

Register No.: Name.:

SAINTGITS COLLEGE OF ENGINEERING (AUTONOMOUS)

(AFFILIATED TO APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY, THIRUVANANTHAPURAM)

THIRD SEMESTER MBA DEGREE EXAMINATION (S), MAY 2022

(2020 Scheme)

Course Code : 20MBA203

Course Name: Business Analytics

Max. Marks : 60

Duration: 3 Hours

PART A

(Answer all questions. Each question carries 2 marks)

1. What is conditional probability?
2. Define time series analysis
3. A survey handed out to individuals at a major shopping mall in Cochin city in November asked the following:
 - gender
 - age
 - ethnicity
 - length of residency
 - overall satisfaction with city services (using a scale of 1–5, going from poor to excellent)
 - quality of schools (using a scale of 1–5, going from poor to excellent)What types of data (categorical, ordinal, interval, or ratio) would each of the survey items represent and why?
4. Describe sensitivity analysis in optimization techniques.
5. What is a dashboard?

PART B

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

6. Differentiate between discriminant analysis and logistic regression
7. Explain the types of analytics with business applications.
8. Explain all the data visualization tools in detail.
9. Identify the constraints and possible solutions of linear optimization problem.
10. Differentiate between Binomial and Poisson Distribution. List down the applications of both.

PART C

(Compulsory question, the question carries 20 marks)

11. a) Given below is the output of a regression analysis based on the data of National Football League for predicting Points/Game as a function of Yards/Game. Interpret all key regression results in the output and validate the model. Write down the regression function for prediction.

SUMMARY OUTPUT

Regression Statistics

Multiple R 0.89
 R Square 0.80
 Adjusted R Square 0.79
 Standard Error 2.27
 Observations 32

ANOVA

| | df | SS | MS | F | Significance F |
|------------|----|--------|--------|--------|----------------|
| Regression | 1 | 618.06 | 618.06 | 119.96 | 5.27168E-12 |
| Residual | 30 | 154.56 | 5.15 | | |
| Total | 31 | 772.62 | | | |

| | Coefficients | Standard Error | t Stat | P-value | Lower 95% | Upper 95% |
|-----------|--------------|----------------|--------|-------------|-----------|-----------|
| | Lower 95.0% | Upper 95.0% | | | | |
| Intercept | -19.25 | 3.75948 | -5.12 | 1.661E-05 | -26.93 | -11.57 |
| Yards/Gae | 0.13 | 0.01 | 10.95 | 5.27168E-12 | 0.10 | 0.15 |

Marks (10)

b) What is multicollinearity and autocorrelation? How do these two terms affect the result of regression analysis?

Marks (10)
