 Pattern) (Semester - I)

Time : 2½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Figures to the right indicate full marks.***
3) ***Notations and abbreviations have their usual meaning.***
4) ***Simple calculator is allowed.***

Q1) A) Fill in the blanks : **[10]**

i) _____ makes clear presentation of data.

ii) _____ is a value which is typical or representative of a set of data.

iii) _____ is a statistical tool used to measure the relationship between two sets of variables.

iv) _____ is the simplest absolute measure of dispersion which shows the difference between the highest and the lowest value in a series.

v) $\frac{\sigma}{\bar{X}} \times 100$ = _____.

B) True or false : **[6]**

i) The sum of all the observation divided by Number of observation is mean.

ii) The value of correlation coefficient in perfect degree lies between +1 and –1.

iii) Cumulative frequency polygon is also called absicca.

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Q2) Attempt any 4 out of 6 : **[16]**

a) Write meaning and definition of statistics. Explain the importance of statistics.

b) Calculate combined mean for the following data :

$N_1 = 50$ $N_2 = 40$

$\bar{X}_1 = 63$ $\bar{X}_2 = 54$

c) Find standard deviation : 8, 10, 15, 24, 28.

d) Prepare Histogram from the following data :

X :	5	10	15	20	25
f :	10	20	30	10	05

e) The coefficient of correlation between two variable X, Y is 0.6. Their covariance is 18. The variance of X is 25. Find variance of Y series.

f) From the following data calculate Quartile Deviation X = 4, 9, 14, 19, 24, 29, 34, 39, 44, 49 and 54.

Q3) Attempt any 4 : **[16]**

a) Explain the properties of Karl Pearson's coefficient of correlation.

b) Calculate Mean, Median and Mode for :

12, 13, 15, 12, 17, 12, 13

c) The following is the distribution of height of students in a class of secondary school.

Height in cm :	130-134	135-139	140-144	145-149	150-154	155-159
No. of students :	5	15	28	24	17	11

i) State the type of classification.

ii) Find the class mark of 3rd class.

iii) How many students have height less than 145 cm?

iv) How many students have more than 150 cm height?

d) What is the meaning of classification? Define its various types.

e) Construct the frequency distribution table for the data on weights (in kg) of 20 students of a class using intervals 30-35, 35-40, and so on

40, 38, 33, 48, 60, 53, 31, 46, 34, 36, 49, 41, 55, 49, 65, 42, 44, 47, 48, 39.

f) Find average wages of 10 workers :

Daily wage : (in ₹)	4	6	10	11	14	Total
No. of workers :	2	1	4	2	1	10

Q4) Attempt any four : **[16]**

a) Find median for average life of a particular brand of T.V. sets from the following data :

Life in years :	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40
No. of sets :	2	16	26	39	43	21	8	4

b) Calculate coefficient of variation of the following data :

Weekly Rent : (in ₹)	400	700	800	950	1000	1200	1450
No. of Persons Paying the Rent :	11	13	34	39	18	8	2

c) Find combined standard deviation :

Group I - $\bar{X}_1 = 2100$ $n_1 = 100$ $\sigma_1 = 10$

Group II - $\bar{X}_2 = 1500$ $n_2 = 200$ $\sigma_2 = 12$

d) Explain the methods of calculation of Arithmetic mean.

e) The following information is given to find the two regression lines

i) Y on X

ii) X on Y

$\bar{X} = 10, \bar{Y} = 90, \sigma_x = 3\ \sigma_y = 12$ and $\gamma = 0.8$.

f) Calculate Karl Pearson's coefficient of correlation for the following data :

X :	4	7	11	14	19	15
Y :	18	16	17	19	19	21

Q5) Attempt any one : **[6]**

a) Draw the less than and greater than Ogives for the following data :

Class Interval	Frequency
20-30	04
30-40	06
40-50	13
50-60	25
60-70	32
70-80	19
80-90	08
90-100	03

b) From the data given below, find the regression equations :

Marks (Economics)	: 25	28	35	32	31	36	29	38	34	32
Marks (Statistics)	: 43	46	49	41	36	32	31	30	33	39

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