Department of Masters of Business Administration

Course File

BUSINESS ANALYTICS

(Course Code: A93003)

II MBA I Semester

2023-24

V.SARADA
ASSOC.PROFESSOR

ANURAG Anurag ENGINEERING COLLEGE
(An Autonomous Institution)
Ananthagiri, Kodad, Telangana 508 206, India.

Department of Masters of Business Administration

BUSINESS ANALYTICS

Check List

Department of Masters of Business Administration

ANURAG ENGINEERING COLLEGE
(An Autonomous Institution)

I Year MBA –II Semester **L T/P C**
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A93003: BUSINESS ANALYTICS

Unit – I: Introduction to Data Analytics: Introduction to Data, Importance of Analytics, Data for Business Analytics, Big Data, Business Analytics in Practice. Data Visualization, Data Visualization Tools, Data Queries, Statistical Methods for Summarizing Data, Exploring Data using Pivot Tables.

Unit – II: Descriptive Statistical Measures: Population and Samples, Measures of location, Measures of Dispersion, Measures of Variability, Measures of Association. Probability Distribution and Data Modeling, Discrete Probability Distribution, Continuous Probability Distribution, Random Sampling from Probability Distribution, Data Modeling and Distribution fitting.

Unit – III: Predictive Analytics: Karl Pearson Correlation Technique, Multiple Correlation, Spearman's Rank Correlation, Simple and Multiple Regression, Regression by the Method of Least Squares, Building Good Regression Models. Regression with Categorical Independent Variables, Linear Discriminant Analysis, One-Way and Two-Way ANOVA

Unit –IV: Data Mining: Scope of Data Mining, Data Exploration and Reduction, Unsupervised Learning, Cluster Analysis, Association Rules, Supervised Learning, Partition Data, Classification Accuracy, Prediction Accuracy, K-Nearest Neighbors, Classification and Regression Trees, Logistics Regression

Unit – V: Simulation: Random Number Generation, Monte Carlo Simulation, What If Analysis, Verification and Validation, Advantages and Disadvantages of Simulation, Risk Analysis, Decision Tree Analysis.

Suggested Readings:

1. James E. Sallis, Geir Gripsrud, Ulf Henning Olsson,Ragnhild Silkoset,Research Methods and Data Analysis for Business Decisions: A Primer Using SPSS,Springer International Publishing,1e,2021.
2. Anil Maheshwari, Big Data, Tata McGraw Hill, New Delhi, 2e, 2019.
3. James Evans, Business Analytics, Pearson Education,2e, 2017.
4. Camm, Cochran, Fry, Ohlmann, Anderson, Sweeney, Williams Essential of Business Analytics, Cengage Learning, 2015.
5. Foster Provost and Tom Fawcett, Data Science for Business, Shroff Publisher, 2018.
6. Seema Acharya & Subhashini Chellappan: Big Data and Analytics, Wiley Publications, New Delhi, 2015.
7. Thomas Eri, Wajid Khattack& Paul Buhler: Big Data Fundamentals, Concepts, drivers and Techniques by Prentice Hall of India, New Delhi, 2015.

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Timetable

I MBA II Semester –HRM

Day/Hour	9.30-10.20	10.20-11.10	11.20-12.10	12.10-1.00	1.40-2.25	2.25-3.10	3.15-4.00
Monday						BA	
Tuesday		BA					
Wednesday							
Thursday				BA			
Friday	BA						
Saturday	BA						

Department of Masters of Business Administration

Vision of the Institute

To be a premier Institute in the country and region for the study of Engineering, Technology and Management by maintaining high academic standards which promotes the analytical thinking and independent judgment among the prime stakeholders, enabling them to function responsibly in the globalized society.

Mission of the Institute

To be a world-class Institute, achieving excellence in teaching, research and consultancy in cutting-edge Technologies and be in the service of society in promoting continued education in Engineering, Technology and Management.

Quality Policy

To ensure high standards in imparting professional education by providing world-class infrastructure, top-quality-faculty and decent work culture to sculpt the students into Socially Responsible Professionals through creative team-work, innovation and research.

Vision of the Department:

To achieve academic excellence and managerial relevance through interaction with the corporate world.

Mission of the Department

To provide students with excellent professional skills by cooperating closely with corporate partners and by exposing them to a dynamic and intercultural business environment.

Quality Policy:

To pursue global standards of excellence in all our endeavors namely teaching, research, consultancy and continuing education to remain accountable in our core and support functions through processes of self evaluation and continuous improvement.

Department of Masters of Business Administration

Program Educational Objectives (MBA)

Post Graduates will be able to

PEO1: To teach the fundamental key elements of a business organization and providing theoretical knowledge and practical approach to various functional areas of management.

PEO2: To develop analytical skills to identify the link between the management practices in the functional areas of an organization and research culture in business environment.

PEO3: To provide insights on latest technology, business communication, management concepts to build team work and leadership skills within them and aimed at self- actualization and realization of ethical practices.

Program Outcomes (MBA)

At the end of the Program, a post graduate will have the ability to

Po 1: To Gain The Knowledge On Various Concepts Of Business Management And Approaches.

Po 2: To understand and analyze the interconnections between the development of key functional areas of business organization and the management thought process.

Po 3: To recognize and adapt to the opportunities available and face the challenges in the national and global business.

Po 4: To possess analytical skills to carry out research in the field of management.

Po 5: To acquire team management skills to become a competent leader, who possesses complex and integrated real world skills.

Po 6: To be ethically conscious and socially responsible managers, capable of contributing to the development of the nation and quality of life.

Po 7: To develop a systematic understanding of changes in business environment.

Po 8: To understand professional integrity.

Po 9: An ability to use information and knowledge effectively.

Po 10: To analyze a problem and use the appropriate managerial skills for obtaining its solution.

Po 11: To understand a various legal acts in business.

Po 12: To build a successful career and immediate placement

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COURSE OBJECTIVES

On completion of this Course, the student shall be able to:

S.No.	Objectives
1	To orient on the importance of ever-increasing volume, variety and velocity of data in organisation and application of data analytical tools for decision making.
2	To explain the different descriptive statistical measures.
3	To impart knowledge on the aspects of predictive analytics.
4	To provide an understanding of the scope of data mining, regression trees, and logistical regression.
5	To elaborate on various applications of simulation in business.

COURSE OUTCOMES

The expected outcomes of the Course are:

S.No.	Outcomes
1.	Understand the importance of business analytics in practice
2.	Learn various rural marketing strategies
3.	Learn the challenges of data modelling.
4.	Understand the aspects of data mining.
5.	Learn Monte Carlo simulation, risk analysis and decision tree analysis

Signature of faculty

Note: Please refer to Bloom's Taxonomy, to know the illustrative verbs that can be used to state the outcomes.

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GUIDELINES TO STUDY THE COURSE

Course Design and Delivery System (CDD):

- The Course syllabus is written with several learning objectives and outcomes.
- Every student will be given an assessment plan, criteria for assessment, scheme of evaluation and grading method.
- The Learning Process will be carried out through assessments of Knowledge, Skills and Attitudes by various methods and the students will be given guidance to refer to the textbooks, reference books, journals, etc.

The faculty be able to –

- Understand the principles of Learning
- Understand the psychology of students
- Develop instructional objectives for a given topic
- Prepare course, unit and lesson plans
- Understand different methods of teaching and learning
- Use appropriate teaching and learning aids
- Plan and deliver lectures effectively
- Provide feedback to students using various methods of Assessments and tools of Evaluation
- Act as a guide, advisor, counsellor, facilitator, motivator and not just as a teacher alone

Signature of HOD

Date:

Signature of faculty

Date:

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COURSE SCHEDULE

The Schedule for the whole Course / Subject is:

S. No.	Description	Duration (Date)		Total No. of Periods
		From	To	
1.	**Unit – I: Introduction to Data Analytics:** Introduction to Data, Importance of Analytics, Data for Business Analytics, Big Data, Business Analytics in Practice. Data Visualization, Data Visualization Tools, Data Queries, Statistical Methods for Summarizing Data, Exploring Data using Pivot Tables.	4-9-23	26-9-23	15
2.	**Unit – II: Descriptive Statistical Measures:** Population and Samples, Measures of location, Measures of Dispersion, Measures of Variability, Measures of Association. Probability Distribution and Data Modeling, Discrete Probability Distribution, Continuous Probability Distribution, Random Sampling from Probability Distribution, Data Modeling and Distribution fitting.	30-9-23	2-11-23	15
3.	**Unit – III: Predictive Analytics:** Karl Pearson Correlation Technique, Multiple Correlation, Spearman's Rank Correlation, Simple and Multiple Regression, Regression by the Method of Least Squares, Building Good Regression Models. Regression with Categorical Independent Variables, Linear Discriminant Analysis, One-Way and Two-Way ANOVA.	2-11-23	20-11-23	10
4.	**Unit – IV: Data Mining:** Scope of Data Mining, Data Exploration and Reduction, Unsupervised Learning, Cluster Analysis, Association Rules, Supervised Learning, Partition Data, Classification Accuracy, Prediction Accuracy, K-Nearest Neighbors, Classification and Regression Trees, Logistics Regression.	21-11-23	11-12-23	12
5.	**Unit – V: Simulation:** Random Number Generation, Monte Carlo Simulation, What If Analysis, Verification and Validation, Advantages and Disadvantages of Simulation, Risk Analysis, Decision Tree Analysis.	12-12-23	2-1-24	16

Total No. of Instructional periods available for the course: 68 hrs

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SCHEDULE OF INSTRUCTIONS - COURSE PLAN

Unit No.	Lesson No.	Date	No. of Periods	Topics / Sub-Topics	Objectives & Outcomes Nos.	References (Textbook, Journal)
1.	1	4-Sep-23	1	Introduction to Data	1 1	Anil Maheshwari, Big Data
	2	5-Sep-23	1	Importance of Analytics	1 1	Anil Maheshwari, Big Data
	3	7-Sep-23	1	Data for Business Analytics	1 1	Anil Maheshwari, Big Data
	4	8-Sep-23	1	Data for Business Analytics	1 1	Anil Maheshwari, Big Data
	5	11-Sep-23	1	Big Data	1 1	Anil Maheshwari, Big Data
	6	12-Sep-23	1	Big Data	1 1	Anil Maheshwari, Big Data
	7	14-Sep-23	1	Business Analytics in Practice.	1 1	Anil Maheshwari, Big Data
	8	15-Sep-23	1	Data Visualization,	1 1	Anil Maheshwari, Big Data
	9	16-Sep-23	1	Data Visualization Tools,	1 1	Anil Maheshwari, Big Data
	10	19-Sep-23	1	Data Queries,	1 1	Anil Maheshwari, Big Data
	11	21-Sep-23	1	Statistical Methods for Summarizing Data	1 1	Anil Maheshwari, Big Data
	12	22-Sep-23	1	Statistical Methods for Summarizing Data	1 1	Anil Maheshwari, Big Data
	13	23-Sep-23	1	Statistical Methods for Summarizing Data	1 1	Anil Maheshwari, Big Data

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	14	25-Sep-23	1	Exploring Data using Pivot Tables	1 1	Anil Maheshwari, Big Data
	15	26-Sep-23	1	Exploring Data using Pivot Tables	1 1	Anil Maheshwari, Big Data
2.	1	29-Sep-23	1	Population and Samples	2 2	Anil Maheshwari, Big Data
	2	30-Sep-23	1	Measures of location	2 2	Anil Maheshwari, Big Data
	3	3-Oct-23	1	Measures of Dispersion	2 2	Anil Maheshwari, Big Data
	4	5-Oct-23	1	Measures of Dispersion	2 2	Anil Maheshwari, Big Data
	5	6-Oct-23	1	Measures of Dispersion	2 2	Anil Maheshwari, Big Data
	6	7-Oct-23	1	Measures of Variability	2 2	Anil Maheshwari, Big Data
	7	9-Oct-23	1	Measures of Association	2 2	Anil Maheshwari, Big Data
	8	10-Oct-23	1	Measures of Association	2 2	Anil Maheshwari, Big Data
	9	12-Oct-23	1	Probability Distribution and Data Modeling	2 2	Anil Maheshwari, Big Data
	10	13-Oct-23	1	Probability Distribution and Data Modeling	2 2	Anil Maheshwari, Big Data
	11	16-Oct-23	1	Continuous Probability Distribution	2 2	Anil Maheshwari, Big Data
	12	17-Oct-23	1	Random Sampling from Probability Distribution	2 2	Anil Maheshwari, Big Data
	13	19-Oct-23	1	Random Sampling from Probability Distribution	2 2	Anil Maheshwari, Big Data
	14	20-Oct-23	1	Data Modeling and Distribution fitting.	2 2	Anil Maheshwari, Big Data

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	15	21-Oct-23	1	Data Modeling and Distribution fitting.	2 2	Anil Maheshwari, Big Data
3.	1	30-Oct-23	1	Karl Pearson Correlation Technique	3 3	Anil Maheshwari, Big Data
	2	31-Oct-23	1	Multiple Correlation.	3 3	Anil Maheshwari, Big Data
	3	2-Nov-23	1	Spearman's Rank Correlation	3 3	Anil Maheshwari, Big Data
	4	3-Nov-23	1	Simple and Multiple Regression	3 3	Anil Maheshwari, Big Data
	5	4-Nov-23	1	Regression by the Method of Least Squares	3 3	Anil Maheshwari, Big Data
	6	9-Nov-23	1	Building Good Regression Models.	3 3	Anil Maheshwari, Big Data
	7	10-Nov-23	1	Regression with Categorical Independent Variables	3 3	Anil Maheshwari, Big Data
	8	13-Nov-23	1	Linear Discriminant Analysis	3 3	Anil Maheshwari, Big Data
	9	14-Nov-23	1	One-Way	3 3	Anil Maheshwari, Big Data
	10	16-Nov-23	1	Two-Way ANOVA	3 3	Anil Maheshwari, Big Data
4	1	17-Nov-23	1	Data Mining: Scope of Data Mining,	4 4	Anil Maheshwari, Big Data
	2	18-Nov-23	1	Data Exploration and Reduction	4 4	Anil Maheshwari, Big Data
	3	20-Nov-23	1	Unsupervised Learning,	4 4	Anil Maheshwari, Big Data
	4	21-Nov-23	1	Cluster Analysis,	4 4	Anil Maheshwari, Big Data
	5	23-Nov-23	1	Association Rules,	4 4	Anil Maheshwari, Big Data

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	6	24-Nov-23	1	Supervised Learning,	4 4	Anil Maheshwari, Big Data
	7	25-Nov-23	1	Partition Data,	4 4	Anil Maheshwari, Big Data
	8	28-Nov-23	1	Classification Accuracy,	4 4	Anil Maheshwari, Big Data
	9	29-Nov-23	1	Prediction Accuracy	4 4	Anil Maheshwari, Big Data
	10	30-Nov-23	1	K-Nearest Neighbors,.	4 4	Anil Maheshwari, Big Data
	11	1-Dec-23	1	Classification and Regression Trees	4 4	Anil Maheshwari, Big Data
	12	2-Dec-23	1	Logistics Regression	4 4	Anil Maheshwari, Big Data
5	1	4-Dec-23	1	Random Number Generation	5 5	Anil Maheshwari, Big Data
	2	5-Dec-23	1	Random Number Generation	5 5	Anil Maheshwari, Big Data
	3	7-Dec-23	1	Monte Carlo Simulation	5 5	Anil Maheshwari, Big Data
	4	8-Dec-23	1	Monte Carlo Simulation	5 5	Anil Maheshwari, Big Data
	5	11-Dec-23	1	What If Analysis,	5 5	Anil Maheshwari, Big Data
	6	12-Dec-23	1	What If Analysis	5 5	Anil Maheshwari, Big Data
	7	14-Dec-23	1	What If Analysis	5 5	Anil Maheshwari, Big Data
	8	15-Dec-23	1	Verification and Validation	5 5	Anil Maheshwari, Big Data
	9	16-Dec-23	1	Verification and Validation	5 5	Anil Maheshwari, Big Data
	10	18-Dec-23	1	Advantages and Disadvantages of Simulation	5 5	Anil Maheshwari, Big Data
	11	19-Dec-23	1	Advantages and Disadvantages of Simulation	5 5	Anil Maheshwari, Big Data
	12	21-Dec-23	1	Risk Analysis	5 5	Anil Maheshwari, Big Data
	13	22-Dec-23	1	Risk Analysis	5 5	Anil Maheshwari, Big Data
	14	23-Dec-23	1	Decision Tree Analysis	5 5	Anil Maheshwari, Big Data

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	15	28-Dec-23	1	Decision Tree Analysis	5 5	Anil Maheshwari, Big Data
	16	29-Dec-23	1	Decision Tree Analysis	5 5	Anil Maheshwari, Big Data

Signature of HOD

Date:

Signature of faculty

Date:

Note:

1. Ensure that all topics specified in the course are mentioned.
2. Additional topics covered, if any, may also be specified in bold.
3. Mention the corresponding course objective and outcome numbers against each topic.

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LESSON PLAN (U-I)

Lesson No: Unit 1/ 1-7 Duration of Lesson : 5.8 hrs

Lesson Title: Introduction to Big Data

Instructional / Lesson Objectives:

- To make students understand Data.
- To familiarize students with the importance of Data.
- To understand the characteristics of Big Data.
- To provide knowledge on Applications of Big Data.

Teaching AIDS: PPTs, Digital Board, Lecture method, Computer Lab

Time Management of Class :

1. 5 minutes for taking attendance
2. 5 minutes for revision on the previous class.
3. 35 minutes for lecture delivery.
4. 5 minutes for doubts clarification

Assignment / Questions:
Refer to Assignment – I & Tutorial-I sheets

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LESSON PLAN (U-I)

Lesson No: Unit 1/8-15 Duration of Lesson: 6.6 hrs.

Lesson Title: Data Visualization and statistical tools for summarizing Data

Instructional / Lesson Objectives:

- To make students understand the Data Visualization Tools.
- To familiarize students with statistical tools for summarizing Data.

Teaching AIDS: PPTs, Digital Board, Lecture Method, Computer Lab

Time Management of Class :

1. 5 minutes for taking attendance
2. 5 minutes for revision on the previous class.
3. 35 minutes for lecture delivery.
4. 5 minutes for doubts clarification.

Assignment / Questions:
Refer to Assignment – I & Tutorial-I sheets

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LESSON PLAN (U-II)

Lesson No: Unit-2/ 1-6 Duration of Lesson: 5 hrs

Lesson Title: Measures of Central Tendency, Dispersion

Instructional / Lesson Objectives:

- To make students understand the usage of Excel in solving Central Tendency.
- To familiarize students with Dispersion through Excel.
- To understand students about Measures of Association.

Teaching AIDS: PPTs, Digital Board, Lecture Method, Computer Lab

Time Management of Class :

1. 5 minutes for taking attendance
2. 5 minutes for revision on the previous class.
3. 35 minutes for lecture delivery.
4. 5 minutes for doubts clarification

Assignment / Questions:
Refer to Assignment – II & Tutorial-II sheets

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LESSON PLAN (U-II)

Lesson No: Unit 2 /7-15 Duration of Lesson: 7.5 hrs

Lesson Title: Probability and Distribution

Instructional / Lesson Objectives:

- To make students understand the Probability
- To familiarize students with different types of Distributions.

Teaching AIDS: PPTs, Digital Board, lecture method, Computer Lab

Time Management of Class :,

1. 5 minutes for taking attendance
2. 5 minutes for revision on the previous class.
3. 35 minutes for lecture delivery.
4. 5 minutes for doubts clarification

Assignment / Questions:
Refer to Assignment – II & Tutorial-II sheets

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LESSON PLAN (U-III)

Lesson No: Unit-3/ 1-5 Duration of Lesson: 5 hrs

Lesson Title: correlation and Regression

Instructional / Lesson Objectives:

- To make students understand correlation through Excel
- To familiarize students with Regression through Excel.

Teaching AIDS: PPTs, Digital Board, Lecture method, Computer Lab

Time Management of Class :

1. 5 minutes for taking attendance
2. 5 minutes for revision on the previous class.
3. 35 minutes for lecture delivery.
4. 5 minutes for doubts clarification

Assignment / Questions:
Refer Assignment – III & Tutorial-III sheets

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LESSON PLAN (U-III)

Lesson No: Unit 3 /6-10 Duration of Lesson: 5 hrs

Lesson Title: ANOVA

Instructional / Lesson Objectives:

- To make students understand ANOVA ONE WAY.
- To familiarize students with TWO-WAY ANOVA.

Teaching AIDS: PPTs, Digital Board, Lecture Method, Computer Lab

Time Management of Class :

1. 5 minutes for taking attendance
2. 5 minutes for revision on the previous class.
3. 35 minutes for lecture delivery.
4. 5 minutes for doubts clarification

Assignment / Questions:
Refer to Assignment – III & Tutorial-III sheets

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LESSON PLAN (U-IV)

Lesson No: Unit-4/ 1- 6 Duration of Lesson: 5 hrs

Lesson Title: DATA MINING

Instructional / Lesson Objectives:

- To make students understand Data Mining
- To familiarize students with Cluster Analysis.

Teaching AIDS: PPTs, Digital Board, Lecture Method, Computer Lab

Time Management of Class :

1. 5 minutes for taking attendance
2. 5 minutes for revision on the previous class.
3. 35 minutes for lecture delivery.
4. 5 minutes for doubts clarification

Assignment / Questions:
Refer to Assignment – IV & Tutorial-IV sheets

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LESSON PLAN (U-IV)

Lesson No: Unit-4/7-12 Duration of Lesson: 5 hrs

Lesson Title: Classification and Regression Tree

Instructional / Lesson Objectives:

- To make students understand the KNN
- To familiarize students with Data Mining through Excel .

Teaching AIDS: PPTs, Digital Board, Lecture Method, Computer Lab

Time Management of Class :

1. 5 minutes for taking attendance
2. 5 minutes for revision on the previous class.
3. 35 minutes for lecture delivery.
4. 5 minutes for doubts clarification

Assignment / Questions:
Refer to Assignment – IV & Tutorial-IV sheets

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LESSON PLAN (U-V)

Lesson No: Unit-5/ 1- 10 Duration of Lesson: 8.3 hrs

Lesson Title: Simulation and Random Number Generation

Instructional / Lesson Objectives:

- To make students understand the Simulation and Techniques
- To familiarize students with random Number Generation through Exel.

Teaching AIDS: PPTs, Digital Board, Lecture Method, Computer Lab

Time Management of Class :

1. 5 minutes for taking attendance
2. 5 minutes for revision on the previous class.
3. 35 minutes for lecture delivery.
4. 5 minutes for doubts clarification

Assignment / Questions:
Refer to Assignment – V & Tutorial-V sheets

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LESSON PLAN (U-V)

Lesson No: Unit-5/ 11-16 Duration of Lesson: 5 hrs

Lesson Title: The Industrial Dispute Act, The Factories Act

Instructional / Lesson Objectives:

- To make students understand Risk Analysis
- To familiarize students with the Decision Tree.

Teaching AIDS: PPTs, Digital Board, Lecture Method, Computer Lab

Time Management of Class :

1. 5 minutes for taking attendance
2. 5 minutes for revision on the previous class.
3. 35 minutes for lecture delivery.
4. 5 minutes for doubts clarification

Assignment / Questions:
Refer to Assignment – V & Tutorial-V sheets

Signature of faculty

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ASSIGNMENT – 1

This Assignment corresponds to Unit No. 1

Question No.	Question	Objective No.	Outcome No.
1	Discuss Big Data.	1	1
2	Explain Data Visualisation.	1	1

Signature of HOD

Date:

Signature of faculty

Date:

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ASSIGNMENT – 2

This Assignment corresponds to Unit No. 2

Question No.	Question	Objective No.	Outcome No.
1	Define sampling and write about different sampling techniques	2	2
2	Discuss Measures of Central Tendency	2	2

Signature of HOD

Date:

Signature of faculty

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ASSIGNMENT – 3

This Assignment corresponds to Unit No. 3

Question No.	Question	Objective No.	Outcome No.
1	Write different correlation methods	3	3
2	Discuss TWO-WAY ANOVA.	3	3

Signature of HOD

Date:

Signature of faculty

Date:

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ASSIGNMENT – 4

This Assignment corresponds to Unit No. 4

Question No.	Question	Objective No.	Outcome No.
1	Write about Cluster Analysis	4	4
2	Discuss Regression?	4	4

Signature of HOD

Date:

Signature of faculty

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ASSIGNMENT – 5

This Assignment corresponds to Unit No. 5

Question No.	Question	Objective No.	Outcome No.
1	Monte Carlo Simulation-Explain	5	5
2	Decision Tree Analysis -Explain	5	5

Signature of HOD

Date:

Signature of faculty

Date:

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TUTORIAL – 1

This tutorial corresponds to Unit No. 1 (Objective Nos.: 1, Outcome Nos.: 1)

1. Define Data and write different types of Data
2. Write the characteristics of Big Data.
3. List out any two sources of Big Data.
4. Define data queries.

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TUTORIAL – 2

This tutorial corresponds to Unit No. 2 (Objective Nos.: 2, Outcome Nos.: 2)

1. What is meant by the coefficient of variation?
2. List out the parts in measures of location.
3. Write the formula for Inverse normal distribution.
4. What is interquartile range?
5.

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TUTORIAL – 3

This tutorial corresponds to Unit No.3 (Objective Nos.: 3, Outcome Nos.: 3)

1. Give an example of linear correlation.
2. Define negative correlation.
3. What are the types of regression
4. What is LDA

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Date:

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TUTORIAL – 4

This tutorial corresponds to Unit No. 4 (Objective Nos.: 4, Outcome Nos.: 4)

1. Define Population
2. What is dirty data?
3. Write a note on market basket analysis
4. What is meant by K-means clustering?

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Date:

Signature of faculty

Date:

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TUTORIAL – 5

This tutorial corresponds to Unit No. 5 (Objective Nos.: 5, Outcome Nos.: 5)

1. Define Simulation.
2. Write a note on Random number generation
3. Define Data table.
4. What are the types of Risk?

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Date:

Signature of faculty

Date:

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EVALUATION STRATEGY

Target (s)

a. Percentage of Pass : 100 %

Assessment Method (s) (Maximum Marks for evaluation are defined in the Academic Regulations)

a. Daily Attendance
b. Assignments
c. Online Quiz (or) Seminars
d. Continuous Internal Assessment
e. Semester / End Examination

List out any new topic(s) or any innovation you would like to introduce in teaching the subjects in this semester

Case Study of any one existing application

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Date:

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Date:

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COURSE COMPLETION STATUS

Actual Date of Completion & Remarks if any

Units	Remarks	Objective No. Achieved	Outcome No. Achieved
Unit 1	completed on 26.9.2023	1	1
Unit 2	completed on 2.11.2023	2	2
Unit 3	completed on 20.11.2023	3	3
Unit 4	completed on 11.12.2023	4	4
Unit 5	completed on 2.01.2024	5	5

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Date:

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Date:

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Mappings

1. Course Objectives-Course Outcomes Relationship Matrix

(Indicate the relationships by mark "X")

Course-Outcomes / Course-Objectives	1	2	3	4	5
1	H				
2		H			
3			H		
4				H	
5					H

2. Course Outcomes-Program Outcomes (POs) & PSOs Relationship Matrix

(Indicate the relationships by mark "X")

P-Outcomes / C-Outcomes	a	b	c	d	e	f	g	h	i	j	k	l	PSO 1	PSO 2
1				H					M			H	H	
2				H					H	M		H	H	
3				H					H	M		H	H	
4				H					H	M		H	H	
5				H					H	M		H	H	

Department of Masters of Business Administration

Rubric for Evaluation

Performance Criteria	Unsatisfactory	Developing	Satisfactory	Exemplary
	1	2	3	4
Research & Gather Information	Does not collect any information that relates to the topic	Collects very little information some relates to the topic	Collects some basic Information most relates to the topic	Collects a great deal of Information all relates to the topic
Fulfill team role's duty	Does not perform any duties of assigned team role.	Performs very little duties.	Performs nearly all duties.	Performs all duties of assigned team role.
Share Equally	Always relies on others to do the work.	Rarely does the assigned work - often needs reminding.	Usually does the assigned work - rarely needs reminding.	Always does the assigned work without having to be reminded
Listen to other team mates	Is always talking—never allows anyone else to speak.	Usually doing most of the talking-- rarely allows others to speak	Listens, but sometimes talks too much.	Listens and speaks a fair amount.

Department of Masters of Business Administration

Continuous Internal Assessment (R-22)

Programme: MBA **Year:** II **Course:** Theory **A.Y: 2023-24**

Course: BUSINESS ANALYTICS **Section:** A **Faculty Name:** V. SARADA

S. No	Roll No	MID-I (30M)	MID-II (30M)	Avg. of MID I & II	Avg. Assignment I & II	VivaVoce/ Poster Presentation (5M)	Total Marks (40)
1	22C11E0002	25	26	26	5	5	36
2	22C11E0003	22	29	26	5	5	36
3	22C11E0004	23	26	25	5	5	35
4	22C11E0005	25	26	26	5	5	36
5	22C11E0006	29	30	30	5	5	40
6	22C11E0007	30	29	30	5	5	40
7	22C11E0008	27	25	26	5	5	36
8	22C11E0009	20	21	21	5	5	31
9	22C11E0010	25	29	27	5	5	37
10	22C11E0011	27	27	27	5	5	37
11	22C11E0012	24	28	26	5	5	36
12	22C11E0013	22	28	25	5	5	35
13	22C11E0014	27	29	28	5	5	38
14	22C11E0016	20	18	19	5	5	29
15	22C11E0017	20	18	19	5	5	29
16	22C11E0020	30	29	30	5	5	40
17	22C11E0021	29	30	30	5	5	40
18	22C11E0022	28	26	27	5	5	37

No. of Absentees: 00

Total Strength: 18

Signature of Faculty

Signature of HoD

BUSINESS ANALYTICS

UNIT-1

SYLLABUS: Introduction to Data Analytics: Introduction to Data, Importance of Analytics, Data for Business Analytics, Big Data, Business Analytics in Practice. Data Visualization, Data Visualization Tools, Data Queries, Statistical Methods for Summarizing Data, Exploring Data using Pivot Tables.

TEACHING MATERIAL:

1. DATA
2. LIFE CYCLE OF BUSINESS ANALYTICS
3. DATA ANALYTICS
4. IMPORTANCE
5. CHARACTERISTICS OF DATA
6. CLASSIFICATION OF DATA
7. USES OF DATA ANALYTICS
8. BIG DATA
9. CHARACTERISTICS OF BIG DATA
10. EVALUATION OF BIG DATA
11. TECHNOLOGY AVAILABLE FOR BIG DATA
12. SOURCES OF BIG DATA
13. APPLICATIONS OF BIG DATA
14. DATA VISUALISATION
15. TOOLS AVAILABLE FOR DATA VISUALISATION
16. DATA QUERIES
17. STATISTICAL METHODS FOR SUMMARISING DATA.

UNIT-2

SYLLABUS: Descriptive Statistical Measures: Population and Samples, Measures of Location, Measures of Dispersion, Measures of Variability, Measures of Association. Probability Distribution and Data Modeling, Discrete Probability Distribution, Continuous Probability Distribution, Random Sampling from Probability Distribution, Data Modeling and Distribution fitting

TEACHING MATERIAL:

1. MEASURES OF CENTRAL TENDENCY
2. MEASURES OF DISPERSION
3. COEFFICIENT OF VARIATION
4. CORRELATION
5. DISCRETE PROBABILITY DISTRIBUTION
6. EXPECTATION OF A RANDOM VARIABLE
7. BERNOULI THEOREM
8. BINOMIAL DISTRIBUTION
9. POISSON DISTRIBUTION
10. NORMAL DISTRIBUTION

11. EXPONENTIAL DISTRIBUTION
12. RANDOM SAMPLING FROM DATA DISTRIBUTION
13. DATA MODELING
14. GOODNESS OF FIT.

UNIT-3

SYLLABUS: Predictive Analytics: Karl Pearson Correlation Technique, Multiple Correlation, Spearman's Rank Correlation, Simple and Multiple Regression, Regression by the Method of Least Squares, Building Good Regression Models. Regression with Categorical Independent Variables, Linear Discriminant Analysis, One-Way and Two-Way ANOVA.

TEACHING MATERIAL:

1. CORRELATION
2. METHODS OF CORRELATION USING EXCEL
3. REGRESSION
4. SIMPLE REGRESSION USING EXCEL
5. MULTIPLE REGRESSION USING EXCEL
6. LINEAR DISCRIMINATE ANALYSIS
7. ONE-WAY ANOVA USING EXCEL
8. TWO-WAY ANOVA USING EXCEL.

UNIT-IV

SYLLABUS: Data Mining: Scope of Data Mining, Data Exploration and Reduction, Unsupervised Learning, Cluster Analysis, Association Rules, Supervised Learning, Partition Data, Classification Accuracy, Prediction Accuracy, K-Nearest Neighbors, Classification and Regression Trees, Logistics Regression.

TEACHING MATERIAL:

1. DATA MINING
2. APPROACHES TO DATA MINING
3. SAMPLING
4. DATA VISUALISATION
5. CLUSTER ANALYSIS
6. ASSOCIATION RULE IN MINING
7. MARKET BASKET ANALYSIS
8. K-NEAREST NEIGHBOUR
9. CLASSIFICATION AND REGRESSION TREE
10. LOGISTIC REGRESSION
11. DENDOGRAM
12. HIERARCHICAL ANALYSIS
13. K-MEANS CLUSTERING.

UNIT-V

SYLLABUS: Simulation: Random Number Generation, Monte Carlo Simulation, What If Analysis, Verification and Validation, Advantages and Disadvantages of Simulation, Risk Analysis, Decision Tree Analysis.

TEACHING MATERIAL:

1. SIMULATION
2. SIGNIFICANCE AND TYPES OF SIMULATION
3. PROCESS OF SIMULATION
4. ADVANTAGES AND DIS ADVANTAGES OF SIMULATION
5. RANDOM NUMBER GENERATION
6. MONTECARLO TECHNIQUE
7. WHAT IF ANALYSIS
8. RISK ANALYSIS
9. TYPES OF RISKS
10. VARIOUS TECHNIQUES TO ANALYSE THE RISK
11. DECISION TREE ANALYSIS.