D 33176 (Pages : 2) Name..

Reg. No...................................

FIRST SEMESTER M.B.A. DEGREE EXAMINATION, JANUARY 2023

M.B.A. (CUCSS)

BUS 1C 07—QUANTITATIVE TECHNIQUES

Time : Three Hours Maximum : 36 Weightage

Part A

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

1. Define Random experiment.

2. Define Population.

3. What are the differences between Questionnaire and Schedule ?

4. Differentiate between Parameter and Statistic.

5. Define Power of test.

6. Brief the advantages of SPSS.

$(6 \times 1 = 6$ weightage)

Part B

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

7. A bag contains 4 white, 5 red, 6 yellow balls. Find the probability of drawing (a) a white ball ; and (b) a red ball ; (c) a black ball ; and (d) a yellow ball.

8. Explain sampling and Non sampling errors.

9. A sample of size 50 has standard deviation of 10.5. Can you contradict the hypothesis that the population standard deviation 12 ?

10. Explain one tailed and two tailed tests.

11. What do you mean by single, partial, and multiple correlations.

12. Explain the Poisson distribution and Exponential distribution.

$(4 \times 3 = 12$ weightage)

Turn over

Part C

Answer any **three** *questions.*
Each question carries 4 *weightage.*

13. In a factory, machine A and machine B are producing springs of the same type. Of this, machine A and B produce 5 % and 10 % defective springs respectively. Machine A and B produce 40 % and 60 % of the total output. One spring is selected at random and it is found defective. What is the probability that this spring was produced by machine A ?

14. Explain various sampling methods.

15. Explain the process in ANOVA.

16. The number of PCs sold from 1996 to 2002 are (in thousands) :

Year	:	1996	1997	1998	1999	2000	2001	2002
No. of PCs sold	:	51	54	59	61	63	65	67

Construct a regression equation.

17. Ranks of 8 students in English and History. Using Rank Correlation, study whether the students who are good in English are also good in History.

Student No.	:	1	2	3	4	5	6	7	8
English	:	2	8	1	7	6	4	5	3
History	:	7	3	2	6	5	8	4	1

$(3 \times 4 = 12$ weightage$)$

Part D

Answer the compulsory question.
The question carries 6 *weightage.*

18. Test whether the distribution of salaries (in Lakhs) for a job at different cities are identical (level of significance is 5%) using Kruskal-Willies test :

Bangalore	:	15	20	8	12	23	6	25		
Kolkata	:	12	11	19	22	24	7	18	29	
Hyderabad	:	11	14	16	5	28	26	4	17	27	28

$(1 \times 6 = 6$ weightage$)$