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

MR-21

Course Title: Neural Networks and Deep Learning **Course Code**: CS701PC
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 Deep Learning?	2	1	1	1
1. b)	What is a Neural Network?	2	1	1	1
	Unit-II				
1. c)	What Is a Multi-layer Perceptron(MLP)?	2	2	2	1
1. d)	What Is the Cost Function?	2	1	2	2
	Unit-III				
1. e)	What Is the Role of Activation Functions in a Neural Network?	2	2	3	3
1. f)	What Is Gradient Descent?	2	2	3	2
	Unit-IV				
1. g)	What Do You Understand by Backpropagation?	2	1	4	1
1. h)	What Is the Difference Between a Feedforward Neural Network and Recurrent Neural Network?	2	1	4	1
	Unit-V				
1. i)	What Are the Applications of a Recurrent Neural Network (RNN)?	2	2	5	1
1. j)	What is Data Augmentation in Deep Learning?	2	2	5	2

Part-B (5 x 10 = 50 Marks)

Q. No.	Stem of the Question	M	L	CO	PO
	Unit-I				
2. a)	Define Machine Learning.Explain the different types of ML algorithm.	5	3	1	1
2. b)	Explain in detail about supervised learning approach by taking suitable example.	5	3	1	2
	OR				
2. c)	Explain about Adaptive Linear Neuron	5	2	1	2
2. d)	Explain about Back-propagation Network	5	3	1	1
	Unit-II				
3. a)	Explain about Fixed Weight Competitive Nets	5	3	2	2
3. b)	Explain about Adaptive Resonance Theory Networks	5	4	2	2
	OR				
3. c)	Explain briefly about Learning Vector Quantization	5	2	2	2
3. d)	Explain about Counter Propagation Networks	5	4	2	2
	Unit-III				
4. a)	Explain about Historical Trends in Deep learning	5	2	3	3
4. b)	Explain about Deep Feed - forward networks	5	2	3	1
	OR				
4. c)	Explain about Architecture Design of neural networks	5	2	3	1
4. d)	Explain about Back-Propagation algorithm	5	1	3	1
	Unit-IV				
5. a)	Explain about Semi-Supervised learning	5	2	4	2
5. b)	Explain about Bagging and other Ensemble Methods	5	1	4	2
	OR				
5. c)	Explain about Dropout, Adversarial Training	5	2	4	2
5. d)	Explain about Tangent Distance, tangent Prop and Manifold, Tangent Classifier	5	3	4	1

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Unit-V					
6. a)	Discuss about debugging strategies when machine learning algorithm performs poorly	5	3	5	1
6. b)	Explain different performance metrics used for classification problem	5	3	5	3
OR					
6. c)	What are the applications of Deep learning	5	3	5	1
6. d)	Explain about the use cases of deep learning in Natural Language processing	5	3	5	3

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

MAHATMA GANDHI INSTITUTE OF TECHNOLOGY (Autonomous)
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MR-21

Course Title: Reinforcement Learning **Course Code: CS705PC**
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)	Difference between Exploration and Exploitation.	2	1	1	1
1. b)	Define Multi Armed Bandit Problem.	2	1	1	1
	Unit-II				
1. c)	What is Markov Process?	2	2	2	1
1. d)	Define Value function.	2	3	2	1
	Unit-III				
1. e)	Advantages of Model-based learning.	2	2	3	1
1. f)	What is prediction in Reinforcement Learning?	2	3	3	1
	Unit-IV				
1. g)	Define Bootstrapping.	2	2	4	1
1. h)	Give the applications of temporal difference learning.	2	2	4	1
	Unit-V				
1. i)	Define Policy gradient.	2	4	5	1
1. j)	Explain functional programming with an example.	2	4	5	1

Part-B (5 x 10=50 Marks)

Q. No.	Stem of the Question	M	L	CO	PO
	Unit-I				
2. a)	Define Reinforcement Learning and give it's applications?	5	1	1	1
2. b)	Discuss Thomson Sampling?	5	1	1	1
	OR				
2. c)	Explain conditional Probability with an example.	5	1	1	1
2. d)	Briefly write notes on UCB Algorithm with an example.	5	1	1	1
	Unit-II				
3. a)	Describe the different elements of MDP in Reinforcement Learning?	5	2	2	1
3. b)	Discuss the Bellman's equation with an example?	5	3	2	1
	OR				
3. c)	Write the steps/rules of Value Iteration, for estimating π^*.	5	2	2	1
3. d)	Write the steps involved in Bellman's policy improvement algorithm.	5	3	2	1
	Unit-III				
4. a)	Differentiate between prediction and control problems in Reinforcement Learning and provide real-world example for each type of problem.	5	2	3	1
4. b)	Describe the Monte Carlo method for solving prediction problems in Reinforcement Learning. How does it estimate value functions based on sampled episodes?	5	3	3	1
	OR				
4. c)	Define about Monte Carlo Prediction. Explain about Monte Carlo Estimation of Action Values with examples.	5	2	3	1
4. d)	Explain Online implementation of Monte Carlo policy evaluation.	5	3	3	1
	Unit-IV				
5. a)	Explain the concept of Bootstrapping in Reinforcement Learning. How does it differ from traditional Monte Carlo methods?	5	2	4	1

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5. b)	Describe the TD(0) algorithm in detail.	5	2	4	1
OR					
5. c)	Discuss the key algorithms used for model-free control, ie., Q-learning, Sarsa, and Expected Sarsa.	5	2	4	1
5. d)	Compare Monte Carlo method Vs TD learning.	5	2	4	1
Unit-V					
6. a)	Explain the concept of n-step returns in Reinforcement Learning.	5	4	5	1
6. b)	Explain Linear Function Approximation and the geometric view of it in the context of Reinforcement Learning.	5	4	5	1
OR					
6. c)	What is Tile coding? Explain its representation and applications.	5	4	5	1
6. d)	Describe Fitted Q Iteration as an approach to approximate Q-values using function approximation.	5	4	5	1

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

MR-21

Course Title: Cloud Computing **Course Code: CS716PE**
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)	Define cloud computing and list its essential characteristics	2	1	1	1
1. b)	Explain the concept of virtualization in cloud computing.	2	2	1	1
	Unit-II				
1. c)	What are the different deployment models in cloud computing?	2	1	2	2
1. d)	Describe the service models in cloud computing with examples	2	2	2	2
	Unit-III				
1. e)	Illustrate the concept of Service Level Agreements (SLA) in cloud computing	2	3	3	3
1. f)	Explain the importance of cloud security.	2	2	3	4
	Unit-IV				
1. g)	What is the significance of cloud storage and data management in cloud computing?	2	2	4	3
1. h)	Discuss cloud-based collaboration tools and their benefits.	2	3	4	5
	Unit-V				
1. i)	Compare and contrast cloud computing and traditional IT infrastructure.	2	4	3	2
1. j)	How does cloud computing contribute to green computing?	2	3	4	3

Part-B (5 x 10=50 Marks)

Q. No.	Stem of the Question	M	L	CO	PO
	Unit-I				
2. a)	Explain in detail the architecture of cloud computing.	5	3	1	1
2. b)	Discuss the benefits and challenges of enterprises adopting cloud computing.	5	4	1	1
	OR				
2. c)	Analyze the role of virtualization in cloud computing.	5	4	1	2
2. d)	Evaluate the impact of cloud computing on IT costs.	5	4	1	3
	Unit-II				
3. a)	Describe the various cloud service models (IaaS, PaaS, SaaS) with examples.	5	3	2	2
3. b)	Assess the risks associated with cloud deployment models.	5	4	2	2
	OR				
3. c)	Explain the process of deploying applications on the cloud.	5	3	2	2
3. d)	Analyze the factors to consider while selecting an organization's cloud deployment model.	5	4	2	3
	Unit-III				
4. a)	Explain the different types of Service Level Agreements (SLAs) in cloud computing.	5	3	3	4
4. b)	Discuss the strategies for ensuring data security in cloud computing.	5	4	3	4
	OR				
4. c)	Evaluate the importance of compliance in cloud computing environments.	5	4	3	3
4. d)	Analyze the challenges associated with maintaining cloud security.	5	4	3	2
	Unit-IV				
5. a)	Describe the architecture of cloud storage systems.	5	3	4	3
5. b)	Discuss the benefits and drawbacks of cloud-based data management.	5	3	4	4

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OR					
5. c)	Explain the process of data migration to the cloud.	5	3	4	2
5. d)	Evaluate the challenges in cloud data storage security.	5	4	4	4
Unit-V					
6. a)	Discuss the economic impact of cloud computing on businesses.	5	3	4	2
6. b)	Explain how cloud computing supports sustainable IT practices.	5	3	2	2
OR					
6. c)	Compare the cost-effectiveness of cloud computing with traditional IT solutions.	5	4	2	3
6. d)	Analyze the role of cloud computing in digital transformation.	5	2	3	3

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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: Blockchain Technology **Course Code: CS728PE**
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)	State the key advantages of using a distributed ledger.	2	1	1	1
1. b)	Define crowdfunding.	2	1	1	1
	Unit-II				
1. c)	What is meant by Decentralized Digital verification?	2	1	2	1
1. d)	State the advantages and disadvantages of blockchain-based digital identity services	2	1	2	2
	Unit-III				
1. e)	Define the term Gridcoin	2	1	3	1
1. f)	How does blockchain technology address the privacy concerns associated with genomic data?	2	1	3	2
	Unit-IV				
1. g)	What is the primary difference between a currency and a token?	2	1	4	1
1. h)	How are campus coins typically obtained by students?	2	1	4	2
	Unit-V				
1. i)	Define the terms: Latency and Throughput related to Bitcoin transaction.	2	1	5	1
1. j)	State two privacy challenges for personal recodes in a decentralized system.	2	1	5	2

Part-B (5 x 10=50 Marks)

Q. No.	Stem of the Question	M	L	CO	PO
	Unit-I				
2. a)	How can blockchain technology help a small-scale farmer establish trust with customers about the product's authenticity, origin, and quality, while also ensuring fair compensation?	5	2	1	1
2. b)	What are the potential benefits and challenges of Blockchain technology?	5	1	1	1
	OR				
2. c)	What factors should they consider to ensure the security and stability of their cryptocurrency, protecting investors from fraud and market manipulation?	5	1	1	1
2. d)	How can Blockchain technology enhance the transparency and security of the crowdfunding process?	5	2	1	1
	Unit-II				
3. a)	Define the term Digital Art and discuss how digital art is used in Blockchain industry.	5	1	2	1
3. b)	State various services of Digital Art	5	2	2	2
	OR				
3. c)	Explain the following terms with respective to Blockchain Technology: a) Digital Identity Verification b) Blockchain Neutrality.	5	1	2	2
3. d)	Illustrate the working of the digital identity service: OneName.	5	3	2	2
	Unit-III				
4. a)	Write about its usage using Gridcoin and Floding coin.	5	1	3	2

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4. b)	Explain the functionality and various services provided by BitcoinMOOCs.	5	2	3	2
OR					
4. c)	How Blockchain genomics uplifts the organizations from it? Present a brief scenario with justification.	5	2	3	2
4. d)	Discuss about Smart Contract Literacy.	5	1	3	2
Unit-IV					
5. a)	State the main idea behind Demurrage Currencies	5	2	4	2
5. b)	List out and explain the different types of crypto currencies available in the market	5	1	4	2
OR					
5. c)	Briefly describe the coin Drop strategy for pubic adoption of Bitcoin.	5	1	4	2
5. d)	Explain briefly about Tokenizing.	5	1	4	2
Unit-V					
6. a)	Discuss and propose the solutions to overcome the technical issues related to blockchain.	5	2	5	3
6. b)	Discuss the technical challenges of throughput, latency and security related to blockchain technologies.	5	2	5	2
OR					
6. c)	Explain privacy and infrastructural challenges involved in blockchain technology.	5	2	5	3
6. d)	Explain the barriers to adopt Bitcoin and block chain technology by the public.	5	2	5	3

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MAHATMA GANDHI INSTITUTE OF TECHNOLOGY (Autonomous)
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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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