



M.Com. (Semester - I) Examination, November 2015
COC 102 : BUSINESS STATISTICS (OA - 18)

Duration : 3 Hours

Max. Marks : 60

- Instructions:** 1) This paper consists of **nine (9)** questions carrying **10 marks each** ; answer **six (6)** questions.
2) Question No. 1 is **compulsory** consists of **5 short answer questions of 2 marks each**.
3) Answer any of the **five (5)** questions from the remaining **eight (8)** questions.
4) Figures to the **right** indicate marks allotted to **each** question.

1. Explain the following questions briefly.
- a) Null hypothesis and alternative hypothesis. 2
 - b) Parameter and statistics. 2
 - c) Stratified sampling and convenience sampling. 2
 - d) Why to carry out literature review ? 2
 - e) Structured and un-structured questionnaire. 2
2. The following statistical coefficients were deduced in the course of an examination of the relationship between the yield of rice and annual rain fall in the state of Goa. The coefficient of correlation between the yield of rice and rain fall comes to 0.52.

	Yield in lb/acre	Rainfall in inches
Arithmetic mean	985.0	12.8
Standard deviation	70.1	1.6

Calculate the following :

- a) Coefficient of determination and coefficient of alienation.
- b) The most likely yield of rice per acre when annual rainfall is 9.2 inches.
- c) The probable annual rainfall for yield of 1400 lbs per acre. 10

P.T.O.



3. After the moderanization of Dabilim airport, the administrator Mr. Prakash Dev is interested in the number of aircraft departure delays that are attributable to inadequate control facilities. He identified a random sample of 8 aircraft takeoffs during October 2015 for through checking and investigation. Over the past years experience, the airport control centre identified and observed that the true proportion of such delays due to inadequate control facilities is 0.40. Now Mr. Prakash Dev want to know the probability that :

- a) There is no departure delay due to inadequate control facilities.
- b) At least one departure delay due to inadequate control facilities.
- c) Exactly one departure delay due to inadequate control facilities.
- d) At the most one departure delay due to inadequate control facilities.

10

4. Mr. Ramdev Madhav, senior sales manager of HDFC Life Insurance, appointed 4 new marketing executives in the month of January 2015. At the end of the 3rd quarter, Mr. Ramdev Madhav wants to know whether there is any difference in terms of average sales performance among the 4 staff, so that he can give incentives, promotion to those top performers and retrench the under-performer. He compiled the sales data (given in Lakhs of rupees) of the 4 executives during the last 3 quarters.

Period	Sales Executives			
	Ashly	Joswin	Mohesin	Damu
March 31 st 2015	13	16	16	14
June 30 th 2015	17	16	17	16
September 30 th 2015	13	14	15	15

Find the following answers :

- a) Is there any significant difference exists between average performance between sales executives.
- b) Is there any significant difference exists between the average sales between the quarters.

10



5. Two newly appointed data entry operators at the Taleigao branch of HDFC Bank showed the following performance results after one month.

	Annette	Belinda
Mean time of completing the job (minutes)	30	25
Standard deviation (minutes)	6	4

- a) Which worker appears to be more consistent in the time(s) he requires to complete the job ?
- b) Which worker appears to be faster in completing the job ? **10**
6. Explain different types of plagiarism and also ways of preventing them. **10**
7. Explain the following :
- a) Importance of references and bibliography section of a report. **5**
- b) Rules to be followed for tabulation and graphs in a report. **5**
8. Explain the process of carrying out successful research. **10**
9. Explain the procedure of carrying out Chi-square testing in the case of two way classification. **10**
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