

Time: 2½ Hours

Q.1 Attempt ANY THREE from the following: (15M)

- (a) With the help of Key components of Business analytics, explain Business Analytics.
- (b) Explain challenges and Application of business analytics.
- (c) Explain Technologies and Tools in Business Analytics.
- (d) Write a short note on Measure of central tendency and Measure of Variability.
- (e) Explain relationship among variable in terms of Correlation analysis and regression analysis in applied business analytics.
- (f) Explain types of distribution with example.

Q.2 Attempt ANY THREE from the following: (15M)

- (a) Explain in brief business intelligence tools used for Data Analysis.
- (b) Explain probability and probability distribution.
- (c) Explain Application of Probability and Probability distribution in Business analytics.
- (d) What is Decision-making under uncertainty? Explain types of uncertainty in Business Decision-making.
- (e) Write a short note on decision making model under uncertainty in Applied Business analytics.
Explain various elements of decision analysis.
- (f) Write the application of Decision making under uncertainty in Business Analytics.

Q.3 Attempt ANY THREE from the following: (15M)

- (a) Define sampling and explain its importance in business analytics, highlighting its role in making inferences about populations based on sample data.
- (b) Why sampling is important in Business analytics?
- (c) What is Hypothesis testing? Discuss the types of Hypothesis test in Business analytics.
- (d) Why sampling Distribution is important in business analytics? Explain.
- (e) What is confidence interval estimation? Explain concept of confidence interval estimation.
- (f) Discuss the steps to construct a confidence interval in business analytics.

Q.4 Attempt ANY THREE from the following:

(15M)

- (a) What is regression analysis? Explain the different types of regression analysis.
- (b) Discuss the application of regression analysis in Business analytics.
- (c) Discuss the benefits and challenges in regression analysis in brief.
- (d) Explain the term estimating the relationship in business analytics and its application.
- (e) Explain regression analysis in terms of statistical inference.
- (f) Explain time series analysis and forecasting in business analytics.

Q.5 Attempt ANY THREE from the following:

(15M)

- (a) Define optimization modelling and its key element in business analytics.
- (b) Discuss the types of optimization problem and application of optimization modelling in business analytics
- (c) What is Analysis of Variance (ANOVA)? Also discuss the important concept in ANOVA.
- (d) What is Simulation modelling? Discuss the key aspect of simulation modelling.
- (e) Explain Experimental design and its role in business analytics
- (f) Explain different types of Experimental Designs in Business analytics.
