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Reg. No. | | | | | | | | |

I Semester M.B.A. (Day/Evening) Degree Examination, August - 2021

MANAGEMENT

Business Statistics

(CBCS Scheme 2019-2020)

Paper : 1.5

Time : 3 Hours **Maximum Marks : 70**

Instructions to Candidates :

Calculator and statistical tables are allowed.

SECTION - A

Answer any **Five** questions from the following. Each question carries **Five** marks.**(5×5=25)**

1. Explain the importance of statistics in management.
2. Write short notes on:
   a) Null hypothesis.
   b) Alternative hypothesis.
   c) Type I and Type II error.
3. A bag contains 5 white and 6 red marbles. Another bag Contains 4 white and 7 red marbles. Two marbles are drawn from the selected bag. What is the probability that selected bag contains
   a) White marbles
   b) One white and one red marble.
4. Derive chi-square statistic by stating suitable null and alternative hypothesis use 5% level of significance

Occupation	On Favour	Against	Indifferent
Social Workers	80	40	10
Lawyers	60	70	30
University Students	85	65	40

5. The average height of 1000 students are normally distributed. Its mean is 72 inches and standard deviation is 2 feet. Find
   i) The number of students whose height is more than 70 inches
   ii) The number of students whose height will be between 6 feet and 6.5 feet.

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6. If bxy is 0.6 and byx is 0.9 . Find the significance of r.

7. Fit a linear trend by the method of least squares and estimate the number of patients for the year 2019 from the following data.

Year :	2011	2012	2013	2014	2015	2016	2017	2018
Patients in lakhs.	20	22	25	30	26	32	40	50

SECTION - B

Answer any **Three** questions. Each question carries **10** marks. **(3×10=30)**

8. The engineers at Jaguar Land Rover Produced a recent study on the service process for renewals. The revised durations (in hours) selected from Oil installations are as follows

   3.0 2.9 2.5 3.1 2.8 3.3 3.4 2.7 4.0 3.3

   a) What is the average revised time for an oil seal installation?

   b) Calculate the consistency for the revised durations.

9. Statistics helps managers to make business decisions. Explain this statement by using different statistical tools.

10. Calculate the ideal index and test for the time reversal and factor reversal test for the following data.

Commodity	2018		2019	
	Price	Value	Price	Value
A	30	1350	22	990
B	32	1344	24	840
C	35	2100	27	1161
D	36	900	28	1036

11. An aptitude test for selecting management Trainees was conducted on 3000 candidates. The average score was 65 and the standard deviation was 25. Assuming normal distribution for the scores find.

   a) The number of candidates who scores exceeded 85

   b) Candidates who scored between 75 and 80

   c) Candidates who scored less than 70

   d) Candidate who scored 62.

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SECTION - C

12. Compulsory **(1×15=15)**

A businessman has 2 options for investment.

Option A: He can open a restaurant for Rs. 10,00,000. He can expect success with a cash inflow of Rs. 14,00,000 at a probability of 75 per cent. If he fails, he can still salvage Rs. 6,00,000.

When he succeeds he can open a fast food kiosk for Rs. 7,00,000. The chances of success are 80 percent with a cash inflow of Rs. 6,00,000. If he fails he loses Rs. 1,00,000.

Options B: He can open a Gym for Rs.12,00,000. The chances of Success are 60 percent with a cash in flow of Rs. 8,00,000.If he fails, he can still salvage Rs.6,00,000.

You are expected to:

a) Draw a decision tree

b) Your decision as to which option is profitable for the business man.
