



M.Com. (Semester – I) Examination, April 2017
COC 102 : BUSINESS STATISTICS (OA 18)

Duration : 3 Hours

Total Marks : 60

- Instructions:** 1) This paper consist of **nine (9)** questions carrying **equal marks**.
2) Question No. 1 consist of **5 compulsory** questions of **2 marks each**.
3) Answer **any five (5)** questions from 2, 3, 4, 5, 6, 7, 8.
4) Tables to be provided **wherever** required.

1. Answer the following questions : (2×5=10)
- Differentiate between basic and applied research.
 - Explain coefficient of variation and coefficient of determination.
 - Purpose of literature review.
 - Explain the concept of positive and negative skewness.
 - Properties of regression.
2. From the information given below calculate Karl Pearson's coefficient of skewness. 10

Measure	Place A	Place B
Mean	256.5	240.8
Median	201.1	201.6
S.D.	215.0	181.0

3. Fit a straight line trend by method of least squares and estimate the production in 2006 : 10

Year	1998	1999	2000	2001	2002	2003	2004
Production	180	190	192	193	194	199	192



4. Given below is the contingency table for production in three shifts and the number of defective goods turnout. Is it possible that the number of defective goods depends on the shift run by the factory ?

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Shift	No. of defective goods in 3 weeks		
	1 st week	2 nd week	3 rd week
I	15	5	20
II	20	10	20
III	25	15	20

5. The following data on calcium content of wheat are consistent with summary quantities that appeared in the article "Mineral Contents of Cereal Grains as affected by storage and insect infestation". Four different storage times were considered. Is there sufficient evidence to conclude that the mean calcium content is not the same for the four different storage times ? Test the appropriate hypotheses at the 0.05 level.

Storage Time Observations:

0 months	58.75	57.94	58.91	56.85	55.21	57.30
1 month	58.87	56.43	56.51	57.67	59.75	58.48
2 months	59.13	60.38	58.01	59.95	59.51	60.34
3 months	62.32	58.76	60.03	59.36	59.61	61.95

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6. What are the essentials of questionnaire ? Draft a suitable questionnaire to enable you to conduct sample survey to obtain information on study habits of Goa University students and facilities available to them.
7. Discuss in detail the process of research design with examples.
8. What do you mean by Research Proposal ? Elaborate various types of research reports.
9. "A good sample must be based on random sampling." Explain. Also discuss various types of random sampling methods that are used for selecting the sample.

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