

FACULTY DEVELOPMENT PROGRAM IN
“MACHINE LEARNING AND DEEP LEARNING”

2021-22

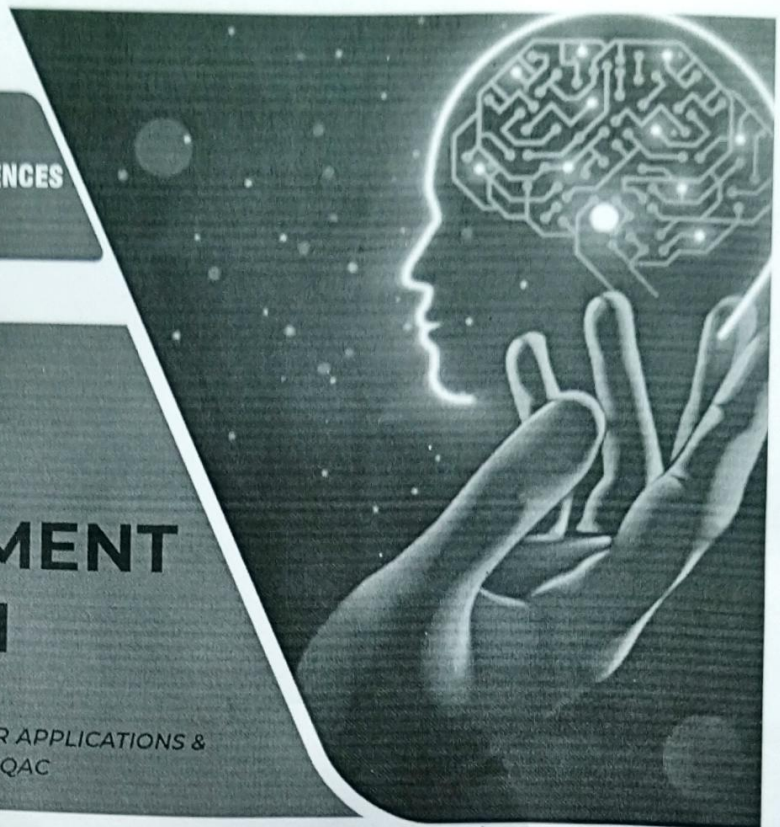
PG DEPARTMENT OF COMPUTER APPLICATIONS AND ARTIFICIAL INTELLIGENCE
SAINTGITS COLLEGE OF APPLIED SCIENCES



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KOTTAYAM, KERALA

5 Day FACULTY DEVELOPMENT PROGRAM

ORGANISED BY
**P.G DEPARTMENT OF COMPUTER APPLICATIONS &
 ARTIFICIAL INTELLIGENCE AND IQAC**



IN MACHINE LEARNING & DEEP LEARNING

FROM 30 MAY 2022 TO 3 JUNE 2022

Topics Included

Within 5 day period, 15 topics will be covered during the workshop

- Introduction to Machine Learning, Data Processing using Pandas, Feature Engineering & Pre-Processing, Regression Implementation using Numpy & SK Learn
- Classification-SVM,/KNN, Implementation with open datasets, Clustering Data & Image Clustering, Introduction to Artificial Neural Networks
- Classification and Regression using MLP, Essentials of Image Processing, Natural Language Processing for Text Analysis
- Image & Text Classification using Machine Learning, Introduction to Tensorflow DNN Implementation, Convolutional Neural Networks
- Transfer Learning- Image Classification, Auto Encoders- Image Segmentation, Recurrent Neural Networks and its Variants - Time Series Prediction



Only Limited Seats Available!

Register fast and secure your seat!



Eligibility

The participants must know basics about Python Programming Language.



Time

From 9.30 AM to 4 PM

About The Resource Persons



Dr. Shaleesh Sivan
 Assistant Professor & Research Guide
 Department of Computer Science
 CUSAT



Mr. Jafseer KT
 Research Scholar
 Department of Computer Science
 CUSAT



Mr. Santhosh Kumar K P
 Assistant Professor
 Department of Computer Science
 S.H. College, Thevara

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VENUE
 SCAS Campus


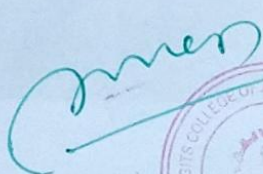
REPORT

DAY I

The faculty development program started on 30th May 2022 at 9:30 am with an Inauguration function. All faculty members of P.G Department of Computer Applications & AI attended the program. The session started with welcoming the chief guest Dr. Shailesh Shivan, Assistant Professor & Research Guide in Department of Computer Sciences, CUSAT University and other dignitaries Dr. K.K John - Principal, Prof. M.C Joseph – Associate Director and Asst. Prof. Ambily Merlin Kuruvilla – HOD, P.G Department of Computer Applications & AI, SCAS.

The program progressed with the inaugural lecture at 10:30 am by Dr. Shailesh Shivan in which he mainly focused on the Introduction to Machine Learning, data Processing using Pandas, Feature Engineering & Pre- Processing, Regression Implementation using Numpy & SK Learn.

All the sessions handled by the speakers was highly appreciated by the audience. During the session breaks, Speaker and the audience discussed and had a meaty interaction about the tools and techniques handled during the workshop. Session ends at 4:00 PM.



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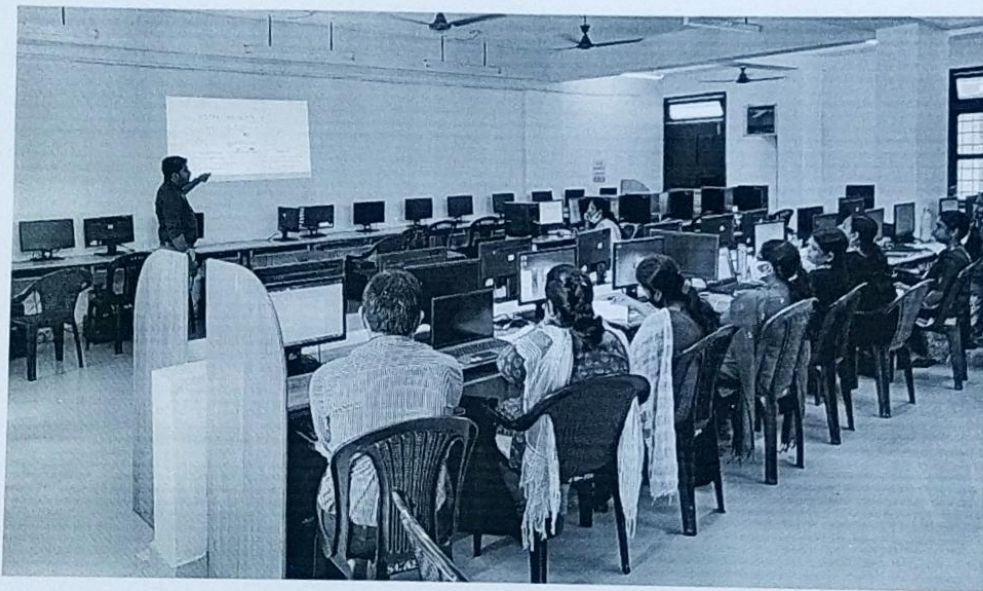
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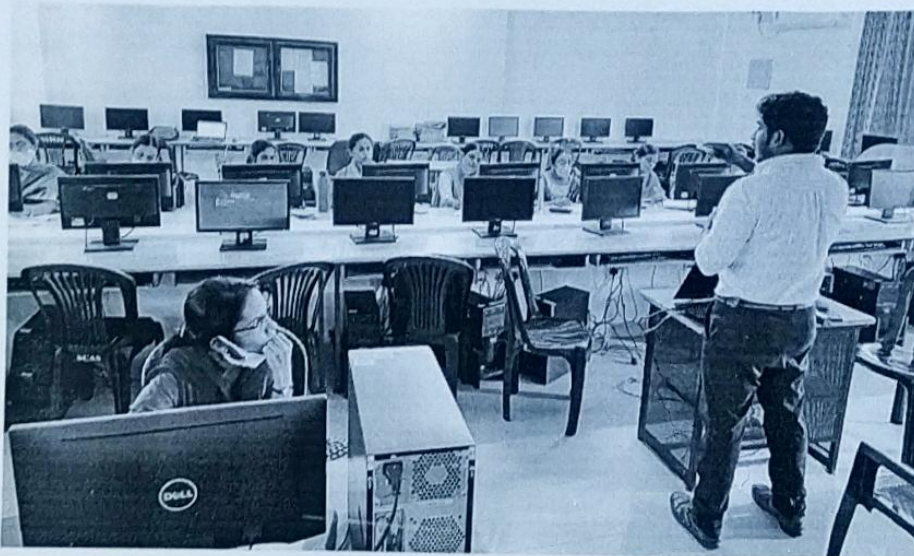


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DAY 2

On the second day of the FDP program, the topics that were covered in the forenoon session included digital image processing and computer vision. The session started with applications of computer vision and image processing followed by a discussion on concepts in digital image processing like image enhancement, image histogram, watermarking, histogram of gradients etc. The session also covered different packages used for image processing and computer vision

Afternoon session included the concepts of NLP like stemming, lemmatizing, name entity recognition, tokenizing etc. programs related to digital image processing, computer vision and NLP were also discussed.



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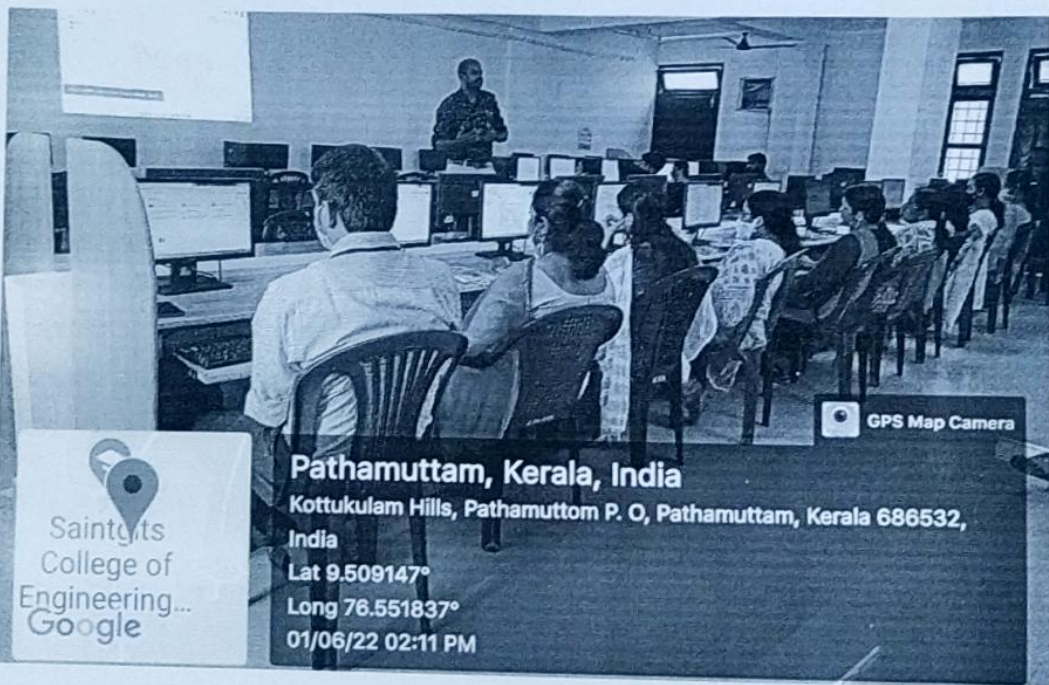


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DAY 3

On the third day, the resource person discussed about Classification and Regression using MLP in which the different types of Classification Algorithms like Logistic Regression, Naive Bayes, K-Nearest Neighbors, Decision Tree, Support Vector Machines. Clustering algorithms like K-means clustering algorithm, DBSCAN clustering algorithm were detailed during the forenoon session.

The afternoon session included the concepts of essential image processing Techniques and Natural Language Processing for Text Analysis along with confusion matrix and various Interpretation of Performance Measures like Precision, Recall, F1 Score, Accuracy.



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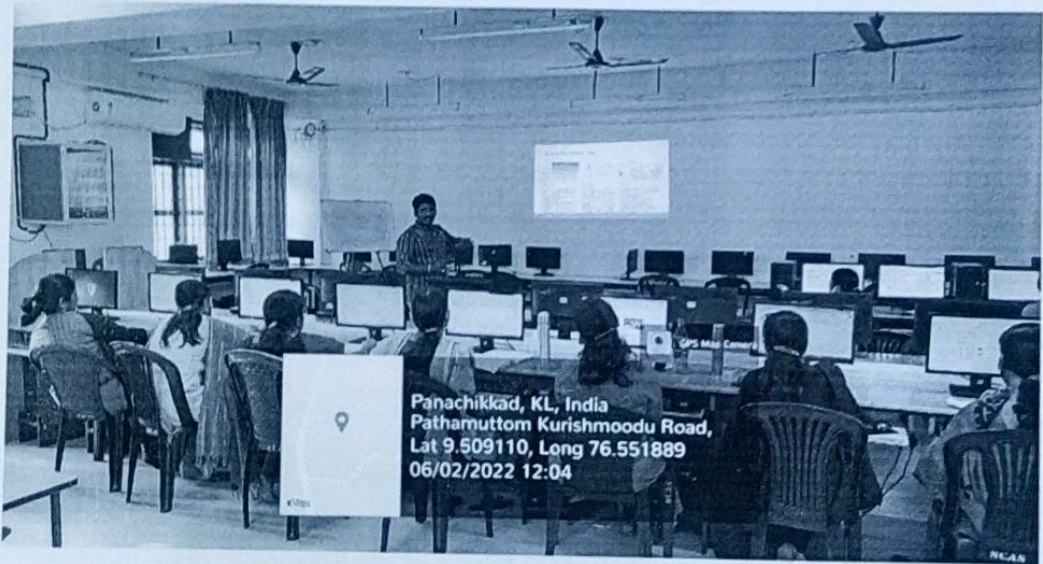
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DAY4

Topics covered in the forenoon session were basics of soft computing, perceptron model, perceptron learning algorithm, different activation function, loss function, Multilayer perceptron. Use of backpropagation algorithm for weight learning, different Deep Learning technologies, architecture of tensorflow etc. The session also included a hands-on tutorial on using perceptron to implement OR and AND gates.

In the afternoon session, a detailed study on CNN architecture, functional model implementation, transfer learning, and its hands-on sessions was conducted.



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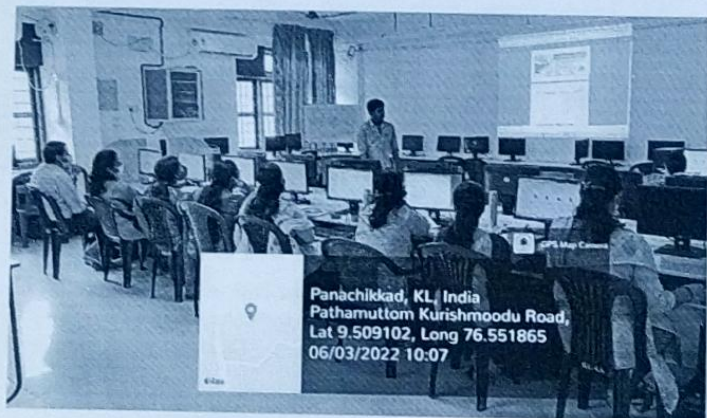
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The final day started off with a very informative lecture by Dr. Shailesh Shivan on the topic "Autoencoder". The next talk was given by him on the topic "Recurrent Network". After the lunch break, Dr. Shailesh Sivan gave a hands-on-session on "How to do Machine Learning projects". This led to the end of the series of lectures in the five days program.

The FDP was concluded by the valedictory function conducted on Day 5 afternoon 3.00 pm, at Seminar Hall, Saintgits College of Applied Sciences. The Valedictory function was hosted by Mr. Arun Padmanabhan, Asst. Prof., PG Dept. of Computer Applications & AI. The session started with a silent prayer followed by welcome speech of Mrs. Ashna Merin Philip, Asst. Prof., PG Dept. of Computer Applications & AI. She gave a warm welcome to the gatherings and to the dignitaries Mr. K. K. John, Principal Saintgits College of Applied Sciences, Professor M. C. Joseph, Associate Director, Saintgits College of Applied Sciences, Ms. Ambily Merlin Kuruvilla, HOD PG Dept. of Computer Applications & AI and resource persons, Dr. Shailesh Sivan, Mr. Santhosh Kumar K. P. and Mr. Jafseer K.T. Then Felicitation speech was delivered by Prof. M. C. Joseph, Asso. Director. The valedictory function ended by the Vote of Thanks by Mrs. Sarin Abraham, Asst. Prof., PG Dept. of Computer Applications & AI.



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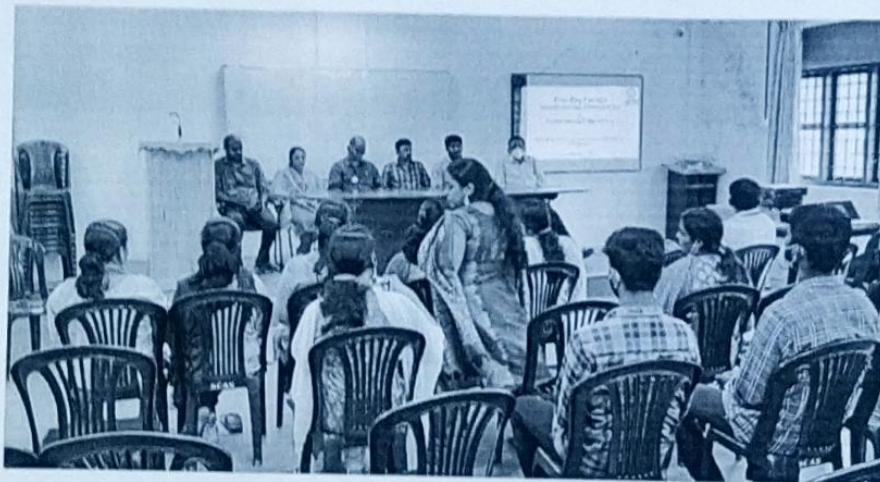
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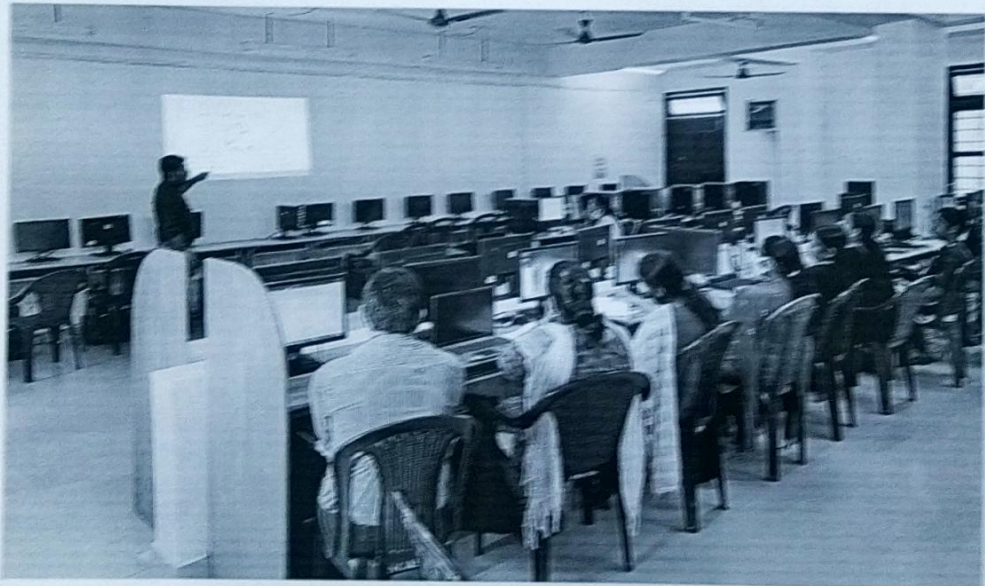
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Day I



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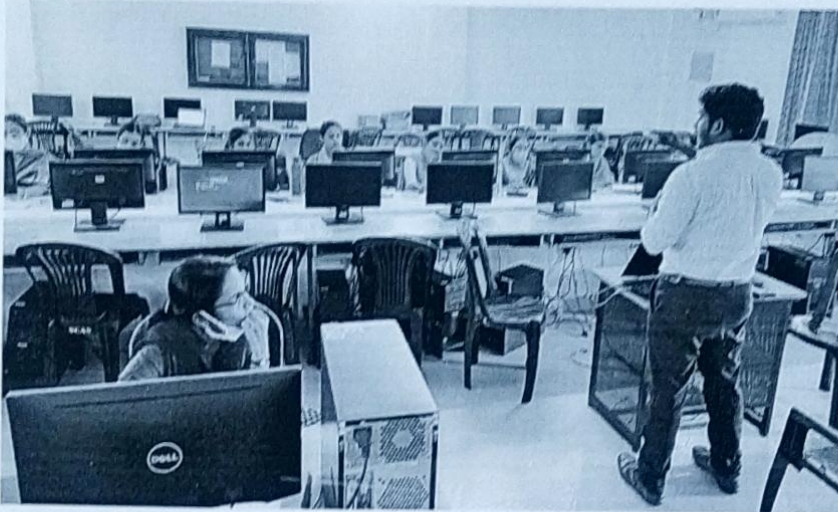
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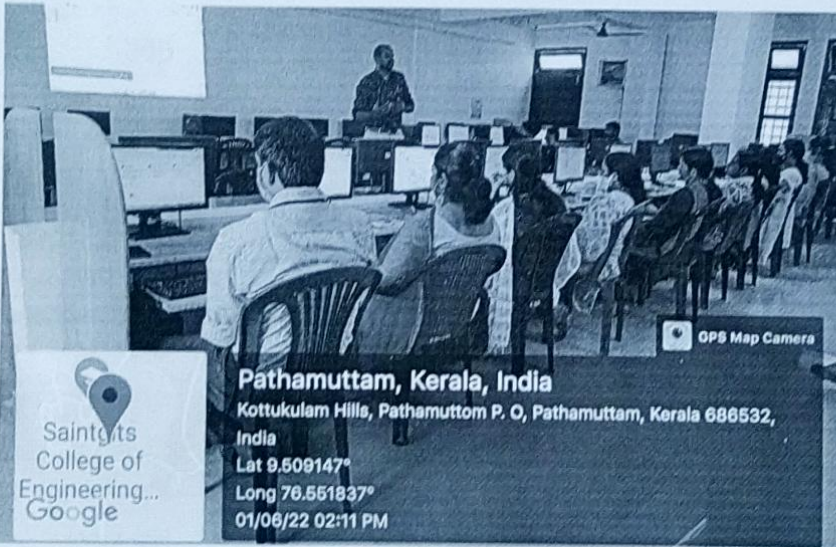
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Day 2



Day 3



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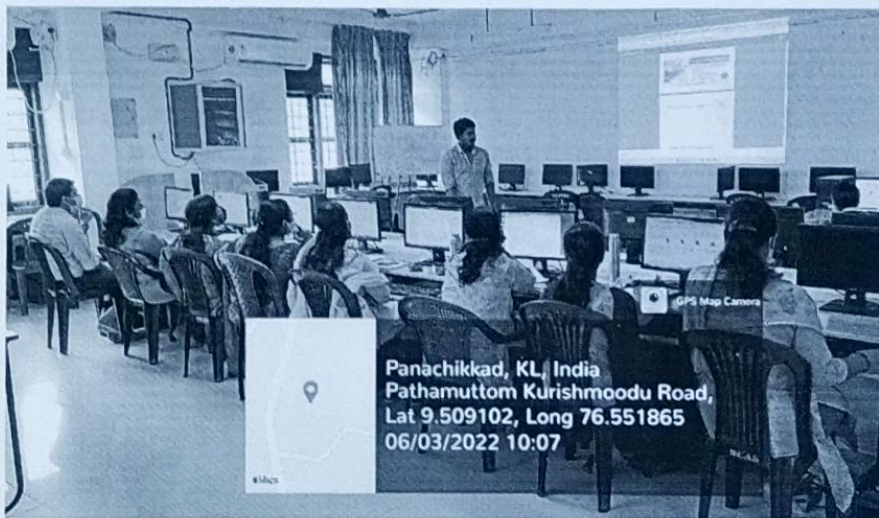
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Day 4



Day 5



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