Register No.: ……………………………… Name.: ……………………………………………………………..

SAINTGITS COLLEGE OF ENGINEERING (AUTONOMOUS)

(AFFILIATED TO APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY, THIRUVANANTHAPURAM)

SECOND SEMESTER MBA DEGREE EXAMINATION (R,S), MAY 2024

(2021 Scheme)

Course Code :   **21MBA114**

Course Name: **Business Analytics**

Max. Marks :   **60**   **Duration: 3 Hours**

PART A

(Answer all questions. Each question carries 2 marks)

1. How many types of lookups are there in Excel?
2. Why is correlation preferred over covariance?
3. Can you explain a binomial distribution with an example?
4. What is data mining in AI?
5. What is the application of the transportation model?

PART B

(Answer any 3 questions. Each question carries 10 marks)

6. Explain the concept of an analytical model and discuss the different forms of analytical models. Using the marketing scenario of your choice, provide an example of each model. Each model should depict the same scenario.

7. You are a project supervisor with SDR, Inc., a data analysis and consulting firm based in Atlanta. You are supervising the data preparation process for a large survey conducted for a leading manufacturer of paper towels. The data are being collected via in-home personal interviews and 1,823 questionnaires have been returned from the field. In cleaning the data, you find that 289 questionnaires have missing responses. The data analyst preparing the data not knowing how to deal with these missing responses, approaches you for help and instructions. Explain to the data analyst how the missing responses should be handled.

8. The probability that a car being filled with petrol will also need an oil change is 0.30; the probability that it needs a new oil filter is 0.40; and the probability that both the oil and filter need changing is 0.15.

    (i) If the oil had to be changed, solve for the probability that a new oil filter is needed?
    (5 Marks)

    (ii) If a new oil filter is needed, solve for the probability that the oil has to be changed?
    (5 Marks)

9. Look at the following table and answer the questions that follows

```
 regular  |           sex
 drinker? |     male    female |      Total
----------+---------------------+----------
     yes  |       95       139 |        234
      no  |       16        44 |         60
----------+---------------------+----------
   Total  |      111       183 |        294
```

    (i)   How is logistics regression different for linear regression? (4 Marks)
    (ii)   What are the odds that a woman is a regular drinker? (2 Marks)
    (iii)   What are the odds that a man is a regular drinker? (2 Marks)
    (iv)   What is the odds ratio? (2 Marks)

10. An investor is considering investing in two securities 'A' and 'B'. The risk and return associated with these securities is different. Security 'A' gives a return of 9% and has a risk factor of 5 on a scale of zero to 10. Security 'B' gives return of 15% but has risk factor of 8. Total amount to be invested is Rs. 5, 00, 000/- Total minimum returns on the investment should be 12%. Maximum combined risk should not be more than 6. Formulate as LPP.

PART C
(Compulsory question, the question carries 20 marks)

11. Examine the different types of business analytics and bring out the various elements of business analytics.

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