



KRISHNA CHAITANYA DEGREE COLLEGE
(AUTONOMOUS)
NELLORE



(Accredited by NAAC, Recognized by UGC Under 2(f), Affiliated to VS University, Nellore)

MINUTES OF THE BOARD OF STUDIES (BoS) MEETING FOR
COMPUTER SCIENCE (UG) PROGRAMS

The first meeting of the Board of Studies (BoS) in Computer Science (UG) was held on 12th November 2025 at 3:15 PM at Board Room, Krishna Chaitanya Degree College (A), Nellore, under the Chairperson of the BoS in Computer Science, for preparation of the Course Structure, Syllabus and Model Question Papers of 4-year UG Honors Major Programs and Skill Enhancement Course for the Academic Year 2025-26.

The following members were present in the meeting.

1. Dr. A. Ravi Prasad – Chairman.
2. Prof. K. Vijaya Laskhmi – Member (University Nominee).
3. Dr. M. Sreedevi – Member (Subject Expert from outside the parent university & nominated by Academic Council).
4. Prof. P. Penchalaiah – Member (Subject Expert from outside the parent university & nominated by Academic Council).
5. Sri. C.V.Pavan Kumar – Member (Faculty of the Department).
6. Sri. Y. Penchala Narasimhulu – Member (Faculty of the Department).
7. Sri. T.Venkatapathi – Member (Faculty of the Department).
8. Sri. Ch.Dinesh Kumar – Member (Industry Representative).
9. Smt.M. Sarika Jain – Member (Alumni).

Members Absent: - Nil -

At the opening of the BoS meeting, Sri C.V.Pavan Kumar, Member of BoS welcomed and introduced the Chairman and other members of BoS. The Chairman of BoS requested for the approval of Course Structure, Syllabus and Model Question Papers for the Academic Year 2025-26.

Agenda

1. To review and to approve the I and II semesters of the R25 Course structure and syllabus for the programs:
 - i. B.Sc. (Computer Science)
 - ii. B.Sc. (Artificial Intelligence)
 - iii. BCA (Computer Applications)
 - iv. BCA (Artificial Intelligence)
 - v. BCA (Artificial Intelligence & Data Science)
 - vi. B.Com. (Computer Applications)
2. To review and to approve the I and II semesters of the R25 Course structure and syllabus for Skill Enhancement Course (Common to all Programs)
3. Approval of Model Question Papers.
4. Approval of the Examination Panel Members
5. Any other proposals with the permission of the Chair.

Resolutions

Item No. 1

1. After careful review and discussion, it is resolved to approve the course structure and syllabus for the UG Honours **B.Sc. (Computer Science)** Major Program for I and II Semesters as follows.
 - a. Semester-I Course 1: "Computer Fundamentals and Office Automation" -- Approved without modifications
 - b. Semester-I Course 2: "Problem Solving using C" -- Approved without modifications
 - c. Semester-II Course 3: "Data Structures using C" -- Approved without modifications
 - d. In Semester-II Course 4: "Database Management System",
 - Removed "Procedures and Functions" from Unit 5.
2. After careful review and discussion, it is resolved to approve the course structure and syllabus for the UG Honours **B.Sc. (Artificial Intelligence)** Major Program for I and II Semesters as follows.
 - a. Semester-I Course 1: "Computer Fundamentals and Office Automation" -- Approved without modifications
 - b. Semester-I Course 2: "Problem Solving using C" -- Approved without modifications
 - c. Semester-II Course 3: "Data Structures using C" -- Approved without modifications
 - d. In Semester-II Course 4: "Database Management System",
 - Removed "Procedures and Functions" from Unit 5.
3. After careful review and discussion, it is resolved to approve the course structure and syllabus for the UG Honours **B.C.A. (Computer Applications)** Major Program for I and II Semesters as follows.
 - a. Semester-I Course 1: "Computer Fundamentals and Office Automation" -- Approved without modifications
 - b. Semester-II Course 2: "Problem Solving using C" -- Approved without modifications
 - c. In Semester-II Course 4: "Database Management System" -- Removed "Procedures and Functions" from Unit 5.
4. After careful review and discussion, it is resolved to approve the course structure and syllabus for the UG Honours **B.C.A. (Artificial Intelligence)** Major Program for I and II Semesters as follows.
 - a. Semester-I Course 1: "Computer Fundamentals and Office Automation" -- Approved without modifications
 - b. Semester-II Course 2: "Problem Solving using C" -- Approved without modifications
 - c. In Semester-II Course 4: "Database Management System", Removed "Procedures and Functions" from Unit 5.
5. After careful review and discussion, it is resolved to approve the course structure and syllabus for the UG Honours **B.C.A. (Artificial Intelligence and Data Science)** Major Program for I and II Semesters as follows.
 - a. Semester-I Course 1: "Computer Fundamentals and Office Automation" -- Approved without modifications
 - b. Semester-II Course 2: "Problem Solving using C" -- Approved without modifications
 - c. In Semester-II Course 4: "Database Management System", Removed "Procedures and Functions" from Unit 5.

6. After careful review and discussion, it is resolved to approve the course structure and syllabus for the UG Honours **B.Com. (Computer Applications)** Major Program for I and II Semesters as follows.
 - a. Semester-I Course 2: "Fundamentals of Information Technology and Office Automation" – Approved without modifications
 - b. Semester-II Course 4: "E-Commerce and Web Application Development" – Approved without modifications

Item No. 2

1. After careful review and discussion, it is resolved to approve the course structure and syllabus for Skill Enhancement Course which is common for all Programs for I and II Semesters as follows
 - a. Semester-I Course 1: "AI Fundamentals" – Approved without modifications
 - b. Semester-II Course 2: "Applications of Artificial Intelligence" – Approved without modifications

Item No. 3

1. The board discussed and prepared the Model Question Papers (for I and II Semesters) for Major programs:
 - i. B.Sc. (Computer Science)
 - ii. B.Sc. (Artificial Intelligence)
 - iii. BCA (Computer Applications)
 - iv. BCA (Artificial Intelligence)
 - v. BCA (Artificial Intelligence & Data Science)
 - vi. B.Com. (Computer Applications)
2. The board discussed and prepared the Model Question Papers (for I and II Semesters) for Skill Enhancement Course.

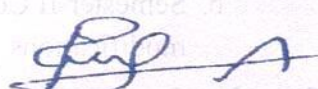
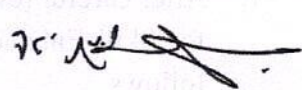
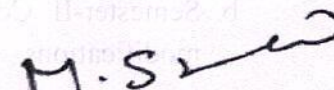
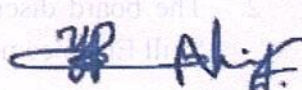
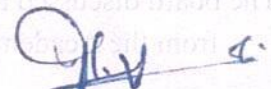
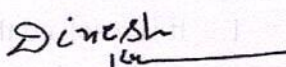
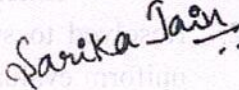
Item No. 4

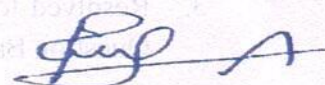
The board discussed and prepared a list of Examination Panel Members for Computer Science (UG) from the Academic Year 2025-26.

Item No. 5

1. It is resolved the following with regard to the distribution of internal and external marks
 - Internal Assessment: 30 marks
 - External Examination (End-Semester University Examination): 70 marks
2. Resolved to suggest that the scheme of valuation should be given by the paper setter for uniform evaluation. If the paper setter fails to supply the scheme of valuation, the chairman of BoS / BoS Member should take the responsibility to prepare the scheme of valuation for uniform evaluation.
3. Resolved to request the Dean (Academics) to think about possibility for the preparation of Question Bank for the benefit of slow learners.

The following members of the Board of Studies in Computer Science (UG) were attended the meeting.

SNo	Name & Designation	Chairperson / Member	Mode of Attendance	Signature
1	Dr.A.Ravi Prasad, Lecturer, Govt. Degree College for Men, Srikalahasthi.	Chairman	Online	
2	Prof.K.Vijaya Lakshmi, Professor, Dept. of Computer Science, Sri Venkateswara University, Tirupati.	Member	Online	
3	Dr.M.Sreedevi, Associate Professor, Dept. of Computer Science, Sri Venkateswara University, Tirupati.	Member	Online	
4	Prof.P.Penchalaiah, Professor & Dean(Academics), Dept. of CSE, Narayana Engineering College, Nellore	Member	Online	
5	Sri.C.V.Pavan Kumar, Dept. of Computer Science, Krishna Chaitanya Degree College, Nellore	Member	Offline	
6	Sri.Y.Penchala Narasimhulu, Dept. of Computer Science, Krishna Chaitanya Degree College, Nellore	Member	Offline	
7	Sri.T.Venkatapathi, Dept. of Computer Science, Krishna Chaitanya Degree College, Nellore	Member	Offline	
8	Sri.Ch.Dinesh Kumar, Founder, Billion Bright Software Solutions, Nellore	Member	Online	
9	Smt.M.Sarika Jain, Assistant Professor, Dept. of Cyber Forensics, Madras University, Chennai.	Member	Online	



Chairman

BoS - Computer Science (UG)



Krishna Chaitanya Degree College (Autonomous)
(Affiliated to V.S.University, Nellore)
Nellore

**Syllabus for Introduction to Artificial Intelligence in consonance with
Curriculum framework w.e.f. AY 2025-26**

COURSE STRUCTURE (for Semester I & II)

Year	Semester	Course	Title of the Course	No. of Hrs /Week	No. of Credits	Max. Marks Internal Assessment	Max. Marks University Exam	Total Marks
I	I	1	AI Fundamentals	4	4	30	70	100
			AI Fundamentals – Practice Session	2	0	0	0	0
	II	2	Applications of Artificial Intelligence	3	4	30	70	100
			Applications of Artificial Intelligence - Practice Session	2	0	0	0	0

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SEMESTER-I

COURSE 1: AI FUNDAMENTALS

Theory

Credits: 4

4 hrs/week

Learning Objectives:

1. Understand the history and evolution of Artificial Intelligence and Identify major subfields of AI.
2. Investigate the role of AI in various industries like healthcare, agriculture, and education.
3. Examine concepts like bias, fairness, transparency, and accountability in AI systems.
4. Explore the integration of AI in scientific research and discuss future directions and evolving trends in AI.
5. Learn how prompt engineering is used in various sectors like education and content creation.

Course Outcomes:

Students will be able to

1. Describe the different subfields and their roles in AI applications.
2. Analyze the benefits and limitations of AI in diverse domains.
3. Evaluate AI systems in terms of inclusivity, privacy, and robustness.
4. Describe Generative AI and emerging technologies like ChatGPT.
5. Apply prompt engineering concepts to various real-world use cases.

UNIT-1

Introduction to AI: History & Evolution of AI, Definition of AI, hierarchy of AI, features of AI, Challenges in AI.

Components of AI: reasoning, Learning, perception, Strong AI versus Weak AI.

UNIT-II

Types of AI: Narrow intelligence, general intelligence, super intelligence.

Applications of AI in Real Life: Healthcare, Finance, E-commerce, Smart Home and IoT, Education, Transportation and logistics, Virtual Assistants, image Recognition, Speech recognition.

UNIT-III

Knowledge Representation: Approaches of Knowledge representation, Forward versus Backward Reasoning, Procedural and Declarative Knowledge, Logical Programming, Semantic Network and Ontologies.

UNIT-IV

Introduction to Machine Learning: What is ML, Types of ML: Supervised learning, Unsupervised Learning, Reinforcement Learning, Applications of ML

UNIT-V

Introduction to NLP: What is NLP, Fundamentals of human language processing, Applications of NLP, Processing of NLP, Types of NLP: text classification, Information retrieval, Information Extraction.

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Text Books:

1. AI for Everyone: A Beginner's Handbook for Artificial Intelligence (AI) by Saptarsi Goswami, Amit Kumar Das, Amlan Chakrabarti
2. Prompt Engineering for Beginners: by Kapila Arora, Geetu Garg, Gaurav Arora.

References:

1. Let's Learn Artificial Intelligence: Base Module, Niti Ayog, Atal Innovation Mission.
2. Prompt Engineering for Generative AI: Future-proof inputs for Reliable AI-outputs by James Phoenix & Mike Taylor.
3. Generative AI [Tutorial: https://www.w3schools.com/gen_ai/](https://www.w3schools.com/gen_ai/)
4. Generative AI 360°: Practical Guide to ChatGPT, Midjourney & AI Tools to Boost Productivity & Creativity , For Professionals, Marketers & Entrepreneurs by Hitesh Motwani , ZebraLearn, 2025.
5. Generative AI: Prompt Engineering Basics:
6. Learn Generative AI Prompt Engineering for everyone.
<https://www.coursera.org/learn/generative-ai-prompt-engineering-for-everyone?action=enroll>
7. Free Artificial Intelligence (AI) Tutorial - Hands-On Prompt Engineering for AI Beginners & Business User | Udemy, <https://www.udemy.com/course/prompt-engineering-for-ai-beginners-business-users>

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COURSE 1: AI FUNDAMENTALS

2 hrs/week

- Are the responses different?

 M. S. Rao
  J. V. Srinivas
  Sarika Jain
  Dinesh
  P. V. Srinivas
  H. N. Srinivas

- Is one version more positive or negative?
- Does the model express bias or hesitate?
- Should AI make such predictions?
- How do developers prevent this?

8. Exploring Text Generation and Summarization with Google AI Studio

Generate Creative Content

“Write a short story (150 words) about a robot who wants to become a chef.”

- Submit and read the AI-generated story.
- Discuss how detailed and creative the output is.

Summarize a Paragraph Prompt:

Summarize the following paragraph in 3 sentences:

“Artificial Intelligence is a branch of computer science that aims to create intelligent machines that can mimic human thinking. It includes various subfields like machine learning, natural language processing, and robotics. AI is widely used in industries such as healthcare, finance, and transportation to improve efficiency and decision-making.”

- Submit and review the summary.
- Evaluate how well AI extracts key points.

Refine Your Prompt

Try changing the summary prompt to:

“Summarize the paragraph above in simple language for 10-year-olds.”

- Compare this output to the previous one.
- Note how prompt wording changes results.

9. AI for Creative Writing

Prompt:

“Write a short motivational story for 10-year-old students in under 150 words.”

10. Generate **Slides**: Tool: SlidesGPT/Other Free AI tool

Prompt:

“Create a 5-slide presentation on ‘AI in Smart Farming’.”

11. YouTube Thumbnails / Branding: Tool: Canva + Magic Media AI Design a thumbnail using Canva’s AI tools with a prompt like:

“Design a YouTube thumbnail for a video titled ‘Top 5 AI Tools for Students’.”

[Handwritten signatures and names at the bottom of the page: Gul A, M.S., J.C. V., Anurag, Sarika Jain, Dinesh, P., J.V., and A.K.]

SEMESTER – I
COURSE 1: AI FUNDAMENTALS
Model Question Paper

Time: 3 hours

Max. Marks: 70

SECTION - A

Answer any FIVE of the following questions.
(Marks: 5x4 marks = 20 marks)

1. What are challenges of AI?
2. What are various features of AI?
3. Write about weak Intelligence in AI.
4. Write about Healthcare and E-commerce in AI.
5. Write about Forward versus Backward Reasoning.
6. Describe procedural and declarative knowledge.
7. What is ML?
8. Describe Reinforcement Learning.
9. What is NLP?
10. Write the fundamentals of human language processing.

SECTION - B

Answer any FIVE of the following questions.
(Marks: 5x10 marks = 50 marks)

11. Write the History and Evolution of AI.
12. Define AI. Write the Components of AI.
13. Discuss about various types of AI.
14. Discuss about any Five Application of AI in real Life.
15. Explain the approaches of knowledge Representation in detail.
16. Write about Semantic Network and Ontologies.
17. Write the types of Machine learning.
18. Explain various application of Machine Learning.
19. Write the applications of NLP.
20. Explain the types of NLP.

Instruction to Paper Setter:

Two questions must be given from each unit in Section-A and Section-B

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SEMESTER-II

COURSE 2: APPLICATIONS OF ARTIFICIAL INTELLIGENCE

Theory

Credits: 4

3 hrs/week

Course Objectives

1. Provide a foundation in the AI ecosystem, including hardware, cloud, and edge platforms relevant to Computer science.
2. Familiarize students with different types of datasets.
3. Familiarize students with public repositories used in AI research.
4. Develop skills in building AI data pipelines through collection, annotation, cleaning, and preprocessing.
5. Introduce applications of AI in networking, and cyber security highlighting both opportunities and challenges.

Course Outcomes

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

1. Explain the role of AI hardware, edge devices, and cloud platforms in enabling applications in Computer Science.
2. Differentiate data types and utilize public datasets relevant to AI.
3. Design and implement a conceptual AI data pipeline for solving problems.
4. Evaluate the role of AI in networking and cyber security and discuss its challenges and future scope.

UNIT-I

Infrastructure and Platforms for Building Applications using AI

Hardware used in building AI applications: Processors - CPU, GPU, TPU, NPU, Memory - RAM, VRAM, Storage - HDD, SSD

Platforms for building applications using AI: Online platforms (Google Auto ML, H2O.ai) for building applications using AI, Desktop platforms (Orange Data Mining, Weka) for building applications using AI

Edge AI: Concept of Edge AI, Applications in daily life in devices like Refrigerators, Led Bulbs, Surveillance Cameras, Smart Cars/Scooters.



UNIT-II

Foundation and types of Data in AI

Importance of data in building AI applications: Data as the fuel for AI, Role of big data in training AI models.

Conceptual Foundations of Data: Data vs. Information vs. Knowledge.

Structure of Data: Structured, Semi-Structured, and Unstructured Data.

Modalities of Data: Text, Image, Audio, Video, Tabular

Formats of Data: Text Formats (CSV, JSON, XML), Image Formats (JPEG, GIF, PNG), Audio/Video (MP3, WAV, MP4, AVI).

UNIT-III

Ethics and Utility in Building Applications using AI

Data Repositories: Definition of public Datasets - Definition of private Datasets; Importance of Public Datasets, Popular Public Dataset Repositories (Kaggle, Google Dataset Search), Dataset licensing and usage rights.

Ethics, Privacy, Bias and Fairness in AI Systems: Ethics in AI, Bias and Fairness in AI Systems, Transparency in AI Systems, Accountability in AI Systems, Security of the AI Models, Privacy and Data Protection Concerns, Robustness and Reliability in AI.

UNIT-IV

The AI Data Pipeline: From Collection to Model Readiness

The AI Data Pipeline: Stages and Components: Key Stages Data Collection, Annotation, Preprocessing, Splitting, And Feeding into AI Models

Core Components: Ingestion, Storage, Processing, Validation, Delivery

UNIT-V

AI in Networks and Cyber security

AI in Networking: Need of AI in Network Management, How AI works in Traffic Prediction & Intrusion Detection, Uses of AI in Optimization.

AI in Cyber Security: Need of AI in Cyber Security, How AI works in Cyber Security, Uses of AI in Cyber Security, Challenges and Considerations of AI in Cyber Security

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Books/References

1. **Data Science for Beginners**, Andrew Park

(Introductory concepts of data types, collection, cleaning, and visualization without coding)

2. **AI Basics for Non-Programmers**, Tom Taulli

(Clear explanations of AI data lifecycle and real-world use cases)

3. **Data Preparation for Machine Learning**, Jason Brownlee

(Conceptual understanding of dataset quality, preprocessing, and pipelines)

4. **Hands-On Data Science for Non-Programmers**, David Meerman Scott

(Spreadsheet-based data exploration and visualization)

5. You Look Like a Thing and I Love You – Janelle Shane

6. AI in Cyber Security: <https://www.geeksforgeeks.org/ethical-hacking/ai-in-cybersecurity/>

7. AI in Networks:

<https://www.cisco.com/site/us/en/learn/topics/artificial-intelligence/what-is-ai-in-networking.html>

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COURSE 1: APPLICATIONS OF ARTIFICIAL INTELLIGENCE

2 hrs/week

Lab 1 - Exploring Public Datasets (Orange Data Mining)

- ## Lab 2 – Exploring Cyber security Datasets (Orange Data Mining)

- ## Lab 3 - Understanding Dataset Metadata and Formats

-  M.S. W.  J. K. Singh  Sarika Jain  Dinesh  J. V. S.  P. Singh

Lab 4 - Data Annotation Exercise

- Use **MakeSense.ai** or **VGG Image Annotator (VIA)**
- Annotate 10 sample images (traffic signs, fruits, or medical scans)
- Export annotations in XML or YOLO format
- Discuss annotation errors and challenges

Lab 5 - Data Cleaning and Visualization (Orange Data Mining)

- **Aim:** To clean dirty data and visualize categorical and numeric attributes.
- **Procedure:**
 1. Load dataset.
 2. Connect *File* → *Edit Domain* (to change types) and *Impute* (to fill missing values).
 3. Compare cleaned vs. original in *Data Table*.
 4. *Distributions* widget.
 5. Check various features distribution.

(Optional: Create simple bar charts/line charts to visualize trends using Google Looker Studio)

- **Observation:** Missing values filled with mean/median., Graphical representation of data.
- **Outcome:** Learn importance of data cleaning. Students learn importance of visualization in preprocessing.

Lab 6: Train/Test Split in Orange

- **Aim:** To split dataset for AI training/testing.
- **Procedure:**
 1. Load Titanic dataset.
 2. Connect *File* → *Data Sampler* (70% train, 30% test).
 3. Connect outputs to *Data Table* widgets to view.
- **Observation:** Students see two different subsets.
- **Outcome:** Concept of model validation using split data.

Lab 7 – Writing a Detailed Prompt for a Simple Game App (Generative AI)

- **Objective:** Understand prompt engineering by designing a game idea.
- **Activity:**
 1. Open ChatGPT (or Gemini, Copilot).
 2. Write a detailed prompt like “*Create a simple text-based treasure hunt game with levels, scoring, and random challenges.*”
 3. Ask the AI to refine game rules, scoring, and characters.
 4. Document how prompt detail changes the AI’s response.
- **Outcome:** Students learn how detailed prompts shape AI outputs.

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Lab 8 – Using AI Functions in Google Sheets

Objective: Enable students to experience Google Sheets' built-in AI-powered features like summarizing, categorizing, sentiment analysis, and text generation through simple prompts within the spreadsheet environment.

Tools & Setup

Enable Google Sheets with Workspace Labs <https://workspace.google.com/labs-sign-up/u/1/>

Follow the References and experiment with summarizing, categorizing, sentiment analysis, and text generation using =AI() function

https://support.google.com/docs/answer/15820999?visit_id=638919819014625788-1742465261&p=ai-function&rd=1 <https://support.google.com/docs/answer/13447609?hl=en&sjid=9077695331310534831-NC> https://support.google.com/docs/answer/13635180?hl=en&ref_topic=13450085&sjid=9077695331310534831-NC

Outcome: Students will experience various AI functions within a spreadsheet-text generation, summarization, categorization, sentiment analysis.

Note: The Tools suggested above are tentative. Teacher/Student is free to choose any other similar tool to execute the said lab experiments.

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SEMESTER – II
COURSE 2: APPLICATIONS OF ARTIFICIAL INTELLIGENCE
Model Question Paper

Time: 3 hours

Max. Marks: 70

SECTION - A

Answer any FIVE of the following questions.
(Marks: 5x4 marks = 20 marks)

1. What is VRAM?
2. What is Edge AI?
3. What is the Role of big data in training AI models?
4. Differentiate Data and Information.
5. Define Private Datasets.
6. Write about Ethics in AI.
7. Explain briefly about Annotation.
8. What is Validation?
9. Write the Uses of AI in Optimization.
10. What is the Need of AI in Cyber Security?

SECTION - B

Answer any FIVE of the following questions.
(Marks: 5x10 marks = 50 marks)

11. Write about various types of Processors.
12. Discuss about online Platforms for building AI applications.
13. Explain various types of Data.
14. Write about various Text Formats.
15. Write the Importance of Public Datasets.
16. Discuss about Bias and Fairness in AI Systems.
17. Write about Data Collection and Pre-processing.
18. Discuss various Components in Data Pipeline.
19. Discuss how AI works in Traffic Prediction & Intrusion Detection.
20. Explain Challenges and Considerations of AI in Cyber Security.

Instruction to Paper Setter:

Two questions must be given from each unit in Section-A and Section-B

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