



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

Duration : 3 Hours

Max. Marks : 60

- Instructions :** 1) This Paper consists of **nine (9)** questions carrying **equal** marks.
2) Question No. 1 consists of **5 compulsory** questions of **2 marks each**.
3) Answer **any five (5)** questions from **2, 3, 4, 5, 6, 7, 8 and 9**.
4) **Each** question carries **10** marks. Figures to the **right** indicate marks.

1. Answer the following questions in brief :
- a) Explain the empirical relation between mean, median and mode. **2**
 - b) Explain :
 - i) Joint probability and **2**
 - ii) Marginal probability. **2**
 - c) Evaluation of research report. **2**
 - d) If $P(A \cup B)$ is 0.6, $P(A)$ is 0.4, and $P(B)$ is 0.3; find $P(A \cap B)$, $P(A/B)$ and $P(B/A)$. **2**
 - e) Purpose of applying the measures of Central Tendency. **2**
2. a) The number of accidents in a year attributed to taxi drivers in a city follows Poisson distribution with mean 3. Out of 1,000 taxi drivers, find approximately the number of drivers (i) with no accidents in a year, and (ii) more than 3 accidents in a year. **4**
- b) From the production process which turns 5% defective on an average, a sample of size 10 is drawn. Find the probability that the sample contains (i) no defectives, (ii) at least one defective, and (iii) at the most one defective. **6**
3. a) If correlation coefficient between X and Y is 0.90 and between A and B is 0.45, it shows that the first correlation between X and Y is 4 times as strong as the second A and B. Give a detailed explanation. **5**
- b) If correlation coefficient between P and Q is 0.82; find (i) coefficient of determination, (ii) coefficient of non-determination, and (iii) coefficient of alienation. Also explain the meaning and importance of the three answers. **5**

P.T.O.



4. Accountants were given intensive coaching and four tests were conducted in a month, The scores of the test 1 and 4 are given below. Does the scores from test 1 and 4 show an improvement ?

Accountants	1	2	3	4	5	6	7	8	9	10
Marks in test 1	50	42	51	42	60	41	70	55	62	38
Marks in test 4	62	40	61	52	68	51	64	63	72	50

10

5. Two sample polls of votes for two candidates Amruth and Bhanu for a public office are taken, one from among the residents of rural areas and other from among residents of urban areas. The results are given below. Examine whether the nature of the area is related to voting preference in this election.

	Anand	Bhanu	Total
Rural Area	620	480	1100
Urban Area	380	520	900
Total	1000	1000	2000

10

6. "Primary data is usually collected based on questionnaire and application of Likert-scaling is used for obtaining or measuring the perceptions/opinions/attitudes of respondents. Such attitude measurement and scaling helps in quantifying the qualitative data for the purpose of identifying the commonality of perceptions/opinions/attitudes of respondents". Discuss. 10
7. Explain the meaning and importance of population and sample. When and how a researcher should go for population study or sample study. Also explain the importance of sampling theory. 10
8. "Identification of **research gap** is crucial for carrying out successful research, and extensive literature review helps in identifying the research gap, data source, type of data, as well as data analysis techniques". Discuss. 10
9. What do you mean by plagiarism ? As a student how you can prevent plagiarism. 10