FIRST SEMESTER M.COM. DEGREE EXTERNAL EXAMINATION FEBRUARY 2016

(2015 ADMISSION)

CC15P MC1 C02 - QUANTITATIVE TECHNIQUES FOR BUSINESS DECISIONS

Time: 3 Hours   **Weight: 36**

PART-A

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

1. Distinguish between Type I Error and Type II Error.

2. What do you mean by *Alternative Hypothesis*?

3. What do you mean by *Level of Significance*?

4. Distinguish between *One way analysis* and *Two way analysis*

5. What do you mean by *Standard Error*?

6. What is the purpose of using SPSS?   **(6 x 1 = 6 Weights)**

PART-B

Answer **any six** questions. Each question carries **3** weightage

7. What cautions are necessary in using Chi-square test?

8. What do you mean by Paired observations in t-test?

9. Briefly explain the Graphical User Interface (GUI) in SPSS.

10. 30% of the population of a town is supposed to be vegetarians. At 95% level of confidence, what should be sample size, so that the sampling error is not more than 10% above or below the true proportion of vegetarians?

11. Before introducing the ban of tobacco products' sale near schools, 50 out of a sample of 500 boys were found to be smokers. After such a ban, 42 out of a sample of 600 boys were found to be smokers. Using standard error of proportion, state whether the ban of tobacco products' sale near schools was effective.

12. An aptitude test was conducted among the students of an aided school and the following result was obtained. Can you say that the performance of English medium students is better, compared to the performance of students in Malayalam Medium?

Medium	No. of students	Mean Marks	S.D.
English	14	112	8
Malayalam	16	107	10

13. A skilled typist on routine work, kept a record of mistake per day during 300 working days. The data are given below

Mistakes per day	0	1	2	3	4	5	6	Total
Number of days	143	90	42	12	9	3	1	300
Frequencies under Poisson distribution	123	110	49	14	3	1	0	300

Does the Poisson distribution give a good fit?

14. The following is the production output of 5 employees before and after they were trained. Do you think that such training is useful to the employees to improve the productivity?

Employees	A	B	C	D	E
Production before training	110	120	130	140	130
Production after training	120	125	135	140	125

(6 x 3 = 18 Weights)

PART-C

Answer *any two* questions. Each question carries 6 weightage

15. The summary result of a particular examination appeared by 100 students are given below:

Marks Obtained	No. of students
Above 80	10
Between 40 and 80	60
Below 40	30
Total	100

Find the average and standard deviation of marks assuming the distribution is normal.

16. Following are the production details of 5 workers A, B, C, D and E worked in 4 machines P, Q, R and S.

Workers	Machine P	Machine Q	Machine R	Machine S	Total
A	59	53	62	51	225
B	61	55	67	58	241
C	49	51	59	47	206
D	48	53	61	48	210
E	53	57	64	54	228
Total	270	269	313	258	1110

State whether there is significant difference in the production recorded (a) in 4 different machines and (b) by 5 different workers.

17. An inspection of 10 samples of size 300 each from 10 lots revealed the following number of defective units

17	15	14	26	9	4	19	12	9	15

Calculate control limits for the number of defective units. Plot the control limits and the observation and state whether the process is under control or not.

(2 x 6 = 12 Weights)

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