

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

Regular/Supplementary Winter Examination – 2024

Course: B.Tech Branch :Computer Engineering & Allied/ AI-DS & Allied

Subject Code & Name: BTAIC501 Computer Network and Cloud Computing

Semester :V

Max Marks: 60

Date:05/02/2025

Duration: 3 Hr.

Instructions to the Students:

1. Each question carries 12 marks.
2. Question No. 1 will be compulsory and include objective-type questions.
3. Candidates are required to attempt any four questions from Question No. 2 to Question No. 6.
4. The level of question/expected answer as per OBE or the Course Outcome (CO) on which the question is based is mentioned in () in front of the question.
5. Use of non-programmable scientific calculators is allowed.
6. Assume suitable data wherever necessary and mention it clearly.

					(Level/CO)	Marks
Q. 1	Objective type questions. (Compulsory Question)					12
1	Which is NOT a type of computer network?	a. LAN	b. WAN	c. MAN	d. DOS	Remember 1
2	Which network spans a large geographical area?	a. LAN	b. MAN	c. WAN	d. PAN	Remember 1
3	Which layer of the OSI model is responsible for routing?	a. Transport	b. Network	c. Data Link	d. Physical	Remember 1
4	What is the primary function of the Data Link Layer?	a. Error detection and correction	b. IP addressing	c. Signal modulation	d. File transfer	Remember 1
5	Which is a common method for error detection?	a. Cyclic Redundancy Check (CRC)	b. DNS	c. Address Resolution Protocol	d. Domain Filtering	Remember 1
6	What is an example of a static routing algorithm?	a. Shortest Path First	b. Distance Vector	c. Link State	d. Open Shortest Path First	Remember 1
7	What is the role of TCP in networking?	a. Reliable data delivery	b. High-speed transmission	c. Packet encryption	d. None of the above	Remember 1
8	What does UDP stand for?	a. User Datagram Protocol	b. Unified Data Protocol	c. Universal Data Packet	d. Unstructured Data Packet	Remember 1
9	What is cloud computing?	a. Delivery of computing services over	b. Programming paradigm	c. Hardware architecture	d. Network topology	Remember 1

	the internet			
10	What is an example of a deployment model in cloud computing?			Remember
	a. Public cloud	b. Hybrid cloud	c. Private cloud	d. All of the above
11	What is CaaS in cloud computing?			Remember
	a. Communication-as-a-Service	b. Computing-as-a-Service	c. Container-as-a-Service	d. Cloud-as-a-Service
12	What is an example of CPU virtualization?			Remember
	a. Virtual machine creation	b. Load balancing	c. Cloud storage	d. Network monitoring
Q. 2	Solve the following.			
A)	What is a computer network? Explain the use of computer network.			Understand
B)	Explain the ISO OSI Reference model with neat Diagram?			Understand
Q. 3	Solve the following.			
A)	Explain Different network layer design issues			Analyzing
B)	Define error detection and error correction. Explain CRC with example			APPLY
Q. 4	Solve Any Two of the following.			
A)	Explain the classification multiple access protocol with suitable diagram.			APPLY
B)	Differentiate between TCP and UDP.			Understand
C)	Explain different elements of Transport layer protocol.			Understand
Q. 5	Solve Any Two of the following.			
A)	Explain the Electronic mail in brief with neat diagram.			Understand
B)	Define the cloud computing and explain the services provided by cloud.			Remember
C)	Describe the Risk and Challenges of cloud computing			Apply
Q. 6	Solve Any Two of the following.			
A)	Explain the cloud deployment model			Analyzing
B)	Explain the virtualization in cloud computing			Understand
C)	Write a short note on components of data centre			Understand
	*** End ***			

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

Regular/Supplementary Winter Examination – 2024

Branch: AIDS/CSE(AI&ML)/CSE(AI)/CSE (DS)

Semester: V

Code & Name: BTAIC502 Machine Learning

Marks: 60

Date: 08/02/2025

Duration: 3 Hr.

Instructions to the Students:

Each question carries 12 marks.

Question No. 1 will be compulsory and include objective-type questions.

Candidates are required to attempt any four questions from Question No. 2 to Question No. 6.

The level of question/expected answer as per OBE or the Course Outcome (CO) on which the question is based is mentioned in () in front of the question.

5. Use of non-programmable scientific calculators is allowed.

6. Assume suitable data wherever necessary and mention it clearly.

		(Level/CO)	Marks
Q. 1	Objective type questions. (Compulsory Question)		12
1	Which of the following is not a category of Machine Learning?	Remember CO1	1
	a. Supervised Learning b. unsupervised Learning c. reinforcement Learning d. Manual Learning		
2	Which of the following is not an application of Machine Learning?	Remember CO1	1
	a. Spam email detection b. Image recognition c. Word processing software d. Fraud detection		
3	Which dataset is used to evaluate the final performance of a trained model?	Remember CO1	1
	a. Training data b. Validation data c. Testing data d. Preprocessing data		
4	In a confusion matrix, which term represents correctly predicted positive cases?	Understand CO2	1
	a. True Negatives (TN) b. True Positives (TP) c. False Positives (FP) d. False Negatives (FN)		
5	An AUC score of 1.0 indicates:	Understand CO2	1
	a. Perfect classification b. Random guessing c. Poor model performance d. Overfitting		
6	The cost function in Linear Regression is typically:	Understand CO3	1
	a. Mean Squared Error (MSE) b. Logarithmic Loss c. Cross-Entropy Loss d. Mean Absolute Error (MAE)		
7	Multivariable regression differs from simple linear regression in that:	Understand CO3	1
	a. It can handle more than one independent variable b. It uses a different cost function c. It cannot use gradient descent d. It only works with categorical variables		

		In a Decision Tree, the process of deciding the feature to split on is based on:				Remember CO4	1							
8		a. Feature correlation	b. Information Gain, Gain Ratio, or Gini Index	c. Random feature selection	d. The size of the dataset									
64195343	64195343	Random Forests can be used for:				Remember CO4	1							
		a. Classification problems only	b. Regression problems only	c. Both classification and regression problems	d. Clustering problems									
Q.3	64195343	Naive Bayes can be effectively used for:				Remember CO5	1							
		a. Regression problems	b. Clustering problems	c. Text classification problems	d. Feature scaling									
11	64195343	Which library in Python is commonly used for implementing KNN?				Remember CO5	1							
		a. TensorFlow	b. Pandas	c. Sklearn (scikit-learn)	d. NumPy									
12		Which function is used in SVM to find a non-linear decision boundary?				Remember CO5	1							
64195343	64195343	a. Entropy function	b. Sigmoid function	c. Kernel function	d. Gradient function									
Q.3 Solve the following.							12							
A)	64195343	Define Machine Learning and the concept of learning in Machine Learning. Compare Machine Learning with traditional programming approaches.				Remember CO1	6							
		B) What is the purpose of splitting data into training, validation, and testing datasets in Machine Learning? Explain each dataset's role with an example												
Q.3 Solve the following.							12							
A)	64195343	A binary classification model's confusion matrix is given as follows:				Apply CO2	6							
		<table border="1"> <thead> <tr> <th>Predicted:</th> <th>Positive</th> <th>Negative</th> </tr> </thead> <tbody> <tr> <td>Actual Positive</td> <td>70</td> <td>30</td> </tr> <tr> <td>Actual Negative</td> <td>20</td> <td>80</td> </tr> </tbody> </table>						Predicted:	Positive	Negative	Actual Positive	70	30	Actual Negative
Predicted:	Positive	Negative												
Actual Positive	70	30												
Actual Negative	20	80												
B)	64195343	Calculate the precision, recall (sensitivity), F1 score, and accuracy for this model. Explain which metric would be most important if this were a medical diagnostic test.				Understand CO2	6							
		B) Explain the difference between Mean Absolute Error (MAE) and Mean Squared Error (MSE). Why might one metric be preferred over the other in specific scenarios?												

Course: B. Tech Branch : Artificial Intelligence & Data Science/Computer Science Semester : V
and Engg(AI & ML) and Allied

Subject Code & Name: BTAIPE504A Advanced Database System

Max Marks: 60

Date:13/02/2025

Duration: 3 Hr.

Instructions to the Students:

- Each question carries 12 marks.
- Question No. 1 will be compulsory and include objective-type questions.
- Candidates are required to attempt any four questions from Question No. 2 to Question No. 6.
- The level of question/expected answer as per OBE or the Course Outcome (CO) on which the question is based is mentioned in () in front of the question.
- Use of non-programmable scientific calculators is allowed.
- Assume suitable data wherever necessary and mention it clearly.

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9	<p>_____ is a subject-oriented, integrated, time-variant, non-volatile collection of data in support of management decisions</p>				Understand / CO4	1
	a. Data Mining	b. Data Warehousing	c. Web Mining	d. Text Mining		
10	<p>The data Warehouse is _____.</p>				Understand / CO4	1
	a. read only	b. write only	c. read write only	d. none		
11	<p>A _____ consists of a sequence of query and/or update statements.</p>				Understand / CO5	1
	a. Transaction	b. Commit	c. Rollback	d. Flashback		
12	<p>In order to undo the work of transaction after last commit which one should be used?</p>				Understand / CO5	1
	a. View	b. Commit	c. Rollback	d. Flashback		
Q. 2	<p>Solve the following.</p>					
A)	<p>What are the advances of database system over file processing system?</p>				Understand / CO1	12
B)	<p>With the help of diagram explain the hierarchical data model.</p>				Understand / CO1	6
Q.3	<p>Solve the following.</p>					
A)	<p>What are the set operations of SQL? Explain with example.</p>				Understand / CO2	6
B)	<p>What is SELECT statement? Explain with example.</p>				Understand / CO2	6
Q. 4	<p>Solve Any Two of the following.</p>					
A)	<p>What is normalization? Explain the purpose of normalization.</p>				Understand / CO3	6
B)	<p>Explain the pitfalls of database design.</p>				Understand / CO3	6
C)	<p>Explain the decomposition algorithm in detail.</p>				Understand / CO3	6
Q.5	<p>Solve Any Two of the following.</p>					
A)	<p>Discuss the various methods of data mining. How these are helpful in real life?</p>				Understand / CO4	6
B)	<p>Explain the shared memory architecture with advantages and disadvantages.</p>				Understand / CO4	6
C)	<p>Explain parallel database architecture diagrammatically.</p>				Understand / CO4	6
Q. 6	<p>Solve Any Two of the following.</p>					
A)	<p>Differentiate between serial schedule and serializable schedule</p>				Understand / CO5	6
B)	<p>When do deadlocks happen, how to prevent them, and how to recover if deadlock takes place?</p>				Understand / CO5	6
C)	<p>Explain two-phase lock protocol with example.</p>				Understand / CO5	6

*** End ***



DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

Regular/Supplementary Winter Examination – 2024

Course: B.Tech

Branch :AIDS/CSE(AI&ML) & Allied

Subject Code & Name: BTAIOE505C Software Engineering and testing Semester :V

Max Marks: 60

Date: 22/02/2025

Duration: 3 hr.

Instructions to the Students:

- Each question carries 12 marks.
 Question No. 1 will be compulsory and include objective-type questions.
 Candidates are required to attempt any four questions from Question No. 2 to Question No. 6.
 4. The level of question/expected answer as per OBE or the Course Outcome (CO) on which the question is based is mentioned in () in front of the question.
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					(Level /CO)	Mark s
Q. 1	Objective type questions. (Compulsory Question)					
64198718	Which of the following is a common software myth?				CO1	12
	a. Software maintenance is easy	b. Software requirements are always clear at the start	c. Software testing is unnecessary	d. Software can always be perfect		1
2	What does the term "stakeholder" refer to?				CO1	1
	a. Developers only	b. Testers only	c. Any person affected by the software	d. Users only		
64198718	Which of the following is behaviour diagram.				CO2	1
	a. State Diagram	b. Activity Diagram	c. Use Case Diagram	d. All of these		
64198718	Which of the following is NOT a key attribute of design quality?				CO2	1
	a. Efficiency	b. Complexity	c. Modularity	d. Maintainability		
5	Q.What does the acronym STLC stand for?				CO3	1

	a. Software Testing Life Cycle	b. System Development Life Cycle	c. Software Development Life Cycle	d. Software Documentation Life Cycle		
6 64198718	What is 'Quality' in software development?				CO3	1
	a. Meeting only the basic requirements	b. Free of bugs	c. Meeting specified and implied needs	d. Having good documentation		
8 64198718	What does the term "load testing" fall under?				CO4	1
	a. Functional testing	b. Non-functional testing	c. Usability testing	d. Security testing		
9 64198718	What is the main focus of system testing?				CO4	1
	a. Individual components	b. Integrated modules	c. End-to-end functionality	d. API performance		
11 64198718	Which tool is used for unit testing in Python?				CO5	1
	a. JMeter	b. PyTest	c. JUnit	d. Selenium		
	What is the main objective of exploratory testing?				CO5	1
	a. To follow test scripts	b. To explore system with minimal planning	c. To test performance of system	d. To test the system completely		
	What is the primary purpose of static testing?				CO3	1
	a. To find runtime defects	b. To find defects without executing code	c. To measure performance	d. To test usability		
	Equivalence partitioning is a:				CO3	1
	a. White box testing technique	b. Black box testing technique	c. Static analysis technique_	d. Structural testing technique_		
Q. 2 A)	Solve the following. Explain the phases of the Software Development Life Cycle (SDLC) and the importance of each phase.				CO1	6

B)	Describe software myths with suitable examples.	CO1	6
Q.3	Solve the following.		12
A)	Explain Booch model with suitable example.	CO2	6
B)	How to write use case diagram for ONLINE AIRLINE RESERVATION system	CO2	6
64198718	Solve Any Two of the following. Describe software Testing Life Cycle. Distinguish between Quality Control and Quality Assurance.	64198718	12
C)	Explain white box and black box testing in detail.	CO3	6
Q.5	Solve Any Two of the following. What is integration testing? Explain top down and bottom up integration in detail.	CO4	6
A)	Explain Defect bash in detail.	CO4	6
64198718	Describe functional and non functional testing in detail.	CO4	6
64198718	Solve Any Two of the following. A) Describe Adhoc and regression testing. B) Explain factors governing performance testing. C) Distinguish between object oriented and procedural software.	64198718	12
	*** End ***	CO5	6
		CO5	6
		CO5	6

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DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

Winter Examination – 2022

Course: B. Tech. Branch: Artificial Intelligence and Data Science Semester : V

Subject Code & Name: BTAIC501 Computer Network and Cloud Computing

Max Marks: 60 Date: 28.01.2023

Duration: 3 Hr.

Instructions to the Students:

1. All the questions are compulsory.
2. The level of question/expected answer as per OBE or the Course Outcome (CO) on which the question is based is mentioned in () in front of the question.
3. Use of non-programmable scientific calculators is allowed.
4. Assume suitable data wherever necessary and mention it clearly.

(Level/CO) Marks

12

Q. 1 Solve Any Two of the following.

- A) What is Computer Network? Explain uses of Computer Network
B) Explain ISO OSI Model?
C) Define the Network Topology. Enlist the different types of Network Topologies. Explain any two network topologies with neat diagram.

BL2 & CO1

6

BL2 & CO1

6

BL2 & CO1

6

12

Q. 2 Solve Any Two of the following.

- A) What do you mean by network Protocol and How it works
B) Explain TCP/IP Model?
C) Explain Carrier Sense Multiple Access and Collision Avoidance (CSMA/CA) Protocol.

BL3& CO2

6

BL2& CO2

6

BL3& CO2

6

12

Q. 3 Solve Any One of the following.

- A) Explain services provided by transport layer.
B) Explain TCP and UDP Protocol.
C) Explain DNS.

BL3& CO3

6

BL2& CO3

6

BL3& CO3

6

12

Q. 4 Solve Any Two of the following.

- A) Define Cloud Computing with Example of Service Providers.
B) Explain Advantages of Cloud Computing.
C) Explain Challenges and Risks in Cloud Computing.

BL1& CO4

6

BL2& CO4

6

BL3& CO4

6

12

Q. 5 Solve Any One of the following.

- A) Explain Cloud Deployment Models with suitable diagrams.
B) Explain Cloud Services with Examples.
C) Write in Details about Data Centre Components

BL3& CO5

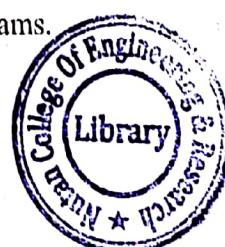
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BL3& CO5

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BL3& CO5

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Dr. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

Winter Examinations 2022

Course: B. Tech. Branch :Artificial Intelligence & Data Science Semester : V

Subject Code & Name: Software Engineering & Testing (BTAIOE505C)

Max Marks: 60

Date:

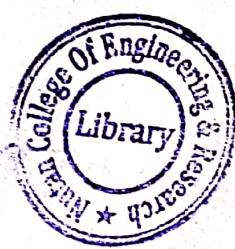
Duration: 3 Hr.

Instructions to the Students:

1. All the questions are compulsory.
2. The level of question/expected answer as per OBE or the Course Outcome (CO) on which the question is based is mentioned in () in front of the question.
3. Use of non-programmable scientific calculators is allowed.
4. Assume suitable data wherever necessary and mention it clearly.

	(Level/CO)	Marks
Q. 1 Solve Any Two of the following.		12
A) Describe the waterfall model, its advantage & limitations.	Understand	6
B) Describe software engineering process with a neat diagram.	Remember	6
C) Explain in brief characteristics of software.	Synthesis	6
Q. 2 Solve Any Two of the following.		12
A) Explain Design process and design quality.	Understand	6
B) Write a short note on Design concepts?	Remember	6
C) Explain Developing diagrams in UML.	Remember	6
Q. 3 Solve Any Two of the following.		12
A) Explain Principles of Testing.	Understand	6
B) Write a short note on Phases of software project?	Remember	6
C) Write a short note on Quality assurance and quality control?	Remember	6
Q. 4 Solve Any Two of the following.		12
A) Explain Integration Testing.	Understand	6
B) Explain Bottom-up integration and Bidirectional integration.	Remember	6
C) Write a short note on System integration?	Synthesis	6
Q. 5 Solve Any Two of the following.		12
A) Explain Performance testing.	Understand	6
B) Explain Adhoc testing.	Remember	6
C) Write a short note on Methodology, tools and process for performance testing?	Synthesis	6

***** End *****



DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

Winter Examination – 2022

Course: B. Tech. Branch: Artificial Intelligence and Data Science Semester: V

Subject Code & Name: BTAIC501 Computer Network and Cloud Computing

Max Marks: 60

Date: 28.01.2023

Duration: 3 Hr.

Instructions to the Students:

1. All the questions are compulsory.
2. The level of question/expected answer as per OBE or the Course Outcome (CO) on which the question is based is mentioned in () in front of the question.
3. Use of non-programmable scientific calculators is allowed.
4. Assume suitable data wherever necessary and mention it clearly.

Q. 1 Solve Any Two of the following.

- A) What is Computer Network? Explain uses of Computer Network
- B) Explain ISO OSI Model?
- C) Define the Network Topology. Enlist the different types of Network Topologies. Explain any two network topologies with neat diagram.

(Level/CO) Marks

12

BL2 & CO1 6

6

BL2 & CO1 6

6

Q. 2 Solve Any Two of the following.

- A) What do you mean by network Protocol and How it works
- B) Explain TCP/IP Model?
- C) Explain Carrier Sense Multiple Access and Collision Avoidance (CSMA/CA) Protocol.

12

BL3 & CO2 6

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BL3 & CO2 6

6

Q. 3 Solve Any One of the following.

- A) Explain services provided by transport layer.
- B) Explain TCP and UDP Protocol.
- C) Explain DNS.

12

BL3 & CO3 6

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BL2 & CO3 6

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BL3 & CO3 6

6

Q. 4 Solve Any Two of the following.

- A) Define Cloud Computing with Example of Service Providers.
- B) Explain Advantages of Cloud Computing.
- C) Explain Challenges and Risks in Cloud Computing.

12

BL1 & CO4 6

6

BL2 & CO4 6

6

BL3 & CO4 6

6

Q. 5 Solve Any One of the following.

- A) Explain Cloud Deployment Models with suitable diagrams.
- B) Explain Cloud Services with Examples.
- C) Write in Details about Data Centre Components

12

BL3 & CO5 6

6

BL2 & CO5 6

6

BL3 & CO5 6

6

***** End *****



DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

Winter Examination – 2022

Course: B. Tech. Branch : Artificial Intelligence and Data Science

Semester: V

Subject Code & Name: BTAIC502 - Machine Learning

Max Marks: 60

Date: 31.01.2023

Duration: 3 Hrs.

Instructions to the Students:

1. All the questions are compulsory.
2. The level of question/expected answer as per OBE or the Course Outcome (CO) on which the question is based is mentioned in () in front of the question.
3. Use of non-programmable scientific calculators is allowed.
4. Assume suitable data wherever necessary and mention it clearly.

	(Level/CO)	Marks
Q. 1 Solve Any Two of the following.		12
A) Describe Supervised Machine Learning technique with suitable example.	(Apply)	6
B) Define Machine Learning? Explain Unsupervised machine learning technique?	(Remember)	6
C) Discuss the following terms: i. Traditional Approach vs. Machine Learning approach. ii. Train Test Split in machine learning.	(Evaluate)	6
Q. 2 Solve Any Two of the following.		12
A) Discuss following Performance Metrics for Classification problems in detail.	(Apply)	6
i. Classification Accuracy ii. Confusion Matrix	(Remember)	6
B) List and explain Performance Metrics for Regression Problems in detail.	(Remember)	6
C) Compare Classification Report and AUC (Area Under ROC curve).	(Remember)	6
Q. 3 Solve Any Two of the following.		12
A) Define Linear Regression? Explain Multiple Linear Regression?	(Evaluate)	6
B) Write several variations of Gradient Descent?	(Remember)	6
C) Explain Logistic Regression?	(Apply)	6
Q. 4 Solve Any Two of the following.		12
A) Define Decision tree? Explain Decision Tree Classification with an example?	(Apply)	6
B) Describe Random Forest Classifier with suitable example?	(Remember)	6
C) Explain the concepts of Over fitting and Under fitting?	(Evaluate)	6
Q. 5 Solve Any Two of the following.		12
A) Explain Naïve Bayes classifier with an example?	(Apply)	6
B) Describe KNN Algorithm with suitable example?	(Evaluate)	6
C) Explain the following terms: i. Support Vector Classifier. ii. Support Vector Regressor.	(Remember)	6

*** End ***

