D 12394 (Pages : 2) Name..

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

FIRST SEMESTER M.B.A. DEGREE (REGULAR/SUPPLEMENTARY) EXAMINATION, JANUARY 2022

M.B.A.

BUS 1C 07—QUANTITATIVE TECHNIQUES

(2016 Scheme)

Time : Three Hours   Maximum : 36 Weightage

Part A

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

1. Define random variable.

2. In which kind of experiments we use Poisson distribution ?

3. Explain the difference between point estimate and interval estimate using normal distribution.

4. What do you mean by Non Parametric test ?

5. Define Hypothesis.

6. What do you mean by Regression ?

($6 \times 1 = 6$ weightage)

Part B

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

7. The probability that Mr. X passes mathematics is 2/5. The probability that he passes statistics is 4/9. The probability of passing at least one subject is 4/5. Find the probability that Mr. X passes in both the subjects.

8. What are the advantages of sampling ?

9. It is claimed that a random sample of 100 tyres with mean life of 15270 km, is drawn from a population of tyres which has a mean life of 15200 km and standard deviation of -1250 km. Test the validity of the claim.

10. State the advantages of SPSS.

Turn over

11. Brief the business applications of correlation.

12. 3 % of a given lot of manufactured parts are defective. What is the probability that in a sample of four items, none of the will be defective ?

(4 × 3 = 12 weightage)

Part C

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

13. A couple appears in an interview for two vacancies in the same post. The probability of husband's selection is 1/4 and wife's selection is 1/5. Find the probability that (a) Both of them selected ; (b) Only one of them selected ; and (c) None of them selected.

14. Discuss the characteristics of Normal Distribution.

15. Explain the process in Hypothesis Testing.

16. A sample of 20 pairs of values of X and Y variables have coefficient of correlation 0.62. Can this sample be drawn from a population with coefficient of correlation of 0.75 ?

17. R and D expenditure and profits (Annual in Crores). Construct the regression equation and find the standard error :

Year	:	2001	2000	1999	1998	1997	1996
R and D (X)	:	5	11	4	5	3	2
Profit (Y)	:	31	40	30	34	25	20

(3 × 4 = 12 weightage)

Part D

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

18. The following table shows the monthly sales of a certain firm in three states by its four salesmen. State whether the difference between sales affected by the four salesmen and the difference between sales affected by the states are significant :

States	Salesmen				Total
	A	B	C	D	
X	5	4	4	7	20
Y	7	8	5	4	24
Z	9	6	6	7	28
Total	21	18	15	18	72

(1 × 6 = 6 weightage)