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Reg. No.....

Name.....

B.B.A. DEGREE (C.B.C.S.S.) EXAMINATION, NOVEMBER 2015

First Semester

Complementary Course—FUNDAMENTALS OF BUSINESS STATISTICS

(2013 Admission onwards)

Time : Three Hours

Maximum : 80 Marks

Part A

*Answer all questions.
Each question carries 1 mark.*

1. Sources of secondary data.
2. Pie diagrams.
3. Ogive curves.
4. Standard error.
5. Census method.
6. Variance.
7. Coefficient of variation.
8. Cyclical variations.
9. Rank correlation.
10. Regression coefficients.

(10 × 1 = 10)

Part B

*Answer any **eight** questions.
Each question carries 2 marks.*

11. Write down the scope and limitations of statistics.
12. Explain different data collection methods.
13. Merits and demerits of sampling method.
14. How cyclic and irregular variations measured ?
15. Differentiate correlation and regression.
16. Why can there be two regression lines in case of simple regression ?

Turn over

17. Draw a Histogram :

Classes	:	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80
Frequency	:	4	9	10	6	8	9	3	1

18. Wages per month and the no. of workers in a factory are tabulated as below. Find mean wage of the workers :

Wages (Rs.)	:	550	650	750	850	950	1100
No. of workers	:	6	8	11	18	5	3

19. Explain the different methods to find the correlation coefficient.
 20. Explain the concept of mean deviation and standard deviation about the mean.
 21. What are the factors that cause seasonal variations?
 22. Explain the uses of time series analysis.

(8 × 2 = 16)

Part C

*Answer any six questions.
 Each question carries 4 marks.*

23. Explain the Central Limit Theorem.
 24. Find the mean deviation of the heights of 100 students in a class as given below :

Height (in cm)	:	160-162	163-165	166-168	169-171	172-174
Frequency	:	5	18	42	27	8

25. Explain the different types of measures of dispersion and enumerate its merits and demerits.
 26. Explain : (a) Universe ; (b) Population ; (c) Sample ; and (d) Sampling Techniques with a proper example.
 27. Find the regression line of Y on X for the given set of data :

X	:	8	4	12	6	10
Y	:	7	9	3	6	5

28. Compute all measures of averages for the given frequency distribution :

Class	:	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90
Frequency	:	3	8	12	7	25	23	14	5	1

29. Find the Spearman's Rank coefficient for the given set of ranks :

Judge - A	:	3	1	4	7	8	9	2	6	5
Judge - B	:	4	2	3	6	5	8	1	7	9

30. Find the variance and hence the coefficient of variation also for the given individual series and comment about the nature of CV :

11 7 6 8 5 9 10

31. Explain the different components of time series with example(s).

(6 × 4 = 24)

Part D

*Answer any two questions.
Each question carries 15 marks.*

32. (a) What are the different types of tables to present data in statistics ?
(b) Differentiate tabulation and classification.
(c) Explain the diagrammatic and graphical presentation of data.

33. Explain the following methods to conduct regression analysis :

- (a) Simple linear regression model.
(b) Scatter diagram method.
(c) Least square method.

34. A car fleet owner has 5 cars which have been in the fleet for several different years. The manager wants to establish, if there is a linear relationship between the age of the car and the repair cost. Find this linear relation. Also predict the repair expenses for the next year for the two cars that are 3 years old now.

Car No.	:	1	2	3	4	5
Age (years)	:	1	3	3	5	6
Repair cost (in 1,000 Rs.)	:	4	6	7	7	9

35. Calculate the Karl Pearson coefficient of correlation between the price of items and demand of items as given below:

Price	:	13	14	16	10	14	12	15	12	8	12	27
Demand	:	9	8	14	6	5	7	4	9	6	5	2

Comment about the result.

(2 × 15 = 30)