ST.JOSEPH'S UNIVERSITY, BENGALURU -27
M. Sc (BIG DATA ANALYTICS)– II SEMESTER
SEMESTER EXAMINATION: APRIL 2024
(Examination conducted in May / June 2024)
BDA2221: ADVANCE STATISTICAL METHOD
(For current batch students only)

Time: 2 Hours   Max Marks: 50

This paper contains ONE printed page and three parts

PART- A

Answer ALL the FIVE questions   **2 X 5 = 10**

1. What is meant by point estimation?
2. What is meant by MLE?
3. What are the assumptions of the errors of linear model?
4. Write down the general form of polynomial regression model.
5. Define stationarity of a time series model.

PART- B

Answer any FIVE questions   **5 X 4 = 20**

6. Explain sufficiency with an example. Give your own example to prove that an estimator is sufficient estimator for the parameter.
7. What is meant by moment method of estimation? Obtain the estimators of the parameters $\alpha, \beta \ of \ U(\alpha, \beta)$
8. Explain the Gauss Markov Model.
9. Describe briefly parametric and non-parametric bootstrap.
10. What is logistic regression? Mention its uses.
11. What is meant by time series? Explain the cyclical variation in times series
12. Explain the moving average method

PART C

Answer any TWO questions.   **2 X 10 = 20**

13. What is the EM algorithm? Find the MLE of the estimator λ of Poisson distribution using the data in which a value is missing 5,4,__,1,8
14. What is multivariate linear regression? Explain the least square method of estimation of the parameters of multivariate linear model. Give an example where we are required to predict a dependent variable based on several independent variables.
15. Describe in detail the ANOVA for one way classified data.