MAHATMA GANDHI INSTITUTE OF TECHNOLOGY (Autonomous)
B.Tech. VII Semester End Examinations
(Computer Science and Engineering (Data Science))
(Model Question Paper)

MR-21

Course Title: Predictive Analytics   **Course Code: CS702PC**
Time: 3 hours   Max. Marks : 70

Note: Answer ALL Questions
Part-A (10 x 2 = 20 Marks)

Q. No.	Stem of the Question	M	L	CO	PO
	Unit-I				
1. a)	What is Predictive Analytics?	2	1	1	1
1. b)	Write the equation of Logistic regression.	2	1	1	1
	Unit-II				
1. c)	How to access a predictive analytics Model?	2	1	2	1
1. d)	Explain expected test error.	2	1	2	2
	Unit-III				
1. e)	Write the applications of Regression Trees.	2	1	3	2
1. f)	Name some classification algorithm.	2	1	3	2
	Unit-IV				
1. g)	What are the layers in Neural Networks	2	1	4	1
1. h)	Is K-Nearest Neighbour an Instance based learning? Explain.	2	1	4	2
	Unit-V				
1. i)	Differentiate between Classification and Clustering	2	3	5	1
1. j)	What is Unsupervised learning.	2	1	5	1

Part-B (5 x 10=50 Marks)

Q. No.	Stem of the Question	M	L	CO	PO
	Unit-I				
2. a)	Identify the assumptions in linear regression.	5	3	1	1
2. b)	Build a linear regression model for the data below y: 1 2 3 4 5 x: 3 4 6 7 4	5	5	1	2
	OR				
2. c)	How Lasso Regression is used for regularization.	5	1	1	1
2. d)	Analyze perceptron learning.	5	3	1	1
	Unit-II				
3. a)	How Bais-variance trade off helps to build a mode?	5	1	2	2
3. b)	Analyze Baysian approach and BIC role in Predictive Analytics.	5	3	2	1
	OR				
3. c)	Explain Cross-Validation in models.	5	2	2	2
3. d)	What are Boot Strap methods?	5	2	2	1
	Unit-III				
4. a)	Analyze additive models	5	3	3	2
4. b)	Describe Boosting methods exponential loss and ada-boost.	5	2	3	2
	OR				
4. c)	What is numerical Optimization via gradient boosting?	5	2	3	1
4. d)	Apply boosting techniques for California housing data and explain the results.	5	4	3	1
	Unit-IV				
5. a)	Explain the working of Neural Networks?	5	2	4	1
5. b)	Analyze the role of Support Vector Machines in predictive analytics.	5	3	4	1
	OR				
5. c)	Describe Back propagation algorithm	5	1	4	2
5. d)	Identify the issues in Neural Networks.	5	3	4	2

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	Unit-V				
6. a)	Explain Apriori algorithm with an example.	5	1	5	2
6. b)	Identify the role of Principle Component Analysis in Data reduction.	5	3	5	1
	OR				
6. c)	What is Random Forests Algorithm?	5	2	5	2
6. d)	Identify the cluster centroids using K-Means algorithm for the data points (2, 3), (3, 3), (6, 8), (8, 8) , where k=2	5	3	5	2

M: Marks; L: Bloom's Taxonomy Level; CO: Course Outcome; PO: Programme Outcome

MAHATMA GANDHI INSTITUTE OF TECHNOLOGY (Autonomous)
B.Tech. VII Semester End Examinations
(Computer Science Engineering (Data Science))
(Model Question Paper)

MR-21

Course Title: Web and Social Media Analytics   **Course Code: CS706PC**
Time: 3 hours   Max. Marks : 70

Note: Answer ALL Questions
Part-A (10 x 2 = 20 Marks)

Q. No.	Stem of the Question	M	L	CO	PO
	Unit-I				
1. a)	Write the significance of Information Systems for decision making.	2	1	1	1
1. b)	Define analytics. Give types of analytics.	2	1	1	1
	Unit-II				
1. c)	What is text analytics? How does it differ from text mining?	2	1	2	1
1. d)	What are some of the most popular application areas of text mining?	2	2	2	2
	Unit-III				
1. e)	What is sentiment analysis? How does it relate to text mining?	2	1	3	1
1. f)	What are the sources of data for sentiment analysis?	2	2	3	2
	Unit-IV				
1. g)	What is Web mining? How does it differ from regular text mining?	2	1	3	1
1. h)	What is a Web crawler? What is it used for?	2	2	4	2
	Unit-V				
1. i)	What is meant by social network?	2	1	4	1
1. j)	What does centrality refer to in Social network Analysis?	2	2	4	2

Part-B (5 x 10=50 Marks)

Q. No.	Stem of the Question	M	L	CO	PO
	Unit-I				
2. a)	Explain the Concept of Decision Support Systems (DSS).	5	2	1	2
2. b)	Describe the Business Pressures-Responses-Support Model.	5	2	1	3
	OR				
2. c)	Illustrate the role of Analytics to Manage a Vaccine Supply Chain Effectively and Safely.	5	2	1	3
2. d)	Explain the Gorry and Scott-Morton Classical Framework for computerrized decision support.	5	1	1	1
	Unit-II				
3. a)	List and briefly explain various applications of text mining.	5	2	1	2
3. b)	Describe the Three-Step Text Mining Process.	5	3	2	3
	OR				
3. c)	What are some of the most popular text mining software tools?	5	3	2	3
3. d)	What are the most common tasks addressed by Natural Language Processsing?	5	2	2	2
	Unit-III				
4. a)	Discuss applications of sentiment analysis in detail.	5	3	2	2
4. b)	Explain the main steps in carrying out sentiment analysis projects.	5	2	2	1
	OR				
4. c)	Describe the acoustic approach to speech analytics.	5	2	2	2
4. d)	Explain the linguistic approach to speech analytics.	5	2	3	2
	Unit-IV				
5. a)	What is Web content mining? How can it be used for competitive advantage?	5	2	3	2
5. b)	Explain Web structure mining. How does it differ from Web content mining?	5	3	3	3
	OR				

5. c)	What are the two main cycles in search engines? Describe the steps in each cycle.	5	2	3	2
5. d)	Demonstrate commonly used methods for search engine optimization.	5	3	3	3
Unit-V					
6. a)	List and briefly describe the most common social network types.	5	2	3	2
6. b)	List and briefly describe the social network analysis metrics.	5	3	4	3
OR					
6. c)	With suitable case studies explain the benefits fo social network analysis.	5	2	4	3
6. d)	Brief the best practices in social media analytics.	5	3	4	2

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MAHATMA GANDHI INSTITUTE OF TECHNOLOGY (Autonomous)
B.Tech. VII Semester End Examinations
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(Model Question Paper)

MR-21

Course Title: Internet of Things   **Course Code: CS725PE**
Time: 3 hours   Max. Marks: 70

Note: Answer ALL Questions
Part-A (10 x 2 = 20 Marks)

Q. No.	Stem of the Question	M	L	CO	PO
	Unit-I				
1. a)	Describe Request-Response communication model?	2	3	1	2
1. b)	List out what are the applications of IoT?	2	5	1	2
	Unit-II				
1. c)	What are the key elements of SDN?	2	5	2	5
1. d)	Identify the role of various components of NETCONF-YANG?	2	2	2	5
	Unit-III				
1. e)	What is the difference between a python module and a package?	2	5	3	2
1. f)	What is the significance of SMTPLib in python? Explain with suitable example?	2	5	3	5
	Unit-IV				
1. g)	Describe the features of Raspberry PI?	2	3	4	4
1. h)	Analyze the IoT physical devices and Endpoints?	2	3	4	4
	Unit-V				
1. i)	Why APIs are important for business?	2	5	5	3
1. j)	Write a python code snippet for connecting Dynamo?	2	6	5	3

Part-B (5 x 10=50 Marks)

Q. No.	Stem of the Question	M	L	CO	PO
	Unit-I				
2. a)	Determine various network protocols and communication models used in IoT	5	5	1	2
2. b)	Explain various levels of IOT in detail?	5	2	1	2
	OR				
2. c)	Illustrate the IoT enable Technologies?	5	3	1	5
2. d)	What are the IoT communications APIs? Explain?	5	5	1	2
	Unit-II				
3. a)	Describe the significance of M2M in IoT?	5	5	2	2
3. b)	How do you manage the IoT system with following? a) NETCONF b) YANG- NETCONF	5	4	2	5
	OR				
3. c)	Give a good presentation of Network function virtualization?	5	1	2	2
3. d)	Explain the difference between M2M and IoT?	5	2	2	2
	Unit-III				
4. a)	Illustrate the concepts of data types and data structures in Python?	5	5	3	2
4. b)	Explain classes and exception handling in Python with examples?	5	2	3	2
	OR				
4. c)	Describe the XML and HTTP Lib in detail?	5	2	3	3
4. d)	a) Elaborate on XML b) Mention data types in python	5	2	3	3
	Unit-IV				
5. a)	Illustrate the Raspberry PI interfaces with suitable examples?	5	5	4	2
5. b)	Explain reading process of input from pins in Raspberry Pi?	5	5	4	2
	OR				
5. c)	Explain Python programming with Raspberry Pi with focus on controlling output	5	3	4	3

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5. d)	Elaborate on Raspberry pi-interfaces-SERIAL, SPI, I2C.	5	3	4	3
Unit-V					
6. a)	How to Design a RESTful Web API? Explain?	5	1	5	2
6. b)	Explain cloud storage models and Communication APIs.	5	5	5	2
OR					
6. c)	Explain in detail web application framework based on Python	5	5	5	3
6. d)	Elaborate on the Amazon web services for IoT.	5	2	5	3

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MAHATMA GANDHI INSTITUTE OF TECHNOLOGY (Autonomous)
B.Tech. VII Semester End Examinations
(Computer Science and Engineering (Data Science))
(Model Question Paper)

MR-21

Course Title: Exploratory Data Analysis　　　　　　　**Course Code: CS735PE**

Time: 3 hours　　　　　　　　　　　　　　　　　　　　Max. Marks　: 70

Note: Answer ALL Questions
Part-A (10 x 2 = 20 Marks)

Q. No.	Stem of the Question	M	L	CO	PO
Unit-I					
1. a)	Explain Data exploration	2	2	1	1
1. b)	Summarize what is EDA	2	2	1	1
Unit-II					
1. c)	Choose any technique/algorithm & use "How to handle missing data"	2	3	1	2
1. d)	Illustrate Bayesian Estimation	2	2	2	2
1. e)	Identify Data summarization techniques	2	3	2	5
1. f)	What is Data visualization	2	3	2	2
1. g)	Distinguish Clustering based outliner analysis	2	5	3	5
1. h)	When Genetic algorithm is useful?	2	1	3	2
1. i)	Discuss about PCA	2	6	4	2
1. j)	Develop Multidimensional scaling	2	6	4	2

Part-B (5 x 10=50 Marks)

Q. No.	Stem of the Question	M	L	CO	PO
Unit-I					
2. a)	Explain Data discovery & its steps	5	5	1	5
2. b)	Discuss about Data analytics lifecycle	5	6	2	5
OR					
2. c)	Develop what are Steps in data exploration	5	6	2	5
2. d)	What is Datatypes portability	5	2	2	5
Unit-II					
3. a)	Summarize Maximum likelihood estimation	5	3	2	5
3. b)	Develop bayesian estimation	5	3	2	5
OR					
3. c)	List out Modes for missing Notations Random Data	5	4	2	5
3. d)	Elaborate Practical issues in multiple imputation	5	6	2	5
Unit-III					
4. a)	Design Statistical Data elaboration with example	5	5	3	5
4. b)	Develop 1-D Statistical Data analysis with example	5	5	4	5
OR					
4. c)	Develop 2-D Statistical Data analysis with example	5	5	3	5
4. d)	Develop N-D Statistical data analysis with example	5	5	4	5
Unit-IV					
5. a)	Explain the following Clustering based, Distance Based and Density Based outlier analysis, Outlier Detection in Categorical Data.	5	4	2	2
5. b)	Explain Feature selection algorithms	5	4	2	6
OR					
5. c)	Summarize Forward selection backward elimination	5	4	2	5
5. d)	Genetic algorithms for features selection	5	4	2	5
Unit-V					
6. a)	Compare PCA vs KPCA	5	2	3	5

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6. b)	Evaluate canonical Correlation Analysis	5	2	4	5
OR					
6. c)	Elaborate Factor Analysis	5	6	3	5
6. d)	Summarize Correspondence Analysis	5	2	4	6

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MAHATMA GANDHI INSTITUTE OF TECHNOLOGY (Autonomous)
B.Tech. VII Semester End Examinations
(Common to CSM & CSD)
(Model Question Paper)

MR-21

Course Title: Principles of Entrepreneurship   **Course Code: MT732OE**
Time: 3 hours   Max. Marks : 70

Note: Answer ALL Questions
Part-A (10 x 2 = 20 Marks)

Q. No.	Stem of the Question	M	L	CO	PO
	Unit-I				
1. a)	Illustrate about the sources of new ideas.	2	1	1	11
1. b)	Who is an entrepreneur?	2	2	1	7
	Unit-II				
1. c)	List the sources of capital.	2	1	2	11
1. d)	How would you use internet to market a product-Explain with example.	2	2	2	10
	Unit-III				
1. e)	Classify about the functions of Technical Consultancy Organization.	2	2	3	10
1. f)	Evaluate the role of Small Industries Development Bank of India.	2	2	3	11
	Unit-IV				
1. g)	Explain about the maintenance of Plant Utilization	2	2	4	11
1. h)	Explain product pricing methods.	2	2	4	12
	Unit-V				
1. i)	Who are eligible to get bonus as per Payment of Bonus Act.	2	2	5	6
1. j)	Recall about the welfare measures in factories act.	2	2	5	6

Part-B (5 x 10=50 Marks)

Q. No.	Stem of the Question	M	L	CO	PO
	Unit-I				
2. a)	Distinguish the characteristics of Entrepreneur and Manager	5	2	1	7
2. b)	Discuss the methods of generating ideas.	5	2	1	8
	OR				
2. c)	Write short notes on Entrepreneurial traits and explain them briefly.	5	2	1	7
2. d)	State the launching formalities of business plan.	5	3	1	10
	Unit-II				
3. a)	Analyze about Internet Advertising.	5	2	2	6
3. b)	Explain the procedure involved in Motivating and Leading teams in an organization.	5	2	2	10
	OR				
3. c)	What is E-commerce? Give its importance in Entrepreneurship.	5	2	2	7
3. d)	Define Record Keeping. List the types of Records. Give the importance of record keeping in Financing and managing the new ventures	5	3	2	11
	Unit-III				
4. a)	Discuss the role of DIC's in promoting entrepreneurship.	5	6	2	8
4. b)	What is the role of SIDBI for development of Small Business?	5	3	3	11
	OR				
4. c)	Brief on the different types of financial institutions support entrepreneurship in India.	5	3	3	6
4. d)	State the objectives and functions of Small Industries Service Institute (SISI).	5	2	3	11
	Unit-IV				
5. a)	Define Market Research. Explain its objectives and Types.	5	3	4	12
5. b)	Explain about the different inventory controlling techniques.	5	2	4	10

	OR				
5. c)	What are the thrust areas of Production Management?	5	3	4	11
5. d)	Determine Market Research. Explain its objectives and Types	5	2	4	10
	Unit-V				
6. a)	Evaluate about Payment of Bonus Act and its Importance to the Employees.	5	5	5	11
6. b)	What steps do you take to ensure that your workplace is free from harassment and discrimination as required by labour laws?	5	3	5	8
	OR				
6. c)	What are the various welfare measurements taken under Indian Factories Act, 1948?	5	3	5	6
6. d)	Explain about the Employee State Insurance Act.	5	2	5	6

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