



# **ARTIFICIAL INTELLIGENCE**

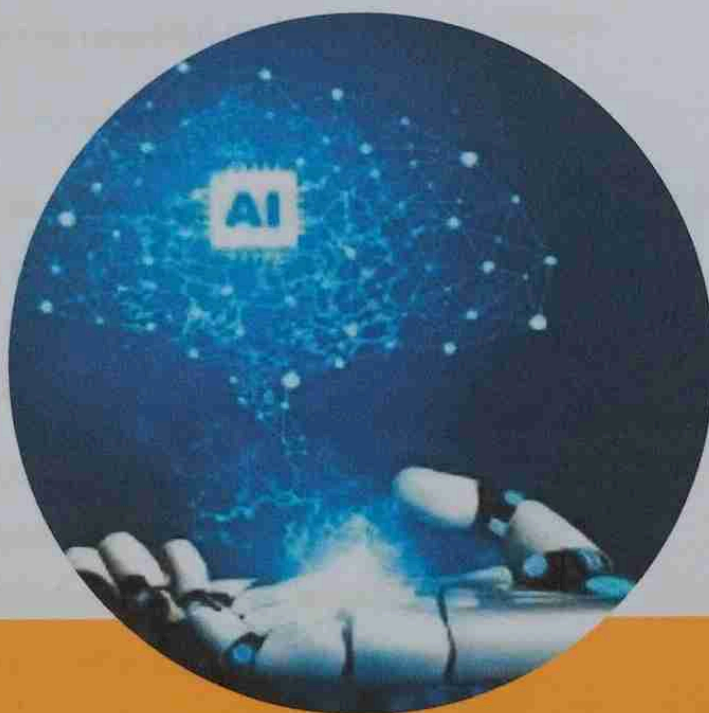
**PHY.A.22.2**



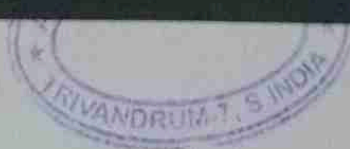


**ALL SAINTS' COLLEGE**  
THIRUVANANTHAPURAM

Introduction to  
**ARTIFICIAL INTELLIGENCE**



**CONDUCTED BY**  
**DEPARTMENT OF PHYSICS**  
**2022-23**



*Keshavi*  
PRINCIPAL  
All Saint's College  
Thiruvananthapuram

# About the Course

**Eligibility: UG/PG ongoing students**

**Course period: 30 hrs**

## Features

The course introduces students to new avenues of information technology, focusing on the history and applications of AI in human lives. It also covers the ideas of deep learning and machine learning, with the objective of helping students to understand the basic artificial neural networks and the required mathematical functions.

## Course Content

Topics include search, reasoning, planning, natural language processing, computer vision, deep learning and machine learning.

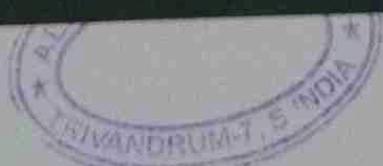
## Course Objectives

Upon successful completion of this course, students will be able to:

- Understand the basic concepts of AI
- Apply AI techniques to solve problems
- Evaluate the effectiveness of AI algorithms

## For more details contact

*Course Coordinator / HoD Physics,  
All Saints' College, Thiruvananthapuram  
Or Mail to [physicsallsaints@gmail.com](mailto:physicsallsaints@gmail.com)*



*Reshmi*  
PRINCIPAL  
All Saint's College  
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All Saints' College  
TRIVANDRUM

Department of Physics

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## Fundamentals of AI (PHY.A.22.2)

Course Duration 30hrs

Teacher in Charge - Dr. Aiswarya R

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### Course Description

This course enables the students to understand the history of AI. The course also throws light to the applications of AI in daily life as well as scientific research. It familiarizes the students with the basic structures of artificial neural networks and related mathematical models, and further with the significance of deep learning as well as machine learning domains.

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### Course Objectives

- Identify problems where AI techniques are applicable
- Apply selected basic AI techniques
- Judge applicability of more advanced techniques

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### Course Outcomes

After completing this course students will be able to:

- pursue the innovative and scientifically developed realms of AI.
- Participate in the design of systems that act intelligently and learn from experience.
- Outline the preliminary concepts related to artificial intelligence and neural networks.



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## Syllabus

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### Module 1-Introduction to AI (12 hrs)

Introduction to AI, History of AI, Artificial Intelligence, Machine Learning, Learning methods, Deep Learning, Turing test, Data Structures & Algorithms, Software Engineering, Computer Networks

### Module 2- Neural Networks (10 hours)

Artificial neural networks, Biological Neuron model, Artificial neuron model, Perceptron, Neural architecture and its applications

### Module 3-Application of AI (8 hrs)

Single layer feed forward network, Multilayer feed forward network, Game Theory & AI, Digital Image Processing, AI in daily life

### References

1. Artificial intelligence-3rd Edition- By Kevin Knight , Elaine Rich , Shivashankar B. Nair
2. <http://introtodeeplearning.com/>

### Evaluation

Exam Based Assessment : 50

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**Department of Physics**  
**All Saints' College, Thiruvananthapuram**

*'Fundamentals of AI' (Phy. A.22.2)*

**Course Summary**

The Add on course on '*Fundamentals of AI*' is organized and conducted by the Department of Physics, All Saints' College, Thiruvananthapuram. This course provided a platform for the students to get a basic introduction to the building blocks and components of artificial intelligence, learning about concepts like algorithms, machine learning, and neural networks. The main objective of the course was to Identify problems where AI techniques are applicable, apply selected basic AI techniques and Judge applicability of more advanced techniques. The course has a flexible structure which allows the students to learn effectively along with their regular studies. Dr. Aiswarya R coordinated the course. The duration of the course was 30 hours (from 20/2/2023 to 12/4/ 2023) . This academic year 40 students joined for the course. All the students attended the exit exam which was held on 27-04-2023, and certificate was also issued to them on the successful completion of the course. The course outcome has been achieved by all the students. After completing the course students were able to pursue the innovative and scientifically developed realms of AI, Participate in the design of systems and Outline the preliminary concepts related to AI and neural networks.

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All Saints' College  
Trivandrum

## Department of Physics

### Course Report

#### Add on course on

#### 'Fundamentals of AI (Phy. A.22.2)

Interactive classes of the 30 hours add on course on " Introduction to AI" was conducted by Dr Aiswarya R, Assistant Professor, Department of Physics, All Saints' College from 20/2/2023 to 12/4/ 2023. The course introduced students to new avenues of information technology. The learning was focused on the history and applications of AI in human lives. The course also covered the ideas of deep learning and machine learning. Understanding the basic artificial neural networks and the required mathematical functions was one among the objectives of this course. The students were attentive and they were actively participating in discussions throughout the course. Exam based evaluation was conducted at the end of the course with considerable success. Certificate were issued to the students on successful completion of the course,



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# ALL SAINTS' COLLEGE TRIVANDRUM




## CERTIFICATE OF COMPLETION


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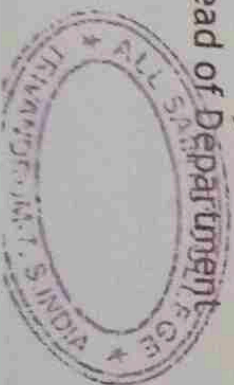
MAYA S KUMAR, II BSc Physics

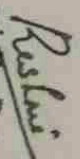
For completing the 30 hour add on course on "**Fundamentals of AI**"

from 20/2/23 to 12/4/23 organized by the Department of Physics during the year 2022-23

  
Dr Aiswarya R.  
Course Co-ordinator

  
Dr. Anjana P.S.  
Head of Department



  
Dr. Reshmi R. Prasad  
Principal

Principal  
All Saints' College  
Thiruvananthapuram

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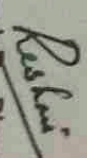
ALISHA MARGARET SMITH, II BSc Physics

For completing the 30 hour add on course on “*Fundamentals of AI*”

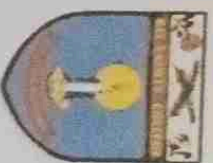
from 20/2/23 to 12/4/23 organized by the Department of Physics during the year 2022-23

  
Dr. Aiswarya R.  
Course Co-ordinator

  
Dr. Anjana P.S.  
Head of Department

  
Dr. Reshmi R. Prasad  
Principal

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THIS IS AWARDED TO


EVITA MARY PODUTHAS, II BSc Physics

For completing the 30 hour add on course on **"Fundamentals of AI"**

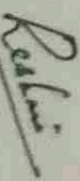
from 20/2/23 to 12/4/23 organized by the Department of Physics during the year 2022-23

  
Dr. Aiswarya R.

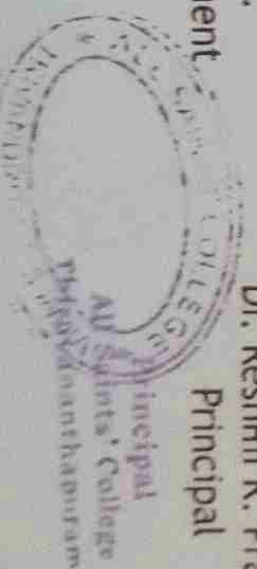
Course Co-ordinator

  
Dr. Anjana P.S.

Head of Department

  
Dr. Reshmi R. Prasad

Principal



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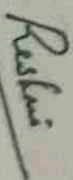
GADHA S GOPAN, I MSc Physics

For completing the 30 hour add on course on "Fundamentals of AI"

from 20/2/23 to 12/4/23 organized by the Department of Physics during the year 2022-23

  
Dr Alswarya R.  
Course Co-ordinator

  
Dr. Anjana P.S.  
Head of Department

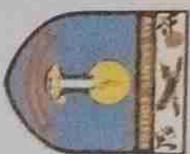
  
Dr. Reshmi R. Prasad  
Principal



Principal  
All Saints' College  
Trivandrum



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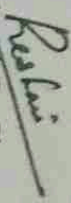
THIS IS AWARDED TO

ANAMIKA A, I MSc Physics

For completing the 30 hour add on course on "*Fundamentals of AI*"  
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Dr Aiswarya R.  
Course Co-ordinator

  
Dr. Anjana P.S.  
Head of Department

  
Dr. Reshmi R. Prasad  
Principal

