# Course Coordinator Report

## Course Name: Certificate Course in Deep Learning

A free Add-On Course for PG studentsin the Department of Computer Science, Shri Shivaji Education Society Amravati's Science College, Congress Nagar, and Nagpurwas held from 29/12/2023 to 06/04/2024. The course title was "Deep Learning".Welcome to the Deep Learning Add-On Course! This advanced course is perfect for those with a basic understanding of machine learning looking to specialize in deep learning techniques. We will cover topics such as convolutional neural networks (CNNs), recurrent neural networks (RNNs), and generative adversarial networks (GANs). You'll gain hands-on experience with industry-standard tools like TensorFlow and PyTorch. Through practical projects and real-world applications, you'll learn to design, implement, and optimize deep learning models. By the end of the course, you'll be prepared to apply deep learning in various domains, from image and speech recognition to natural language processing. Join us to elevate your AI skills and stay ahead in this rapidly evolving field!

The course duration was 10 weeks (30 hours). Two theory classes were engaged on Friday & Saturday and one Practical was engaged in every week. The structure of marking system was 80 marks on theory paper and 20 marks on practical execution. The question paper of theory examination was in MCQ type of 40 questions with four multiple choices. Practical examination was also taken on this course for 20 marks. All the 60 students were present in both theory and practical examination. The result was prepared and certificates were also distributed to the students.

Dr. M.T.Wanjari and Mr.A.A.Bodkhe
Course Coordinator
Assistant Professor
Department of Computer Science
S.S.E.S. Amt's Science College
Congress Nagar, Nagpur

Shri Shivaji Education Society, Amravati's

# SCIENCE COLLEGE

Congress Nagar, Nagpur-12 (M.S.), India

Accredited with CGPA of 3.51 at 'A+' grade by NAAC, Bangalore
A "College with Potential for Excellence" identified by UGC New Delhi.
Institutional Member of APQN
Recognized Centre for Higher Learning and Research
Mentor College under 'PARAMARSH Scheme', UGC, New Delhi

## DEPARTMENT OF COMPUTER SCIENCE

**Session 2023-2024**

## Free Certificate Course for College Students

**Course Title: Certificate Course in Deep Learning**

**Duration – 30 Hours (10 Weeks)**

***Course Start from 29December 2023 to 06April2024***

**Course Coordinator: Dr. M. T. Wanjari & Mr. A. A. Bodkhe**

To,
The Principal
SSES Amt's Science College,
Congress Nagar, Nagpur-12

Subject: For permission to conduct the add on courses in Computer Science department during the session 2023-2024

Respected Sir,

This is to request you that, the teachers of Computer Science department have prepared the syllabus and modules of the 30 hours certificate courses for the session 2023-2024.

The details of the course module, syllabus and time table is submitted here with.

Hence please permit to run the add on courses and oblige me.

Thanking you

Yours sincerely

6/07/2023
Nagpur

Permitted
MDhar

**Shri Shivaji Education Society Amravati's**
**Science College, Congress Nagar, Nagpur**

**Department of Computer Science**

# NOTICE

Date: 01/12/2023

We are pleased to announce that the Department of Computer Science is offering a Certificate Course on **Deep Learning** for all M. Sc. (CS)/MCA Students free of cost starting from first week of December 2023.

**Course Highlights**:
- Introduction to Deep Learning
- Identify deep learning techniques
- Introduce ideas of artificial neural network
- Implementing deep learning model using TensorFlow and Pytorch
- Design deep learning model for machine learning problem

**Course Duration**: 10 Weeks (30 Hours)

**Eligibility**: Open to all students of M.Sc. (CS)/MCA, Shri Shivaji Education Society Amravati's, Science College, Congress Nagar, Nagpur

**Registration**: Interested students can register at the Department of Computer Science office on or before11/**12/2023**.

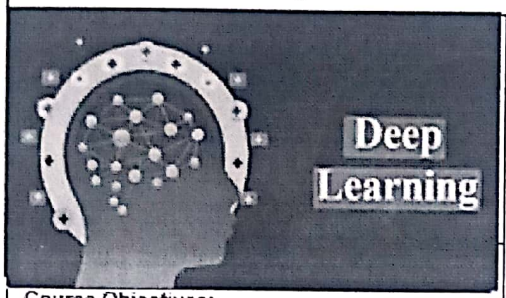
**Contact Information**:
For further details, please contact:

**Dr. Manish T. Wanjari**
Mob.8329153206
**Mr. Amol A. Bodkhe**
Mob.9423609630
Course Coordinator

Assistant Professor
Department of Computer Science
S.S.E.S. Amt's Science College,
Congress Nagar, Nagpur

Professor & Head
Department of Computer Science
S.S.E.S. Amt's Science College,
Congress Nagar, Nagpur

# CERTIFICATE COURSE IN DEEP LEARNING (COMPUTER SCIENCE)




**Free Certificate Course for College Students**

Duration – 30 Hours (10 Weeks)

Process of Registration -
Limited Seats Available

**Course Objectives:**

1) To understand major deep learning algorithms
2) To identify deep learning techniques
3) To introduce the idea of artificial neural networks and their architecture
4) To introduce techniques used for training artificial neural networks
5) To enable design of an artificial neural network for classification
6) To enable design and deployment of deep learning models for machine learning problems

This Deep Learning course provides a comprehensive introduction to the principles and practices of deep learning. Students will explore neural networks, including feedforward, convolutional, and recurrent architectures. The course covers essential topics such as backpropagation, optimization techniques, and regularization methods. Practical sessions focus on implementing and training deep learning models using popular frameworks like TensorFlow and PyTorch. Applications in computer vision, natural language processing, and reinforcement learning are examined. By the end of the course, students will be equipped to design, train, and evaluate deep learning models for real-world tasks, preparing them for advanced research or industry roles in AI.

Department of Computer Science
SSES Amt's Science College, Congress Nagar, Nagpur

**SSES Amravati's Science College, Congress Nagar, Nagpur-12**

**DEPARTMENT OF COMPUTER SCIENCE**

**COURSE MODULE AND SYLLABUS**

## Course Title: Certificate Course in Deep Learning (Computer Science)

## Course Coordinator: Dr. M. T. Wanjari & Mr. A. A. Bodkhe

## Course description:

This Deep Learning course provides a comprehensive introduction to the principles and practices of deep learning. Students will explore neural networks, including feedforward, convolutional, and recurrent architectures. The course covers essential topics such as backpropagation, optimization techniques, and regularization methods. Practical sessions focus on implementing and training deep learning models using popular frameworks like TensorFlow and PyTorch. Applications in computer vision, natural language processing, and reinforcement learning are examined. By the end of the course, students will be equipped to design, train, and evaluate deep learning models for real-world tasks, preparing them for advanced research or industry roles in AI.

**Course Objectives:**

1)To understand major deep learning algorithms.
2) To identify deep learning techniques
3) To introduce the idea of artificial neural networks and their architecture.
4) To introduce techniques used for training artificial neural networks.
5) To enable design of an artificial neural network for classification
6) To enable design and deployment of deep learning models for machine learning problems.

**Instructional Strategies:**Theory class, Practical, Video clips etc.

**Evaluation Strategies:**Oral discussions and Final MCQ examination.

**Course outline:** Course Outlines: (Relevance)

1) Understand the main fundamentals that drive Deep Learning
2) Be able to build, train and apply fully connected deep neural networks
3) Know how to implement efficient CNN or RNN.
4) Understand the key features in a neural network's architecture
5) Fundamentals of deep learning
6) Convolutional neural networks

7) Representation learning and generative learning
8) Deep learning applications and reinforcement learning and NLP

**Course Outcomes (COs):**

1) Able to understand the mathematics behind functioning of artificial neural networks
2) Able to analyze the given dataset for designing a neural network based solution
3) Able to carry out design and implementation of deep learning models for signal/image processing applications
4) Able to design and deploy simple TensorFlow-based deep learning solutions to classification problems
5) Solve various deep learning problems
6) Apply autoencoders for unsupervised learning problems
7) Implement Convolutional Neural Networks to image classification problems
8) Apply recurrent neural network to sequence Learning Problem.

**Duration of course:** Ten weeks (30 Hours)

**The Structure of Syllabus and system of evaluation -**

| Course | Theory Papers and Practical | Total Marks | |
|---|---|---|---|
| | | Theory | Practical |
| Certificate Course in Deep Learning | Theory paper- Deep Learning (Computer Science)<br>* Theory examination will be of MCQ pattern having 40 questions each with equal marks. | 80 | 20 |
| | * Practical examination will be based on performance evaluation in the laboratory | 100 | |

Coordinator

IQAC Coordinator
Internal Quality Assurance Cell
(IQAC)
S. S. E. S. A. Science College,
Congress Nagar, Nagpur.

Principal
S. S. E. S. Amravati's
Science College, Nagpur.

# SYLLABUS

Certificate course (10 weeks)

(Deep Learning (Computer Science)

**Theory-**

**UNIT- I**

Introduction to Deep Learning, Bayesian Learning, Decision SurfacesLinear Classifiers, Linear Machines with Hinge LossOptimization Techniques, Gradient Descent, Batch OptimizationIntroduction to Neural Network,

**Unit-II**

Multilayer Perceptron, Back Propagation LearningUnsupervised Learning with Deep Network, AutoencodersConvolutional Neural Network, Building blocks of CNN, Transfer LearningConvolutional Neural Network, Building blocks of CNN, Transfer LearningEffective training in Deep Net- early stopping, Dropout,

**Unit-III**

Batch Normalization, Instance Normalization, Group NormalizationRecent Trends in Deep Learning Architectures, Residual Network, Skip Connection Network, Fully Connected CNN etcClassical Supervised Tasks with Deep Learning, Image Denoising, Semantic Segmentation, Object Detection etc.LSTM NetworksGenerative Modeling with DL, Variational Autoencoder, Generative Adversarial Network Revisiting Gradient Descent, Momentum Optimizer.

**Practicals-**

a) Write a program to construct an Artificial Neural Network using medical data. Demonstrate the diagnosis of heart disease analysis and classification in patients using a standard Heart Disease Dataset.

b) Write a program to construct an Artificial Neural Network using medical data. Demonstrate the diagnosis of diabetes prediction in patients using a standard diabetes dataset.

c) Develop a program that constructs a Convolutional Neural Network (CNN) with medical data. Illustrate its use in predicting COVID diagnosis for patients using a standard COVID dataset.

d) Create a program that utilizes data from a .csv file to build a Recurrent Neural Network (RNN). Illustrate its effectiveness by predicting Google stock prices using a well-known dataset.

e) Develop a program leveraging a .csv dataset to construct an LSTM model.illustrate its effectiveness by spam email classification using a well-known dataset.

**Distribution of marks: -**

| | |
|---|---|
| 1. Introduction to Deep Learning - | 05 |
| 2. Introduction to Neural Network - | 05 |
| 3. Implementation of CNN algorithm - | 05 |
| 3. LSTM Networks Generative Modeling with DL- | 05 |

## Week-wise Teaching Plan:

| Week | Hrs. | Syllabus |
|---|---|---|
| Week 1 | 1 | Introduction to Deep Learning |
| | 1 | Bayesian Learning, |
| | 1 | Decision SurfacesLinear Classifiers |
| Week 2 | 1 | Linear Machines with Hinge LossOptimization Techniques |
| | 2 | Gradient Descent, Batch OptimizationIntroduction to Neural Network |
| Week 3 | 1 | Multilayer Perceptron |
| | 2 | Back Propagation LearningUnsupervised Learning with Deep Network |
| Week 4 | 1 | Autoencoders Convolutional Neural Network |
| | 1 | Building blocks of CNN |
| Week 5 | 2 | Transfer LearningConvolutional Neural Network |
| | 1 | Building blocks of CNN |
| Week 6 | 2 | Transfer LearningEffective training in Deep Net- early stopping, Dropout |
| | 1 | Batch Normalization, Instance Normalization |
| Week 7 | 2 | Group NormalizationRecent Trends in Deep Learning Architectures |
| | 1 | Residual Network, Skip Connection Network, Fully Connected CNN etc |
| Week 8 | 2 | Classical Supervised Tasks with Deep Learning |
| | 1 | Image Denoising, Semantied Segmentation, Object Detection etc. |
| Week 9 | 2 | LSTM NetworksGenerative Modeling with DL |
| | 1 | Variational Autoencoder |
| Week 10 | 1 | Generative Adversarial Network Revisiting Gradient Descent |
| | 2 | Momentum Optimizer. |

# SSES Amravati's Science College
# Congress Nagar, Nagpur-12

## Certificate Course in Deep Learning (Computer Science)

### Time Table

| Day | Theory |
|---|---|
| Friday | MTW (B6) Theory 01.30 PM – 02.30 PM |
| Saturday | MTW (M.Sc. Lab.) practical, 01.30 PM – 02.30 PM |
| | AAB (B6) Theory, 02.30 PM – 03.30 PM |

Assistant Professor
Department of Computer Science
S.S.E.S. Amt's Science College,
Congress Nagar, Nagpur

Professor & Head
Department of Computer Science
S S E S Amt's Science College,
Congress Nagar Nagpur

**SSESA's, Science College, Congress Nagar, Nagpur**
**Certificate Course in Deep Learning**

**Students Registration List**

**Session 2023-24**

| Sr. No. | Name of Students | Signature |
|---|---|---|
| 1. | Achal Ashok Kale | |
| 2. | Akanksha Rajesh Singh | |
| 3. | Ashish SudhirWaikar | |
| 4. | Ashwini Sunil Mulak | |
| 5. | Chaitali Arvind Shripatre | |
| 6. | DivyaniSureshraoChandore | |
| 7. | HemlataSahebraoSawankar | |
| 8. | Janhvi Ramesh Kumbhalkar | |
| 9. | Kalyani Rajesh Kolarkar | |
| 10. | Kanchan WasudeoGondhale | |
| 11. | Leena SiddharthDupare | |
| 12. | Manisha MahadeoraoIngole | |
| 13. | PreetiAjaykumar Rai | |
| 14. | Rashmi ChandrashekharAshtankar | |
| 15. | Rasika Ganesh Taralekar | |
| 16. | Ritika Mahesh Motwani | |
| 17. | Riya Ajay Rai | |
| 18. | Sakshi Prakash Manapure | |
| 19. | SampadaRajendraNavghare | |
| 20 | Samruddhi Sanjay Telang | |
| 21. | SaumyaPrabhakarDakhole | |
| 22. | SejalKrishnakantJakanwar | |
| 23.. | SejalRanjendraRaut | |
| 24. | Shruti Suresh Dekate | |
| 25. | Shweta Suresh Vaidya | |
| 26. | SimranRavindrakadbe | |
| 27. | Sparsh Vijay Gajbhiye | |
| 28. | TriveniVasudevManigam | |
| 29. | VidhiDhiraj Mishra | |
| 30. | YashashreeSudhakarBobade | |
| 31. | PrabhjotVikramjeet Arora | |
| 32. | JatinTekam | |
| 33. | SejalHadke | |
| 34. | BhavikaRaut | |
| 35. | prafulborkute | |
| 36. | KhushiSanodiya | |

| | | |
|---|---|---|
| 37. | Manisha Lautre | |
| 38. | AnkitaZalke | |
| 39. | DivyaMendhe | |
| 40. | Sana FirdousShahid Ahmad | |
| 41. | Dhanashree Kulkarni | |
| 42. | Mayuri M. Bisen | |
| 43. | JanviDeshmukh | |
| 44. | SakshiBabanraoPawar | |
| 45. | Lina Sunil Datir | |
| 46. | Sejal Nitin Waghe | |
| 47. | Shweta RewalalYele | |
| 48. | Harshal Vijay Masram | |
| 49. | Srushti Anil Zade | |
| 50. | BhushanBagde | |
| 51. | Piyush Vinod Agre | |
| 52. | Humera Salim Ahmed Khan | |
| 53. | VaishnaviBhusari | |
| 54. | PunamOmprakashGotmare | |
| 55. | ChinmayBhake | |
| 56. | YashashreeLangde | |
| 57. | VedankitaMohod | |
| 58. | RajsiKingri | |
| 59. | Aachalchurhe | |
| 60. | YewatiKinkar | |

Coordinator
Department of Computer Science

Assistant Professor
Department of Computer Science
S.S.E.S. Amt's Science College,
Congress Nagar, Nagpur

Head
Department of Computer Science

Professor & Head
Department of Computer Science
S.S.E.S. Amt's Science College.
Congress Nagar, Nagpur

**Course: Deep Learning**
**Theory/Practical:**

**Shri Shivaji Education Society Amravati's**
**Science College, Nagpur**
**Attendance Sheet**

| S. N. | Roll No. | Name of Students | Periods → | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Date → | 29/2/24 | 30/1/24 | 05/01/24 | 06/01/24 | 02/02/24 | 03/02/24 | 09/02/24 | 10/02/24 | 16/02/24 | 17/02/24 | 23/02/24 | 24/02/24 | 01/03/24 | 08/03/24 | 15/03/24 | 16/3/24 | 22/03/24 | 23/03/24 | 05/04/24 | 06/04/24 |
| | | | Contact No. | | | | | | | | | | | | | | | | | | | | |
| 1. | 101 | Achal Ashok Kale | | P | P | P | P | P | P | P | P | P | A | P | P | P | P | P | P | P | P | P | P |
| 2. | 102 | Akanksha Rajesh Singh | | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P |
| 3. | 103 | Ashish SudhirWaikar | | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P |
| 4. | 104 | Ashwini Sunil Mulak | | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P |
| 5. | 105 | Chaitali Arvind Shripatre | | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P |
| 6. | 106 | Divyani Sureshrao Chandore | | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P |
| 7. | 107 | Hemlata Sahebrao Sawankar | | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P |
| 8. | 108 | Janhvi Ramesh Kumbhalkar | | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P |
| 9. | 109 | Kalyani Rajesh Kolarkar | | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P |
| 10. | 110 | Kanchan Wasudeo Gondhale | | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P |
| 11. | 111 | Leena Siddharth Dupare | | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P |
| 12. | 112 | Manisha Mahadeorao Ingole | | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P |
| 13. | 113 | Preeti Ajaykumar Rai | | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P |
| 14. | 114 | Rashmi Chandrashekhar Ashtankar | | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P |
| 15. | 115 | Rasika Ganesh Taralekar | | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P |
| 16. | 116 | Ritika Mahesh Motwani | | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P |
| 17. | 117 | Riya Ajay Rai | | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P |
| 18. | 118 | Sakshi Prakash Manapure | | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P |
| 19. | 119 | Sampada Rajendra Navghare | | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P |
| 20. | 120 | Samruddhi Sanjay Telang | | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P |
| 21. | 121 | Saumya Prabhakar Dakhole | | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P |
| 22. | 122 | Sejal Krishnakant Jakanwar | | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P |
| 23. | 123 | Sejal Ranjendra Raut | | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P |
| 24. | 124 | Shruti Suresh Dekate | | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P |
| 25. | 125 | Shweta Suresh Vaidya | | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P |
| 26. | 126 | Simran Ravindra kadbe | | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P |
| 27. | 127 | Sparsh Vijay Gajbhiye | | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P |
| 28. | 128 | Triveni Vasudev Manigam | | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P |
| 29. | 129 | Vidhi Dhiraj Mishra | | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P |

| | | | |
|---|---|---|---|
| 30. | 130 | Yashashree Sudhakar Bobade | |
| 31. | 131 | Prabhjot Vikramjeet Arora | |
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| 33. | 133 | Sejal Hadke | |
| 34. | 134 | Bhavika Raut | |
| 35. | 135 | praful borkute | |
| 36. | 136 | Khushi Sanodiya | |
| 37. | 137 | Manisha Lautre | |
| 38. | 138 | Ankita Zalke | |
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| 55. | 155 | Chinmay Bhake | |
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| 57. | 157 | Vedankita Mohod | |
| 58. | 158 | Rajsi Kingri | |
| 59. | 159 | Aachal churhe | |
| 60. | 160 | Yewati Kinkar | |

Coordinator
Department of Computer Science

for Head of Department
Department of Computer Science
Professor & Head
Department of Computer Science
S.S.E.S. Amt's Science College

**Course: Deep Learning**
**Theory/Practical:**

**Shri Shivaji Education Society Amravati's**
**Science College, Nagpur**
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| | | | Date → | 30/12/23 | 06/01/24 | 13/01/24 | 10/02/24 | 17/02/24 | 24/02/24 | 02/03/24 | 16/03/24 | 23/03/24 | 06/04/24 | | | | | | | | | | |
| | | | Contact No. | | | | | | | | | | | | | | | | | | | | |
| 1. | 101 | Achal Ashok Kale | | P | P | | P | P | P | P | P | P | P | | | | | | | | | | |
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| 3. | 103 | Ashish SudhirWaikar | | P | P | P | P | P | P | P | P | P | | | | | | | | | | | |
| 4. | 104 | Ashwini Sunil Mulak | | | P | P | P | P | P | P | P | P | P | | | | | | | | | | |
| 5. | 105 | Chaitali Arvind Shripatre | | P | P | P | | P | P | P | P | P | | | | | | | | | | | |
| 6. | 106 | Divyani Sureshrao Chandore | | P | | P | P | P | P | P | P | P | P | | | | | | | | | | |
| 7. | 107 | Hemlata Sahebrao Sawankar | | P | P | P | | P | P | P | P | P | P | | | | | | | | | | |
| 8. | 108 | Janhvi Ramesh Kumbhalkar | | P | P | P | P | P | | P | P | P | P | | | | | | | | | | |
| 9. | 109 | Kalyani Rajesh Kolarkar | | P | P | P | P | P | P | P | | P | P | | | | | | | | | | |
| 10. | 110 | Kanchan Wasudeo Gondhale | | P | P | P | | P | P | P | P | | P | | | | | | | | | | |
| 11. | 111 | Leena Siddharth Dupare | | P | P | P | P | P | P | | P | P | P | | | | | | | | | | |
| 12. | 112 | Manisha Mahadeorao Ingole | | P | P | P | | P | P | P | P | P | P | | | | | | | | | | |
| 13. | 113 | Preeti Ajaykumar Rai | | | P | P | P | P | P | P | P | P | P | | | | | | | | | | |
| 14. | 114 | Rashmi Chandrashekhar Ashtankar | | P | P | P | P | | P | P | P | P | P | | | | | | | | | | |
| 15. | 115 | Rasika Ganesh Taralekar | | P | | P | P | P | P | P | P | P | P | | | | | | | | | | |
| 16. | 116 | Ritika Mahesh Motwani | | | P | P | P | P | | P | P | P | | | | | | | | | | | |
| 17. | 117 | Riya Ajay Rai | | P | | P | P | | P | P | P | P | P | | | | | | | | | | |
| 18. | 118 | Sakshi Prakash Manapure | | P | P | P | | P | P | P | P | P | P | | | | | | | | | | |
| 19. | 119 | Sampada Rajendra Navghare | | P | P | | P | P | P | P | P | P | P | | | | | | | | | | |
| 20. | 120 | Samruddhi Sanjay Telang | | P | P | P | P | P | P | | P | P | P | | | | | | | | | | |
| 21. | 121 | Saumya Prabhakar Dakhole | | P | P | P | | P | | P | P | P | P | | | | | | | | | | |
| 22. | 122 | Sejal Krishnakant Jakanwar | | P | P | | P | P | P | P | P | P | P | | | | | | | | | | |
| 23. | 123 | Sejal Ranjendra Raut | | P | P | P | P | P | P | P | P | P | P | | | | | | | | | | |
| 24. | 124 | Shruti Suresh Dekate | | P | P | P | | P | P | P | P | P | P | | | | | | | | | | |
| 25. | 125 | Shweta Suresh Vaidya | | | P | P | P | P | P | P | P | P | P | | | | | | | | | | |
| 26. | 126 | Simran Ravindra kadbe | | P | P | P | P | P | | P | P | P | | | | | | | | | | | |
| 27. | 127 | Sparsh Vijay Gajbhiye | | P | P | P | P | | P | P | P | P | P | | | | | | | | | | |
| 28. | 128 | Triveni Vasudev Manigam | | | P | P | P | P | P | P | P | P | P | | | | | | | | | | |
| 29. | 129 | Vidhi Dhiraj Mishra | | | P | P | P | P | P | P | P | P | | | | | | | | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30. | 130 | Yashashree Sudhakar Bobade | | P | | P | P | P | P | P | P | P | P | | | | | | | | |
| 31. | 131 | Prabhjot Vikramjeet Arora | | | P | P | P | P | P | P | P | P | P | | | | | | | | |
| 32. | 132 | Jatin Tekam | | P | P | P | | P | P | P | P | P | P | | | | | | | | |
| 33. | 133 | Sejal Hadke | | P | | P | P | P | P | P | P | P | P | | | | | | | | |
| 34. | 134 | Bhavika Raut | | P | P | P | | P | P | P | P | P | P | | | | | | | | |
| 35. | 135 | praful borkute | | P | P | P | | P | P | P | P | P | P | | | | | | | | |
| 36. | 136 | Khushi Sanodiya | | P | P | P | P | P | P | P | | P | P | | | | | | | | |
| 37. | 137 | Manisha Lautre | | | P | P | P | P | P | P | P | P | P | | | | | | | | |
| 38. | 138 | Ankita Zalke | | P | P | P | P | P | | P | P | P | P | | | | | | | | |
| 39. | 139 | Divya Mendhe | | | P | P | P | P | P | P | P | P | | | | | | | | | |
| 40. | 140 | Sana Firdous Shahid Ahmad | | P | P | P | | P | P | P | P | P | | | | | | | | | |
| [illegible] | 141 | Dhanashree Kulkarni | | | P | P | P | P | P | P | P | P | P | | | | | | | | |
| 42. | 142 | Mayuri M. Bisen | | P | | P | P | P | P | | P | P | P | | | | | | | | |
| 43. | 143 | Janvi Deshmukh | | P | P | P | | P | P | P | P | P | P | | | | | | | | |
| 44. | 144 | Sakshi Babanrao Pawar | | P | P | P | P | P | P | P | | P | P | | | | | | | | |
| 45. | 145 | Lina Sunil Datir | | | P | P | P | P | P | P | P | P | P | | | | | | | | |
| 46. | 146 | Sejal Nitin Waghe | | P | | P | P | P | P | P | P | | P | | | | | | | | |
| 47. | 147 | Shweta Rewalal Yele | | P | P | P | - | P | P | P | P | P | P | | | | | | | | |
| 48. | 148 | Harshal Vijay Masram | | | P | P | P | P | P | P | P | P | P | | | | | | | | |
| 49. | 149 | Srushti Anil Zade | | P | P | P | P | P | P | P | P | | P | | | | | | | | |
| 50. | 150 | Bhushan Bagde | | P | | P | P | P | | P | P | P | P | | | | | | | | |
| 51. | 151 | Piyush Vinod Agre | | P | P | P | P | P | P | P | P | P | P | | | | | | | | |
| 52. | 152 | Humera Salim Ahmed Khan | | | P | P | P | P | P | P | P | P | P | | | | | | | | |
| 53. | 153 | Vaishnavi Bhusari | | P | P | | P | P | P | P | P | P | P | | | | | | | | |
| 54. | 154 | Punam Omprakash Gotmare | | P | P | P | | P | P | P | P | P | P | | | | | | | | |
| 55. | 155 | Chinmay Bhake | | P | P | P | P | P | | P | P | P | P | | | | | | | | |
| 56. | 156 | Yashashree Langde | | P | | P | P | P | P | P | P | P | | | | | | | | | |
| [illegible] | 157 | Vedankita Mohod | | | P | | P | P | P | P | P | P | P | | | | | | | | |
| 58. | 158 | Rajsi Kingri | | P | P | P | | P | P | P | P | P | P | | | | | | | | |
| 59. | 159 | Aachal churhe | | P | P | | P | P | P | P | P | P | P | | | | | | | | |
| 60. | 160 | Yewati Kinkar | | P | | P | P | P | P | P | P | P | P | | | | | | | | |

**Coordinator**
**Department of Computer Science**
Assistant Professor
Department of Computer Science
S.S.E.S. Amt's Science College.

**Head of Department**
**Department of Computer Science**
Professor & Head
Department of Computer Science
S.S.E.S. Amt's Science College,

**Shri Shivaji Education Society Amravati's**
**Science College, Congress Nagar, Nagpur**

**Department of Computer Science**

Certified Course on **Deep Learning**

Announcement of Theory and Practical Examination Dates for Deep Learning Certificate Course

**NOTICE**

Date: 06/04/2024

This is to inform all students enrolled in the Certificate Course on Deep Learning that the dates for the Theory and Practical Examinations have been scheduled as follows:

**Theory Examination:**

Date: **12April 2024, Friday**

Time: 01:30 pm to 02:30 pm

Venue: Room No B6

**Practical Examination:**

Date: **13April 2024, Saturday**

Time: 01:30 pm to 02:30 pm

Venue: M. Sc. Lab., I$^{st}$ Floor

All students are required to be present at the examination venue at least 15 minutes before the scheduled time. Please ensure you bring your college ID card and any other necessary materials.

For any further queries, please contact the Department of Computer Science office.

Dr. Manish T. Wanjari
Mr. Amol A. Bodkhe
Course Co-ordinator

Assistant Professor
Department of Computer Science
S.S.E.S. Amt's Science College
Congress Nagar, Nagpur

Professor & Head
Department of Computer Science
S.S.E.S. Amt's Science College,
Congress Nagar, Nagpur

**SSESA's, Science College, Congress Nagar, Nagpur**
**Certificate Course in Deep Learning**

**Theory Examination**
**Students Attendance List**
**Session 2023-24**

| Sr. No. | Name of Students | Signature |
|---|---|---|
| 1. | Achal Ashok Kale | |
| 2. | Akanksha Rajesh Singh | |
| 3. | Ashish SudhirWaikar | |
| 4. | Ashwini Sunil Mulak | |
| 5. | Chaitali Arvind Shripatre | |
| 6. | DivyaniSureshraoChandore | |
| 7. | HemlataSahebraoSawankar | |
| 8. | Janhvi Ramesh Kumbhalkar | |
| 9. | Kalyani Rajesh Kolarkar | |
| 10. | Kanchan WasudeoGondhale | |
| 11. | Leena SiddharthDupare | |
| 12. | Manisha MahadeoraoIngole | |
| 13. | PreetiAjaykumar Rai | |
| 14. | Rashmi ChandrashekharAshtankar | |
| 15. | Rasika Ganesh Taralekar | |
| 16. | Ritika Mahesh Motwani | |
| 17. | Riya Ajay Rai | |
| 18. | Sakshi Prakash Manapure | |
| 19. | SampadaRajendraNavghare | |
| 20 | Samruddhi Sanjay Telang | |
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| 22. | SejalKrishnakantJakanwar | |
| 23.. | SejalRanjendraRaut | |
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| 27. | Sparsh Vijay Gajbhiye | |
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| 29. | VidhiDhiraj Mishra | |
| 30. | YashashreeSudhakarBobade | |
| 31. | PrabhjotVikramjeet Arora | |
| 32. | JatinTekam | |
| 33. | SejalHadke | |
| 34. | BhavikaRaut | |

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|---|---|---|
| 35. | prafulborkute | P. borkar... |
| 36. | KhushiSanodiya | K Palaksa |
| 37. | Manisha Lautre | M Lautre |
| 38. | AnkitaZalke | A. Zalke |
| 39. | DivyaMendhe | Divya... |
| 40. | Sana FirdousShahid Ahmad | Sana |
| 41. | Dhanashree Kulkarni | Dkulkarni |
| 42. | Mayuri M. Bisen | M. Bisen |
| 43. | JanviDeshmukh | JanviDeshmukh |
| 44. | SakshiBabanraoPawar | S Pawar |
| 45. | Lina Sunil Datir | L. Datir |
| 46. | Sejal Nitin Waghe | Sejal. W |
| 47. | Shweta RewalalYele | Shweta |
| 48. | Harshal Vijay Masram | Harshal. V |
| 49. | Srushti Anil Zade | Szade |
| 50. | BhushanBagde | Bhushan |
| 51. | Piyush Vinod Agre | P. Agre |
| 52. | Humera Salim Ahmed Khan | HKdahe |
| 53. | VaishnaviBhusari | Vaish |
| 54. | PunamOmprakashGotmare | Punam |
| 55. | ChinmayBhake | CBhake |
| 56. | YashashreeLangde | YLangde |
| 57. | VedankitaMohod | Vmohod |
| 58. | RajsiKingri | RKingri |
| 59. | Aachalchurhe | Achalc |
| 60. | YewatiKinkar | YKinkar |

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**Practical Examination**
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| 55. | ChinmayBhake | |
| 56. | YashashreeLangde | |
| 57. | VedankitaMohod | |
| 58. | RajsiKingri | |
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Congress Nagar Nagpur

SSES Amravati's Science College, Congress Nagar, Nagpur-12

DEPARTMENT OF COMPUTER SCIENCE

Final Examination
Session 2023-2024
Add - on Certificate Course in Deep Learning

Students Name: Achal Ashok Kalo Maximum Marks: 80

Roll No: 101 Date: 12/04/2024 Time: 1 HOUR

Name and Signature of Invigilator: A. A. Bodile Achal

Note: 1. All Questions are compulsory and carry equal marks.
2. Tick the Correct option only.

**1. What is Deep Learning?**

A) A subset of Machine learning that involves neural networks with many layers.

B) A data preprocessing technique.

C) A type of database management system.

D) A programming language.

**2. Which of the following is a popular framework for Deep Learning?**

A) Tensor Flow B) MySQL

C) Hadoop D) Spark

**3. In Bayesian Learning, what does the posterior probability represent?**

A) The initial belief about a hypothesis. B) The probability of the data given the hypothesis.

C) The updated belief after observing the data. D) The overall probability of the data.

**4. What is Bayes' theorem used for in Bayesian Learning?**

A) To calculate the likelihood of data. B) To update the probability estimate for a hypothesis.

C) To generate random samples. D) To determine the maximum likelihood estimate.

**5. What is a decision surface in machine learning?**

A) A tool for data preprocessing. B) A boundary that separates different classes.

C) An algorithm for clustering data.A)technique for reducing dimensionality.

**6. Which of the following best describes the decision surface of a linear classifier?**

A) A non-linear curve. B) A hyperplane.

C) A cluster of points. D) A decision tree.

**7. Which loss function is commonly used in linear classifiers?**

A) Mean Squared Error B) Cross-Entropy Loss

C) Hinge Loss D) Log Loss

**8. What does the term "linear" in linear classifiers refer to?**

A) The linearity of the decision boundary. B) The linearity of the data distribution.

C) The linear complexity of the algorithm. D) The linear relationship between features.

**9. What is the goal of hinge loss in SVMs?**

A) To minimize the distance between data points and the hyperplane.

B) To maximize the margin between classes.

C) To reduce the number of features.

D) To increase the number of support vectors.

**10. In hinge loss optimization, what happens when a data point is correctly classified and falls outside the margin?**

A) The loss is zero. B) The loss is maximized.

C) The loss is minimized but not zero. D) The loss is constant.

**11. What is the primary purpose of optimization techniques in machine learning?**

A) To find the best hyperparameters. B) To improve the speed of the algorithm.

C) To minimize the loss function. D) To preprocess the data.

**12. Which of the following is a common optimization technique used in training neural networks?**

A) Gradient Descent B) k-Nearest Neighbors

C) Principal Component Analysis D) Random Forests

**13. What is the main idea behind Gradient Descent?**

A) To ascend the gradient of the loss function.

B) To iteratively update parameters in the direction of the steepest increase.

C) To iteratively update parameters in the direction of the steepest decrease.

D) To use the gradient to transform features.

**14. Which of the following is a variant of Gradient Descent?**

A) Newton's Method B) Backpropagation

C) Stochastic Gradient Descent (SGD) D) Support Vector Machines

**15. In the context of batch optimization, what is a "batch"?**

A) A single data point used for training. B) A subset of the dataset used for one iteration of optimization.

C) The entire dataset used for training. D) The final trained model.

**16. What is the main objective of the backpropagation algorithm?**

A) Increase the complexity of the model B) Minimize the cost function

C) Maximize the output of the neural network D) Add more layers to the network

**17. In a Multilayer Perceptron (MLP), which of the following activation functions is commonly used?**

A) Linear B) Sigmoid

C) Step function D) Hyperbolic tangent (tanh)

**18. What is the primary purpose of an autoencoder?**

A) Classification of data B) Dimensionality reduction

C) Predicting future data points D) Clustering data

**19. In an autoencoder, what is the role of the encoder?**

A) To reconstruct the input data B) To compress the input data into a lower-dimensional representation

C) To classify the input data D) To increase the dimensionality of the input data

**20. Which of the following is a key component of a Convolutional Neural Network (CNN)?**

A) Recurrent layers B) Convolutional layers

C) Fully connected layers D) Both B and C

**21. What is the purpose of pooling layers in a CNN?**

A) To increase the dimensionality of the feature mapsB) To reduce the computational complexity

C) To introduce non-linearity D) To connect layers of the network

**22. In transfer learning, which part of a pre-trained network is typically reused?**

A) The input layer B) The final output layer

C) The feature extraction layers D) The optimizer

**23. What is the main purpose of early stopping in training neural networks?**

A) To decrease training time B) To prevent overfitting

C) To reduce the learning rate D) To increase the size of the dataset

**24.How does dropout help in regularizing a neural network?**

A) By adding noise to the input data B) By removing random neurons during training

C) By increasing the number of neurons D) By decreasing the learning rate

**25. Which of the following is a common activation function used in CNNs?**

A) Sigmoid B) ReLU (Rectified Linear Unit)

C) Softmax D) Step function

**26. What type of learning is used in autoencoders?**

A) Supervised learning B) Unsupervised learning

C) Reinforcement learning D) Semi-supervised learning

**27. Which of the following techniques is used to prevent overfitting in neural networks?**

A) Increasing the number of epochs B) Using a larger batch size

C) Applying dropout D) Using a linear activation function

**28. What is the primary purpose of Batch Normalization in deep neural networks?**

A. To reduce the number of layers B. To stabilize and accelerate training

C. To increase the model complexity D. To perform feature scaling

**29. How does Instance Normalization differ from Batch Normalization?**

A. It normalizes across the batch dimension B. It normalizes each instance separately

C. It normalizes across groups of instances D. It does not normalize at all

**30. Group Normalization is particularly useful in which scenario?**

A. Small batch sizes B. Large batch sizes

C. Only for recurrent neural networks D. When using non-linear activation functions

**31. What is a key characteristic of Residual Networks (ResNets)?**

A. Use of deep layers without any connections B. Inclusion of skip connections to mitigate vanishing gradients

C. Reliance solely on convolutional layers D. Absence of normalization techniques

**32. What is a Skip Connection in neural networks?**

A. A technique to skip training on certain batches B. A connection that bypasses one or more layers

C. A type of layer that skips input normalization D. A dropout mechanism

**33. What is the advantage of a Fully Connected Convolutional Network (FCCN)?**

A. It only uses fully connected layers B. It applies convolutional layers to any input size

C. It is more efficient than standard convolutional networks D. It performs classification without any convolutional layers

**34. Which task involves predicting pixel-wise class labels in an image?**

A. Image Classification B. Image Denoising

C. Semantic Segmentation D. Object Detection

**35. Which deep learning task focuses on removing noise from images?**

A. Semantic Segmentation B. Image Denoising

C. Object Detection D. Image Classification

**36. What does Object Detection aim to achieve in an image?**

A. Classifying the entire image into a category

B. Identifying and localizing objects within the image

C. Denoising the image

D. Segmenting the image into different regions

**37. What does LSTM stand for in neural networks?**

A. Long Short-Term Memory B. Large Scale Temporal Memory

C. Long Sequence Training Model D. Least Square Temporal Model

**38. What is a primary advantage of LSTM networks over traditional RNNs?**

A. Simpler architecture B. Better handling of long-term dependencies

C. Faster training time D. Lower computational requirements

**39. Which of the following components is used to reduce the spatial dimensions of feature maps in CNNs?**

A. Convolutional layerB. Pooling layer

C. Fully connected layer D. Dropout layer

**40. What distinguishes a VariationalAutoencoder (VAE) from a traditional autoencoder?**

A. It uses a deterministic approach to encoding B. It introduces stochasticity to the encoding process

C. It does not use a decoder D. It is designed for supervised learning tasks

**SSES Amravati's Science College, Congress Nagar, Nagpur-12**

**DEPARTMENT OF COMPUTER SCIENCE**

**Final Examination**
**Session 2023-2024**
**Add - on Certificate Course in Deep Learning**
**Practical Exam**

Maximum Marks: 20

**Students Name:** Achal Ashok Kale

**Roll No:** 101 **Date:** 13/04/2024 **Time: 1 HOUR**

**Name and Signature of Invigilator:** A. A. Bodkhe-Asole.

**Solve Any One**

1. A) Write a program to construct an Artificial Neural Network using medical data. Demonstrate the diagnosis of heart disease analysis and classification in patients using a standard Heart Disease Dataset.
   B) Write a program to construct an Artificial Neural Network using medical data. Demonstrate the diagnosis of diabetes prediction in patients using a standard diabetes dataset.

**OR**

2. A) Develop a program that constructs a Convolutional Neural Network (CNN) with medical data. Illustrate its use in predicting COVID diagnosis for patients using a standard COVID dataset.
   B) Create a program that utilizes data from a .csv file to build a Recurrent Neural Network (RNN). Illustrate its effectiveness by predicting Google stock prices using a well-known dataset.

Shri Shivaji Education Society, Amravati's

# SCIENCE COLLEGE

Congress Nagar, Nagpur-12 (M.S.), India

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Institutional Member of APQN
Recognized Centre for Higher Learning and Research
Mentor College under 'PARAMARSH Scheme', UGC, New Delhi

## *Add-on Course*

**Course Exam Name: Certificate Course in Deep Learning**
**Theory Examination Answer Key**

**Name of Student:**
.....

**Roll No.:** | | | | **Session: 2023-24**

**Test Date: 12/04/2024** | **Max. Marks: 80**

**Invigilator Signature** | **Obtained Marks:** | |

INSTRUCTIONS FOR FILLING THE SHEET
1. This sheet should not be folded or crushed.
2. Use only blue/ black ball point pen to fill the circles.
3. Use of pencil is strictly prohibited.
4. Circles should be darkened completely and properly.
5. Cutting and erasing on this sheet is not allowed.
6. Do not use any stray marks on the sheet.
7. Do not use marker or white fluid to hide the mark.

WRONG METHODS ⊗ ◉ ▨ ✓ CORRECT METHOD ○ ○ ○ ●

| | A | B | C | D |
|---|---|---|---|---|
| 1 | ● | ○ | ○ | ○ |
| 2 | ● | ○ | ○ | ○ |
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| 4 | ○ | ● | ○ | ○ |
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| 6 | ○ | ● | ○ | ○ |
| 7 | ○ | ○ | ● | ○ |
| 8 | ● | ○ | ○ | ○ |
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| 10 | ● | ○ | ○ | ○ |
| 11 | ○ | ○ | ● | ○ |
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| 13 | ○ | ○ | ● | ○ |
| 14 | ○ | ○ | ● | ○ |
| 15 | ○ | ● | ○ | ○ |
| 16 | ○ | ● | ○ | ○ |
| 17 | ○ | ● | ○ | ○ |
| 18 | ○ | ● | ○ | ○ |
| 19 | ○ | ● | ○ | ○ |
| 20 | ○ | ○ | ○ | ● |
| 21 | ○ | ● | ○ | ○ |
| 22 | ○ | ○ | ● | ○ |
| 23 | ○ | ● | ○ | ○ |
| 24 | ○ | ● | ○ | ○ |
| 25 | ○ | ● | ○ | ○ |
| 26 | ○ | ● | ○ | ○ |
| 27 | ○ | ○ | ● | ○ |
| 28 | ○ | ● | ○ | ○ |
| 29 | ○ | ● | ○ | ○ |
| 30 | ● | ○ | ○ | ○ |
| 31 | ○ | ● | ○ | ○ |
| 32 | ○ | ● | ○ | ○ |
| 33 | ○ | ● | ○ | ○ |
| 34 | ○ | ○ | ● | ○ |
| 35 | ○ | ● | ○ | ○ |
| 36 | ○ | ● | ○ | ○ |
| 37 | ● | ○ | ○ | ○ |
| 38 | ○ | ● | ○ | ○ |
| 39 | ○ | ● | ○ | ○ |
| 40 | ○ | ● | ○ | ○ |
| 41 | ○ | ○ | ○ | ○ |
| 42 | ○ | ○ | ○ | ○ |
| 43 | ○ | ○ | ○ | ○ |
| 44 | ○ | ○ | ○ | ○ |
| 45 | ○ | ○ | ○ | ○ |
| 46 | ○ | ○ | ○ | ○ |
| 47 | ○ | ○ | ○ | ○ |
| 48 | ○ | ○ | ○ | ○ |
| 49 | ○ | ○ | ○ | ○ |
| 50 | ○ | ○ | ○ | ○ |

Shri Shivaji Education Society, Amravati's

# SCIENCE COLLEGE

Congress Nagar, Nagpur-12 (M.S.), India

Accredited with CGPA of 3.51 at 'A+' grade by NAAC, Bangalore
A "College with Potential for Excellence" identified by UGC New Delhi.
Institutional Member of APQN
Recognized Centre for Higher Learning and Research
Mentor College under 'PARAMARSH Scheme', UGC, New Delhi

## *Add-on Course*

**Course Exam Name: Certificate Course in Deep Learning**
**Theory Examination**

**Name of Student:** Achal Ashok Kale

**Roll No.:** 1 0 1

**Session:** 2023-24

**Test Date:** 12/04/2024

**Max. Marks:** 80

**Invigilator Signature** Akale.

**Obtained Marks:**

INSTRUCTIONS FOR FILLING THE SHEET
1. This sheet should not be folded or crushed.
2. Use only blue/ black ball point pen to fill the circles.
3. Use of pencil is strictly prohibited.
4. Circles should be darkened completely and properly.
5. Cutting and erasing on this sheet is not allowed.
6. Do not use any stray marks on the sheet.
7. Do not use marker or white fluid to hide the mark.

WRONG METHODS ⊗ ◉ ≋ ✓ CORRECT METHOD ○ ○ ○ ●

| | A | B | C | D |
|---|---|---|---|---|
| 1 | ● | ○ | ○ | ○ |
| 2 | ● | ○ | ○ | ○ |
| 3 | ○ | ○ | ● | ○ |
| 4 | ○ | ● | ○ | ○ |
| 5 | ○ | ● | ○ | ○ |
| 6 | ○ | ● | ○ | ○ |
| 7 | ○ | ○ | ● | ○ |
| 8 | ● | ○ | ○ | ○ |
| 9 | ○ | ● | ○ | ○ |
| 10 | ● | ○ | ○ | ○ |
| 11 | ○ | ○ | ● | ○ |
| 12 | ○ | ○ | ○ | ○ |
| 13 | ○ | ○ | ● | ○ |
| 14 | ○ | ○ | ● | ○ |
| 15 | ○ | ● | ○ | ○ |
| 16 | ○ | ○ | ● | ○ |
| 17 | ○ | ● | ○ | ○ |
| 18 | ○ | ● | ○ | ○ |
| 19 | ○ | ○ | ● | ○ |
| 20 | ○ | ○ | ○ | ● |
| 21 | ○ | ● | ○ | ○ |
| 22 | ○ | ○ | ● | ○ |
| 23 | ○ | ○ | ● | ○ |
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| 25 | ● | ○ | ○ | ○ |
| 26 | ○ | ● | ○ | ○ |
| 27 | ○ | ○ | ● | ○ |
| 28 | ○ | ● | ○ | ○ |
| 29 | ○ | ○ | ● | ○ |
| 30 | ● | ○ | ○ | ○ |
| 31 | ○ | ● | ○ | ○ |
| 32 | ○ | ● | ○ | ○ |
| 33 | ○ | ○ | ● | ○ |
| 34 | ○ | ● | ○ | ○ |
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| 37 | ● | ○ | ○ | ○ |
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| 39 | ○ | ○ | ● | ○ |
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| 45 | ○ | ○ | ○ | ○ |
| 46 | ○ | ○ | ○ | ○ |
| 47 | ○ | ○ | ○ | ○ |
| 48 | ○ | ○ | ○ | ○ |
| 49 | ○ | ○ | ○ | ○ |
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# SSES Amravati's Science College, Congress Nagar, Nagpur-12

## DEPARTMENT OF COMPUTER SCIENCE

### Certificate course (10 weeks)
### Certificate Course in Deep Learning
### Mark Sheet

**Session 2023-24**

| Sr. No. | Full Name of Student | Max. Marks: 80 (Theory) | Max Marks: 20 (Practical) | Total Marks 100 | Grade obtained |
|---|---|---|---|---|---|
| 1 | Achal Ashok Kale | 58 | 18 | 76 | A |
| 2 | Akanksha Rajesh Singh | 50 | 17 | 67 | B |
| 3 | Ashish SudhirWaikar | 48 | 15 | 63 | B |
| 4 | Ashwini Sunil Mulak | 44 | 15 | 59 | C |
| 5 | Chaitali Arvind Shripatre | 50 | 17 | 67 | B |
| 6 | DivyaniSureshraoChandore | 65 | 15 | 80 | A |
| 7 | HemlataSahebraoSawankar | 41 | 17 | 58 | C |
| 8 | Janhvi Ramesh Kumbhalkar | 50 | 17 | 67 | B |
| 9 | Kalyani Rajesh Kolarkar | 70 | 18 | 88 | A |
| 10 | Kanchan WasudeoGondhale | 44 | 18 | 62 | B |
| 11 | Leena SiddharthDupare | 50 | 19 | 69 | B |
| 12 | Manisha MahadeoraoIngole | 30 | 14 | 44 | C |
| 13 | PreetiAjaykumar Rai | 54 | 18 | 72 | B |
| 14 | Rashmi ChandrashekharAshtankar | 44 | 17 | 61 | B |
| 15 | Rasika Ganesh Taralekar | 34 | 16 | 50 | C |
| 16 | Ritika Mahesh Motwani | 72 | 20 | 92 | A+ |
| 17 | Riya Ajay Rai | 43 | 17 | 60 | B |
| 18 | Sakshi Prakash Manapure | 65 | 17 | 82 | A |
| 19 | SampadaRajendraNavghare | 49 | 18 | 67 | B |
| 20 | Samruddhi Sanjay Telang | 45 | 17 | 62 | B |
| 21 | SaumyaPrabhakarDakhole | 63 | 20 | 83 | A |
| 22 | SejalKrishnakantJakanwar | 60 | 20 | 80 | A |
| 23 | SejalRanjendraRaut | 60 | 20 | 80 | A |
| 24 | Shruti Suresh Dekate | 54 | 19 | 73 | B |
| 25 | Shweta Suresh Vaidya | 40 | 17 | 57 | C |
| 26 | SimranRavindrakadbe | 44 | 17 | 61 | B |
| 27 | Sparsh Vijay Gajbhiye | 45 | 18 | 63 | B |
| 28 | TriveniVasudevManigam | 60 | 18 | 78 | A |
| 29 | VidhiDhiraj Mishra | 49 | 18 | 67 | B |
| 30 | YashashreeSudhakarBobade | 51 | 19 | 70 | B |
| 31 | PrabhjotVikramjeet Arora | 75 | 20 | 95 | A+ |
| 32 | JatinTekam | 43 | 17 | 60 | B |
| 33 | SejalHadke | 36 | 16 | 52 | C |
| 34 | BhavikaRaut | 54 | 17 | 71 | B |
| 35 | prafulborkute | 53 | 18 | 71 | B |
| 36 | KhushiSanodiya | 62 | 17 | 79 | A |
| 37 | Manisha Lautre | 54 | 17 | 71 | B |
| 38 | AnkitaZalke | 60 | 16 | 76 | A |
| 39 | DivyaMendhe | 57 | 18 | 75 | A |
| 40 | Sana FirdousShahid Ahmad | 39 | 16 | 55 | C |

| | | | | | |
|---|---|---|---|---|---|
| 41 | Dhanashree Kulkarni | 44 | 16 | 60 | B |
| 42 | Mayuri M. Bisen | 55 | 18 | 73 | B |
| 43 | JanviDeshmukh | 51 | 18 | 69 | B |
| 44 | SakshiBabanraoPawar | 63 | 20 | 83 | A |
| 45 | Lina Sunil Datir | 70 | 20 | 90 | A+ |
| 46 | Sejal Nitin Waghe | 44 | 18 | 62 | B |
| 47 | Shweta RewalalYele | 53 | 18 | 71 | B |
| 48 | Harshal Vijay Masram | 54 | 18 | 72 | B |
| 49 | Srushti Anil Zade | 67 | 20 | 87 | A |
| 50 | BhushanBagde | 45 | 17 | 62 | B |
| 51 | Piyush Vinod Agre | 59 | 20 | 79 | A |
| 52 | Humera Salim Ahmed Khan | 47 | 17 | 64 | B |
| 53 | VaishnaviBhusari | 63 | 20 | 83 | A |
| 54 | PunamOmprakashGotmare | 46 | 16 | 62 | B |
| 55 | ChinmayBhake | 64 | 20 | 84 | A |
| 56 | YashashreeLangde | 54 | 18 | 72 | B |
| 57 | VedankitaMohod | 56 | 19 | 75 | A |
| 58 | RajsiKingri | 60 | 20 | 80 | A |
| 59 | Aachalchurhe | 57 | 20 | 77 | A |
| 60 | YewatiKinkar | 53 | 19 | 72 | B |

A+ Grade =>Maeks=90 and above, A Grade =>Marks=75 and <90

B Grade =>Marks=60 and <75, C Grade =>Marks=40 and <60, Fail Grade =>Marks<40

Dr.M.T Wanjari and Mr. A.A.Bodkhe

Course Coordinator

Assistant Professor

Department of Computer Science

S.B.E.S. Arts Science College,

Congress Nagar, Nagpur

Shri Shivaji Education Society Amravati's

# SCIENCE COLLEGE, CONGRESS NAGAR, NAGPUR

Accredited with CGPA of 3.51 at 'A+' Grade

A College with Potential for Excellence

## CERTIFICATE

Mr./Ku. *Achal Ashok Kale* is awarded with certificate on successful completion of the course entitled, Certificate course in *"Deep Learning"*.

Session 2023-24 under Add-on course conducted for 30 hours from 29/12/2023 to 06/04/2024 by Department of Computer Science, SSESA's, Science College, congress Nagar, Nagpur 440012.

He/She has passed the Examination with 'A' Grade.

| | | |
|---|---|---|
| **Dr. M. T. Wanjari** | **Mr. A. A. Bodkhe** | **Prof. M. P. Dhore** |
| Coordinator, Department of Computer Science | Coordinator, Department of Computer Science | Principal, Science College, Nagpur |

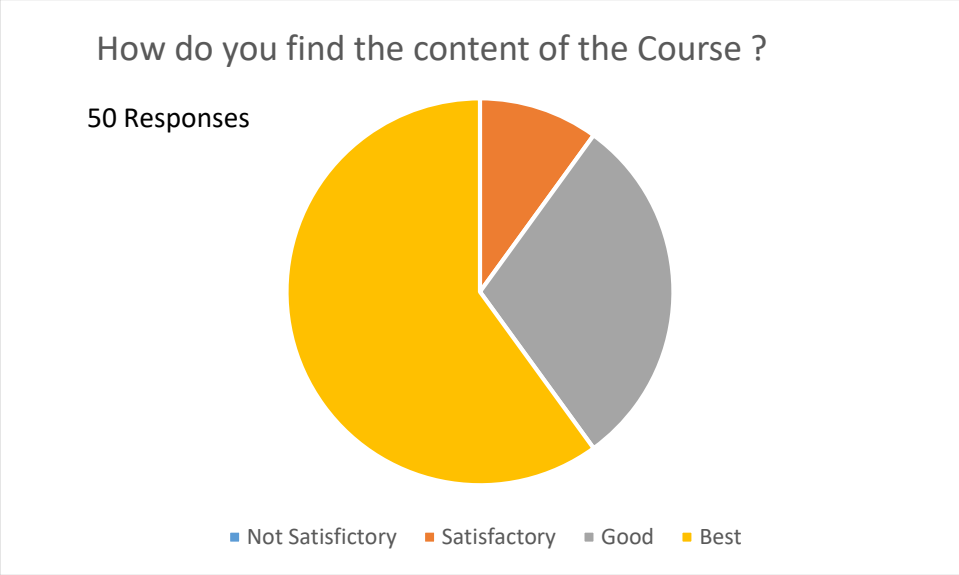
# Feedback Analysis

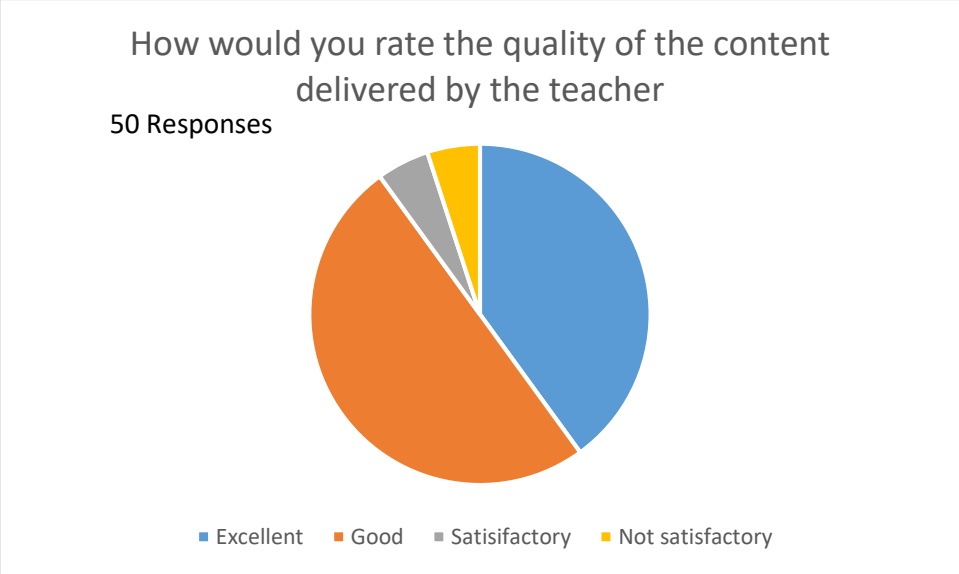
I) No of students registered and admitted for the workshop: 60
II) No of students submitted the feedback form: 50
III) Question wise Analysis of the Feedback:

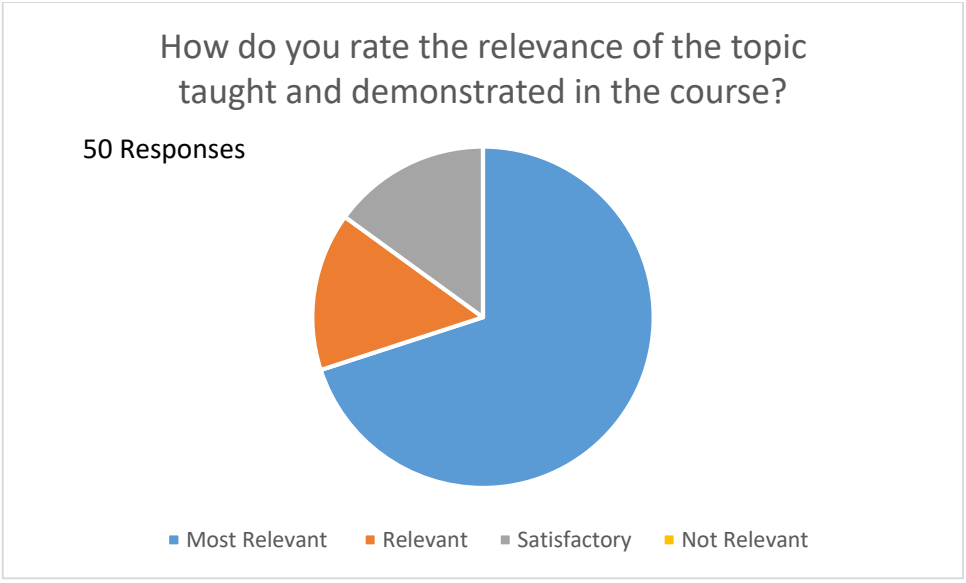
| Sr. No. | Question | Response in Percent(%) | | | |
|---|---|---|---|---|---|
| 1. | How do you find the content of the Course? | Best/Excellent | Good | Satisfactory | Not Satisfactory |
| | | 60% | 30% | 10% | 0.00% |
| 2. | How would you rate the quality of the content delivered by the teacher? | Excellent | Good | Satisfactory | Not Satisfactory |
| | | 40% | 50% | 5.00% | 5.00% |
| 3. | How do you rate the relevance of the topic taught and demonstrated in the course? | Most Relevant | Relevant | Satisfactory | Not Satisfactory |
| | | 70% | 15% | 15% | 0.00% |
| 4. | The content of the course were as per the syllabus | Excellent | Good | Satisfactory | Not Satisfactory |
| | | 60% | 25% | 15% | 00.00% |
| 5. | How relevant and helpful do you think the course would be in your personal as well as in your professional life? | Very Useful | Useful | Not Useful | -- |
| | | 80% | 15% | 5.00% | -- |
| 6. | Any Suggestions | No Suggestions:30%,Nothing:25%, Best Course 5.9% , Good 40%, Nice Course 10%, etc. | | | |

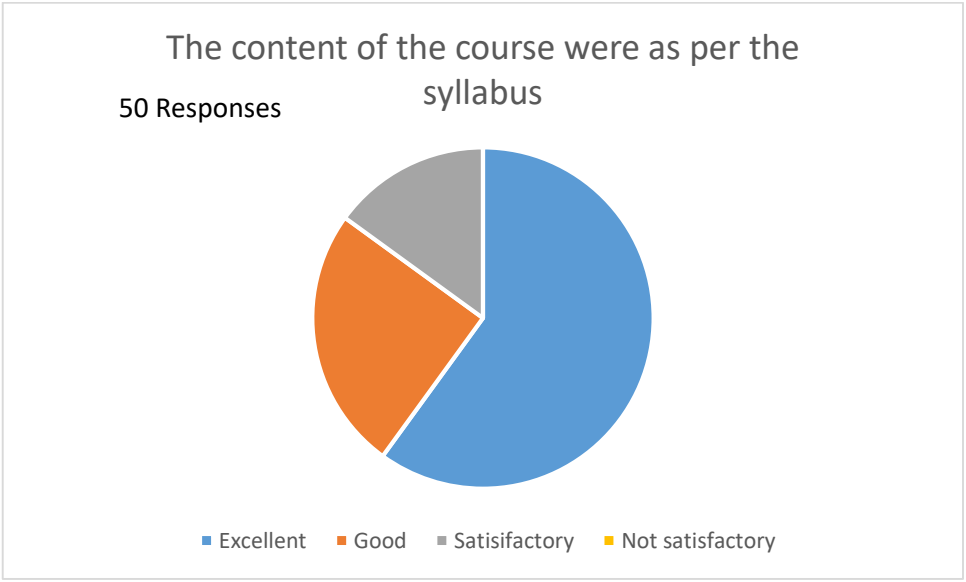
**Remark: The students commented that course will be useful in their personal and professional life. The department will keep on improving the overall quality of the course.**

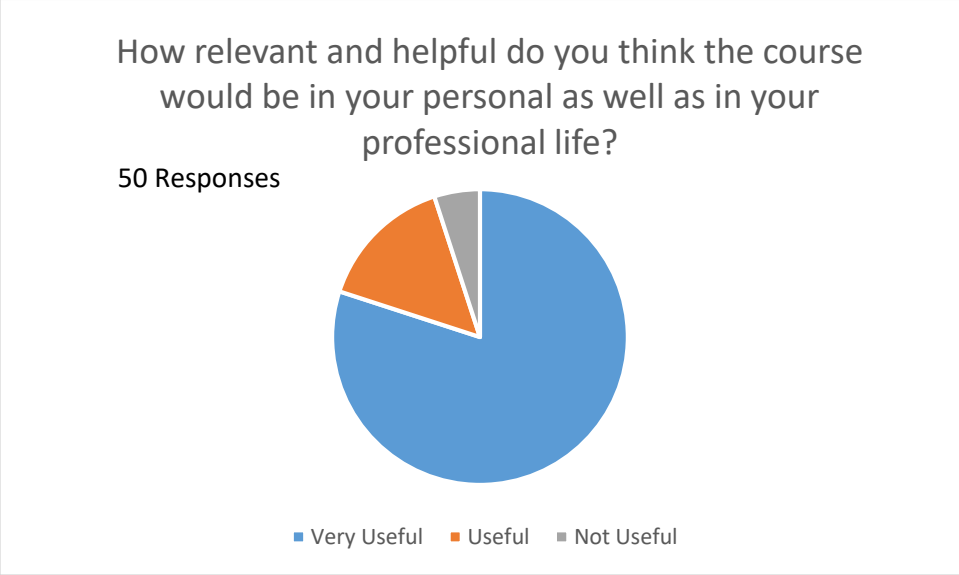
# Feedback Analysis

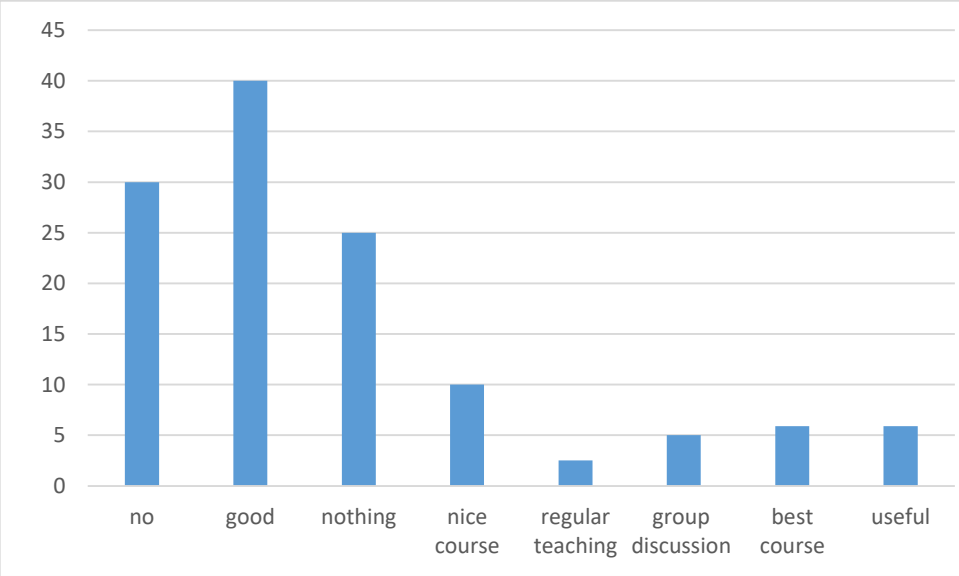



How do you rate the relevance of the topic taught and demonstrated in the course?
50 Responses
Most Relevant
Relevant
Satisfactory
Not Relevant


The content of the course were as per the syllabus
50 Responses
Excellent
Good
Satisifactory
Not satisfactory




Dr. M. P. Dhore
Principal
S. S. E. S. Amravati's
Science College, Nagpur.