

# FUNDAMENTALS OF CRITICAL THINKING (COURSE CODE: 22LS0010)

## INDIVIDUAL ASSIGNMENT

**Total Marks:** 100

**Weightage:** 100% (Individual Work)

**Submission Deadline:** 📅 15th November 2025

**Submission Format:** Soft and Hard Copy of the Report

**Word Limit:** 2000–2500 words

### 🌀 1. Introduction

In the digital age, computing professionals face challenges that demand not only technical expertise but also **critical, analytical, and ethical reasoning**. Engineers and technologists often make decisions that impact individuals, organizations, and society at large — from data privacy to AI ethics, from sustainability to automation.

This assignment encourages students to **apply critical thinking frameworks** to a real-world issue in Computer Science or IT, allowing them to explore **how evidence-based reasoning, logical judgment, and ethical decision-making** shape technological innovation.

### 🎯 2. Objectives of the Assignment

This assignment is designed to:

1. **Develop higher-order thinking skills** (Analyze, Evaluate, Create) using structured reasoning frameworks.
2. **Encourage independent exploration** of real-world technological and ethical problems.
3. **Enhance evidence-based argumentation** by integrating research, data, and ethical principles.
4. **Promote reflection** on personal biases, assumptions, and learning processes.
5. **Strengthen professional communication skills** through structured academic writing.

### 3. Task Overview

Each student must:

- Select **ONE topic** from the *Approved Topic List for CS & IT* (100 options provided).
- Research the problem using **credible, scholarly sources** (minimum five references).
- Apply a **critical thinking framework** to analyze the problem logically.

- Evaluate **multiple perspectives or solutions**, comparing evidence and reasoning.
- Develop a **unique, justified, and ethical recommendation or solution**.
- Reflect on how their own thinking evolved during the process.

#### 4. Expected Learning Outcomes

After completing this assignment, students will be able to:

1. **Identify and analyze** core issues within contemporary computing challenges.
2. **Evaluate assumptions, evidence, and implications** using structured frameworks.
3. **Formulate reasoned and ethical decisions** grounded in logic and research.
4. **Demonstrate reflective awareness** of their own thinking and biases.
5. **Communicate ideas professionally**, integrating theory with practical examples.

#### 5. Assignment Structure

| Section                                         | Description                                                                                                         | Guidance and Examples                                                                                                                                                                                                                         | Marks | Bloom's Level      |
|-------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------------------|
| 1. Introduction & Problem Definition            | Introduce the issue or topic you have selected. Explain why it matters in computing, and define the scope clearly.  | Example: "This paper explores the ethical dilemma of AI-based hiring systems and their potential bias in employment decisions." Identify <b>why the problem exists</b> , who it affects, and the <b>context</b> (social, technical, ethical). | 10    | Analyze            |
| 2. Research & Contextual Understanding          | Gather evidence from credible academic and industry sources to explain the problem's background and current trends. | Example: Include research findings from IEEE, ACM, or UN reports. Discuss how organizations, governments, or communities are handling the issue. Identify <b>biases, assumptions, and stakeholders</b> involved.                              | 15    | Analyze / Evaluate |
| 3. Application of a Critical Thinking Framework | Choose one framework to apply systematically to your topic.                                                         | Examples: ① <b>Paul-Elder Model</b> (purpose, assumptions, implications, evidence) ② <b>De Bono's Six Thinking Hats</b> (different                                                                                                            | 20    | Evaluate           |

|                                                               |                                                                                                                    |                                                                                                                                                                                                                    |                  |                    |
|---------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--------------------|
|                                                               |                                                                                                                    | perspectives) ③ <b>Systems Thinking</b> (interconnectedness). Demonstrate how your reasoning follows the framework logically.                                                                                      |                  |                    |
| <b>4. Evaluation of Alternative Solutions or Perspectives</b> | Identify and critically assess at least two different approaches or viewpoints.                                    | Example: Compare <b>government regulation vs. corporate self-regulation</b> in managing AI ethics. Discuss <b>strengths, weaknesses, feasibility, and ethical implications</b> of each.                            | 15               | Evaluate           |
| <b>5. Your Proposed Solution or Recommendation</b>            | Present your own well-reasoned, innovative, and ethical solution. Justify it with evidence and critical reasoning. | Example: “A hybrid regulatory framework combining transparency audits with ethical AI certification could balance innovation and accountability.” Use diagrams, logical models, or data to support your reasoning. | 25               | Create             |
| <b>6. Reflection on the Thinking Process</b>                  | Reflect on how your perspective changed while completing this assignment.                                          | Example: “Initially, I assumed AI bias was purely technical, but through research, I realized ethical design requires multidisciplinary collaboration.” Discuss biases, learning growth, and cognitive strategies. | 10               | Evaluate / Reflect |
| <b>7. Structure, Language &amp; Presentation</b>              | Logical organization, grammar, referencing, and visual clarity.                                                    | Use <b>APA 7th</b> or <b>MLA 9th</b> citation style. Include <b>headings, subheadings, and visual aids</b> like tables or charts if relevant.                                                                      | 5                | Apply              |
| <b>Total Marks</b>                                            |                                                                                                                    |                                                                                                                                                                                                                    | <b>100 Marks</b> |                    |

## 6. Understanding the Critical Thinking Frameworks

| Framework                     | Core Idea                                                                                                          | How to Apply It in the Report                                                                                                              |
|-------------------------------|--------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| Paul–Elder Framework          | Focuses on purpose, question, assumptions, implications, information, and point of view.                           | Apply each element to your topic — e.g., What assumptions are behind AI decisions? What evidence supports them? What are the implications? |
| De Bono’s Six Thinking Hats   | Analyzes a situation using six different perspectives (facts, emotions, risks, benefits, creativity, and process). | Discuss the topic using each “hat” to uncover hidden dimensions.                                                                           |
| Systems Thinking              | Examines the issue as part of a connected system — social, technical, ethical, and environmental.                  | Map cause–effect relationships and interactions between system elements.                                                                   |
| Ethical Decision-Making Model | Combines logic, values, and societal norms in decision-making.                                                     | Evaluate the moral aspects of technical solutions.                                                                                         |
| Bloom’s Higher-Order Thinking | Moves beyond understanding to evaluating and creating new ideas.                                                   | Structure your paper from comprehension to solution creation.                                                                              |

## 7. Reference and Research Expectations

- Minimum **5 credible sources** (textbooks, IEEE/ACM journals, government reports, or peer-reviewed articles).
- Avoid blogs, Wikipedia, or AI-generated summaries.
- Cite every idea or statistic that is not your own.
- Examples of credible databases:
  - IEEE Xplore
  - ACM Digital Library
  - SpringerLink
  - ResearchGate (peer-reviewed only)
  - Google Scholar

## 8. Formatting & Submission Guidelines

| Element          | Specification                                                                                                                       |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| File Format      | DOCX                                                                                                                                |
| Font             | Times New Roman / Calibri, Size 12                                                                                                  |
| Line Spacing     | 1.5                                                                                                                                 |
| Margins          | 1 inch on all pages                                                                                                                 |
| Length           | 2000–2500 words (excluding references)                                                                                              |
| Header           | Name, Roll Number, Course Code, Topic Title, Date                                                                                   |
| Referencing      | APA 7th or MLA 9th Edition                                                                                                          |
| Similarity Limit | ≤10% (Turnitin/Grammarly)                                                                                                           |
| Submission       | USN_StudentName__CriticalThinking2025.docx<br><a href="https://forms.gle/cAQS2ZhNwrepXuXc6">https://forms.gle/cAQS2ZhNwrepXuXc6</a> |
| Late Penalty     | 10% per day (up to 3 days), then zero marks without approval                                                                        |

## 9. Example of How to Approach a Topic

### Example Topic:

*“The Ethical Challenges of Facial Recognition Technology in Public Surveillance”*

**Step 1:** Introduce the problem → Discuss increasing use of surveillance and privacy concerns.

**Step 2:** Research context → Cite studies from IEEE, policy reports, and privacy laws (e.g., GDPR).

**Step 3:** Apply Paul–Elder Framework → Identify assumptions (safety > privacy), implications (bias, misuse).

**Step 4:** Evaluate alternatives → Compare full bans vs. regulated deployment.

**Step 5:** Recommend → Suggest transparent audits, public oversight committees, and ethical AI guidelines.

**Step 6:** Reflect → Discuss your evolving view on balancing technology and civil rights.

This method ensures both **technical analysis** and **ethical reasoning** are visible.

## 10. Evaluation Rubric

| Criteria                        | Excellent (A)                       | Good (B)                       | Satisfactory (C)              | Needs Improvement (D)     |
|---------------------------------|-------------------------------------|--------------------------------|-------------------------------|---------------------------|
| Understanding of Issue (10)     | Clear, relevant, contextualized     | Good understanding, minor gaps | Basic, lacks clarity          | Irrelevant or unclear     |
| Research Depth (15)             | 5+ credible, peer-reviewed sources  | 3–4 credible sources           | Few weak sources              | Unsupported claims        |
| Framework Application (20)      | Correct and integrated use          | Some application gaps          | Minimal or incorrect use      | Absent                    |
| Evaluation of Alternatives (15) | Deep, balanced comparison           | Partial analysis               | One-sided                     | Superficial               |
| Solution Design (25)            | Innovative, feasible, ethical       | Logical, feasible              | Generic or weak justification | Unfeasible or unclear     |
| Reflection (10)                 | Deep self-awareness, logical growth | Some self-reflection           | Minimal                       | Absent                    |
| Presentation (5)                | Professional, error-free            | Minor errors                   | Acceptable                    | Poor formatting or errors |
| <b>Total</b>                    |                                     |                                |                               | <b>100 Marks</b>          |

## 11. Academic Integrity Policy

- **Plagiarism:** Direct copying or AI-generated writing without citation is considered misconduct.
- **Collaboration:** Discussion allowed, but submissions must be **individually authored**.
- **Transparency:** Always mention if an image, chart, or data point is reused from another source.

## 12. Additional Opportunities (Optional for Bonus Marks)

- Include a **critical reasoning map or flowchart** (Paul–Elder or Systems Thinking).
- Attach a **1-page executive summary** of your key findings.
- Record a short **video reflection (2 minutes)** on your learning process (optional +5 marks bonus).

 **Suggested Topics (choose one)**

| No. | Discipline / Domain     | Topic Title                                                     | Bloom's Skill Level Needed |
|-----|-------------------------|-----------------------------------------------------------------|----------------------------|
| 1   | Artificial Intelligence | Can AI systems make ethical decisions independently?            | Evaluate / Create          |
| 2   | Artificial Intelligence | Bias in machine learning — data issue or human flaw?            | Analyze / Evaluate         |
| 3   | Artificial Intelligence | Should AI be explainable to users or optimized for performance? | Evaluate                   |
| 4   | Artificial Intelligence | Economic and ethical implications of replacing humans with AI.  | Analyze / Evaluate         |
| 5   | Artificial Intelligence | Sustainable AI: evaluating energy use in large models.          | Evaluate / Create          |
| 6   | Artificial Intelligence | Facial recognition in law enforcement — safety vs. privacy.     | Analyze / Evaluate         |
| 7   | Artificial Intelligence | Deepfake technology — creativity or deception?                  | Evaluate                   |
| 8   | Artificial Intelligence | Emotion detection AI — reliable science or digital myth?        | Analyze                    |
| 9   | Artificial Intelligence | The dangers of AI-generated misinformation in democracies.      | Analyze / Evaluate         |
| 10  | Artificial Intelligence | Should AI systems be legally accountable for their actions?     | Evaluate / Create          |
| 11  | Cybersecurity           | Balancing personal privacy and national security.               | Evaluate                   |
| 12  | Cybersecurity           | Ethical hacking — protection or invasion?                       | Analyze / Evaluate         |
| 13  | Cybersecurity           | Corporate accountability after major data breaches.             | Evaluate                   |
| 14  | Cybersecurity           | The illusion of online anonymity — myth or reality?             | Analyze                    |
| 15  | Cybersecurity           | Biometric authentication — convenience vs. intrusion.           | Evaluate                   |
| 16  | Cybersecurity           | Should governments have access to encrypted messages?           | Evaluate / Create          |
| 17  | Cybersecurity           | The human factor in cybersecurity failures.                     | Analyze                    |
| 18  | Cybersecurity           | Cyberwarfare — redefining acts of war in the digital era.       | Analyze / Evaluate         |

|    |                       |                                                                    |                    |
|----|-----------------------|--------------------------------------------------------------------|--------------------|
| 19 | Cybersecurity         | Ransomware ethics — should victims pay?                            | Evaluate / Create  |
| 20 | Cybersecurity         | AI-powered cybersecurity — can ethics keep up with automation?     | Analyze / Create   |
| 21 | Data Science          | Predictive analytics and social inequality — who gets left behind? | Analyze / Evaluate |
| 22 | Data Science          | The ethics of monetizing personal data.                            | Evaluate           |
| 23 | Data Science          | Can data-driven governance replace political judgment?             | Evaluate / Create  |
| 24 | Data Science          | Environmental impact of big data infrastructure.                   | Analyze            |
| 25 | Data Science          | Predictive policing algorithms — fairness or bias?                 | Evaluate           |
| 26 | Data Science          | Should organizations delete data after a fixed retention period?   | Evaluate           |
| 27 | Data Science          | Algorithmic transparency — how much disclosure is enough?          | Analyze / Evaluate |
| 28 | Data Science          | Balancing data-driven innovation and ethical responsibility.       | Evaluate / Create  |
| 29 | Data Science          | Data anonymization — myth or meaningful safeguard?                 | Analyze            |
| 30 | Data Science          | Handling sensitive demographic data in AI models.                  | Analyze / Create   |
| 31 | Automation & Robotics | Automation and job loss — should we resist or adapt?               | Analyze / Evaluate |
| 32 | Automation & Robotics | Robots in healthcare — compassion or compliance?                   | Evaluate           |
| 33 | Automation & Robotics | Accountability in autonomous vehicle accidents.                    | Evaluate           |
| 34 | Automation & Robotics | AI-controlled weapons — ethical engineering or moral hazard?       | Evaluate / Create  |
| 35 | Automation & Robotics | Can machines exhibit creativity?                                   | Analyze / Create   |
| 36 | Automation & Robotics | Robotic process automation in public administration.               | Analyze            |
| 37 | Automation & Robotics | Human dependency on autonomous systems — risk or relief?           | Evaluate           |
| 38 | Automation & Robotics | Surveillance drones in urban environments — ethical limits.        | Evaluate           |

|    |                            |                                                               |                    |
|----|----------------------------|---------------------------------------------------------------|--------------------|
| 39 | Automation & Robotics      | Workplace robots and privacy boundaries.                      | Analyze            |
| 40 | Automation & Robotics      | Should robots have rights or personhood status?               | Evaluate / Create  |
| 41 | Cloud Computing            | Cloud services — secure outsourcing or shared risk?           | Analyze / Evaluate |
| 42 | Cloud Computing            | Public sector cloud adoption — efficiency vs. sovereignty.    | Evaluate           |
| 43 | Cloud Computing            | Green computing — sustainability of cloud infrastructure.     | Analyze / Evaluate |
| 44 | Cloud Computing            | Edge computing for data sovereignty — real solution or hype?  | Evaluate           |
| 45 | Cloud Computing            | Regulating cloud data localization for national security.     | Evaluate / Create  |
| 46 | Cloud Computing            | Always-online culture — convenience or dependency?            | Analyze            |
| 47 | Cloud Computing            | Shared cloud infrastructure — ethical and technical concerns. | Evaluate           |
| 48 | Cloud Computing            | Should open-source cloud systems be mandated in education?    | Create             |
| 49 | Cloud Computing            | Virtualization — reducing or increasing security risks?       | Analyze            |
| 50 | Cloud Computing            | The social divide created by cloud dependency.                | Analyze / Evaluate |
| 51 | Human–Computer Interaction | Dark patterns in UX — persuasion or manipulation?             | Evaluate           |
| 52 | Human–Computer Interaction | The psychology of persuasive design — ethics of influence.    | Analyze / Evaluate |
| 53 | Human–Computer Interaction | Designing ethical UX for wellbeing and mental health.         | Evaluate / Create  |

|    |                            |                                                                    |                    |
|----|----------------------------|--------------------------------------------------------------------|--------------------|
| 54 | Human–Computer Interaction | Accessibility — are we designing for all users?                    | Analyze / Evaluate |
| 55 | Human–Computer Interaction | Tracking user behavior — personalization or privacy breach?        | Evaluate           |
| 56 | Human–Computer Interaction | Ethical implications of designing addictive apps.                  | Evaluate           |
| 57 | Human–Computer Interaction | UX design and screen-time addiction — accountability of designers. | Analyze / Evaluate |
| 58 | Human–Computer Interaction | Emotional UX design — empathy or exploitation?                     | Evaluate           |
| 59 | Human–Computer Interaction | Can UX designers integrate critical thinking ethically?            | Create             |
| 60 | Human–Computer Interaction | The future of human–AI collaboration in interface design.          | Analyze / Create   |
| 61 | Emerging Technologies      | Quantum computing — breaking encryption and ethics.                | Analyze / Evaluate |
| 62 | Emerging Technologies      | Post-quantum cryptography — are we ready?                          | Analyze            |
| 63 | Emerging Technologies      | Internet of Things — security convenience or surveillance trap?    | Analyze / Evaluate |
| 64 | Emerging Technologies      | Smart cities — innovation or digital authoritarianism?             | Evaluate           |
| 65 | Emerging Technologies      | Blockchain beyond crypto — decentralized or deceptive?             | Analyze            |
| 66 | Emerging Technologies      | Brain–computer interfaces — where does consent end?                | Evaluate           |
| 67 | Emerging Technologies      | The metaverse — expanding human experience or escaping reality?    | Evaluate           |

|    |                       |                                                                 |                    |
|----|-----------------------|-----------------------------------------------------------------|--------------------|
| 68 | Emerging Technologies | Virtual reality ethics — immersion vs. manipulation.            | Evaluate / Create  |
| 69 | Emerging Technologies | Digital immortality — should consciousness be uploaded?         | Evaluate / Create  |
| 70 | Emerging Technologies | Critical thinking in evaluating technological utopianism.       | Evaluate           |
| 71 | Ethics & Policy       | Corporate accountability in AI ethics — voluntary or mandated?  | Evaluate           |
| 72 | Ethics & Policy       | Should software engineers reject unethical coding tasks?        | Evaluate / Create  |
| 73 | Ethics & Policy       | Whistleblowing in tech firms — loyalty or responsibility?       | Evaluate           |
| 74 | Ethics & Policy       | Big Tech monopolies — progress drivers or threats to democracy? | Analyze / Evaluate |
| 75 | Ethics & Policy       | The digital divide — who benefits from digital transformation?  | Analyze            |
| 76 | Society & Technology  | Social media algorithms — controlling minds or serving needs?   | Evaluate           |
| 77 | Society & Technology  | Psychological effects of social media on youth.                 | Analyze            |
| 78 | Society & Technology  | Online misinformation — can critical thinking combat fake news? | Evaluate / Create  |
| 79 | Society & Technology  | Gender bias in tech — structural problem or skill gap?          | Analyze            |
| 80 | Society & Technology  | Should digital ethics be a mandatory course in all curricula?   | Evaluate / Create  |
| 81 | Society & Technology  | Technology and attention span — cognitive cost of convenience.  | Analyze            |
| 82 | Society & Technology  | The ethics of AI-generated art — who owns creativity?           | Evaluate           |
| 83 | Society & Technology  | Is social media a force for democracy or division?              | Analyze / Evaluate |
| 84 | Society & Technology  | Environmental footprint of the digital world — unseen costs.    | Analyze            |

|     |                      |                                                                    |                    |
|-----|----------------------|--------------------------------------------------------------------|--------------------|
| 85  | Society & Technology | Digital literacy — should engineers promote ethical tech use?      | Create             |
| 86  | Society & Technology | Social media companies and online hate — accountability gap.       | Evaluate           |
| 87  | Society & Technology | Cancel culture in digital spaces — activism or mob justice?        | Analyze / Evaluate |
| 88  | Society & Technology | Technology and loneliness — connected or isolated generation?      | Analyze            |
| 89  | Society & Technology | Online education — democratizing learning or deepening inequality? | Evaluate           |
| 90  | Society & Technology | The right to be forgotten — privacy or censorship?                 | Evaluate / Create  |
| 91  | Society & Technology | Persuasive design in mental health apps — help or harm?            | Analyze / Evaluate |
| 92  | Society & Technology | Technology addiction — self-control or system design flaw?         | Evaluate           |
| 93  | Society & Technology | Programming empathy — can AI understand emotions ethically?        | Create             |
| 94  | Society & Technology | The human cost of electronic waste in global tech.                 | Analyze / Evaluate |
| 95  | Society & Technology | Echo chambers — how algorithms reinforce division.                 | Analyze            |
| 96  | Society & Technology | Digital minimalism — engineering simplicity for wellbeing.         | Create             |
| 97  | Society & Technology | The future of digital democracy — voting through technology.       | Evaluate / Create  |
| 98  | Society & Technology | AI in journalism — objectivity or algorithmic bias?                | Analyze / Evaluate |
| 99  | Society & Technology | Ethical storytelling in virtual and augmented realities.           | Evaluate / Create  |
| 100 | Society & Technology | The engineer's social responsibility in the age of AI.             | Evaluate / Create  |



Department of Computer Science and Engineering

Assignment

Student Name:

USN:

Semester:

Section:

Submission Date:

| Criteria                                      | Marks | Excellent (A) (90–100%)                                                                                                                                     | Good (B) (75–89%)                                                                           | Satisfactory (C) (60–74%)                                              | Needs Improvement (D) (<60%)                                        |
|-----------------------------------------------|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|------------------------------------------------------------------------|---------------------------------------------------------------------|
| 1. Introduction & Problem Definition          | 10    | Problem is <b>clearly defined</b> , precise, and contextualized. Demonstrates a <b>deep understanding</b> of the issue’s significance and scope.            | Problem is <b>well stated</b> but may lack some context or focus. Shows good understanding. | Problem defined but <b>too general</b> or narrow; lacks clear context. | Problem is <b>unclear, off-topic</b> , or missing critical context. |
| 2. Research & Evidence                        | 15    | Integrates <b>5+ credible scholarly sources</b> (IEEE, ACM, journals). Excellent synthesis of evidence and logical connections. All sources properly cited. | Uses 3–5 credible sources; evidence mostly supports analysis but with minor gaps.           | Limited references; basic summarization without synthesis.             | Poor or missing research; <b>unsupported opinions</b> .             |
| 3. Application of Critical Thinking Framework | 20    | Framework (Paul–Elder, Systems Thinking, etc.) is <b>applied accurately and comprehensively</b> . Logical reasoning and clarity of argument throughout.     | Framework applied but <b>some elements missing</b> or partially integrated.                 | Framework <b>identified but not systematically used</b> .              | No framework or <b>incorrect application</b> of model.              |
| Criteria                                      | Marks | Excellent (A) (90–100%)                                                                                                                                     | Good (B) (75–89%)                                                                           | Satisfactory (C) (60–74%)                                              | Needs Improvement (D) (<60%)                                        |
| 4. Evaluation of Alternatives or Perspectives | 15    | Compares <b>multiple, well-researched perspectives</b> with depth and fairness.                                                                             | Shows comparison of at least two                                                            | Presents some alternatives but                                         | <b>Single-sided</b> argument; lacks comparison or evaluation.       |

|                                                    |            |                                                                                                                                                                       |                                                                         |                                                                        |                                                                   |
|----------------------------------------------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|------------------------------------------------------------------------|-------------------------------------------------------------------|
|                                                    |            | Evaluates strengths, limitations, and ethical implications.                                                                                                           | perspectives; may lack full ethical depth.                              | <b>superficially analyzed.</b>                                         |                                                                   |
| <b>5. Proposed Solution / Recommendation</b>       | 25         | <b>Innovative, feasible, and ethically grounded</b> solution proposed. Supported by <b>strong evidence and clear reasoning</b> . Demonstrates creativity and realism. | Logical and practical solution with some originality; mostly justified. | Solution is basic or general; limited justification or unclear impact. | <b>Unrealistic or unjustified</b> solution; lacks reasoning.      |
| <b>6. Reflection on Thinking Process</b>           | 10         | <b>Deep, insightful reflection</b> on personal learning and biases. Shows evolution of thought and understanding of cognitive process.                                | Reflection present and thoughtful but lacks depth or specific examples. | Superficial reflection; mentions learning without clear evidence.      | <b>No reflection</b> or generic statements; lacks self-awareness. |
| <b>7. Organization, Language, and Presentation</b> | 5          | Excellent structure, coherence, formatting, grammar, and referencing (APA/MLA). Visuals (figures/tables) effectively used.                                            | Well-organized; minor formatting or grammatical issues.                 | Acceptable organization; several language or referencing errors.       | <b>Disorganized</b> report; poor grammar, missing references.     |
| <b>Total Marks</b>                                 | <b>100</b> |                                                                                                                                                                       |                                                                         |                                                                        |                                                                   |

## Submission Checklist

| Checklist Item                                       | Yes / No                 |
|------------------------------------------------------|--------------------------|
| Selected topic approved and relevant to CS/IT        | <input type="checkbox"/> |
| Used at least 5 credible sources (IEEE/ACM)          | <input type="checkbox"/> |
| Applied a critical thinking framework logically      | <input type="checkbox"/> |
| Compared at least two alternative viewpoints         | <input type="checkbox"/> |
| Provided an original, ethical, and feasible solution | <input type="checkbox"/> |
| Reflected on personal learning and assumptions       | <input type="checkbox"/> |
| Followed formatting and citation guidelines          | <input type="checkbox"/> |
| File saved as Name_USN_CriticalThinking2025.pdf      | <input type="checkbox"/> |

**Signature - Student**

**Signature – Faculty**

**Faculty Feedback / Comments:**

