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Subject Code:- BNC0401

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NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA

(An Autonomous Institute Affiliated to AKTU, Lucknow)

B.Tech

SEM: IV - THEORY EXAMINATION (20.....- 20.....)

Subject: Artificial Intelligence & Cyber Ethics

Time: 2 Hours

Max. Marks: 50

General Instructions:

IMP: Verify that you have received the question paper with the correct course, code, branch etc.

1. This Question paper comprises of **three Sections -A, B, & C.** It consists of Multiple Choice Questions (MCQ's) & Subjective type questions.
2. Maximum marks for each question are indicated on right -hand side of each question.
3. Illustrate your answers with neat sketches wherever necessary.
4. Assume suitable data if necessary.
5. Preferably, write the answers in sequential order.
6. No sheet should be left blank. Any written material after a blank sheet will not be evaluated/checked.

SECTION-A

15

1. Attempt all parts:-

1-a. Identify a key principle of ethical AI.(CO1,K2)

1

- (a) Efficiency
- (b) Speed
- (c) Fairness
- (d) Autonomy

1-b. Generative AI is susceptible in this type of bias:(CO2,K2)

1

- (a) Speed bias
- (b) Caching bias
- (c) Hardware bias
- (d) Stereotype bias

1-c. GDPR expands as:(CO3,K2)

1

- (a) General Data Privacy Rights
- (b) General Data Protection Regulation
- (c) Global Digital Privacy Rule
- (d) General Directive for Personal Rights

1-d. A patent protects:(CO4,K2)

1

- (a) Logos
- (b) Written content
- (c) Inventions

- (d) Domain names
- 1-e. AI role in content moderation (CO5,K2) 1
 - (a) Editing all user content manually
 - (b) Automatically flagging harmful content
 - (c) Promoting all viral content
 - (d) Disabling all image sharing

2. Attempt all parts:-

- 2.a. Name any two ethical principles in AI.(CO1,K2) 2
- 2.b. Identify a common source of bias in generative models.(CO2,K3) 2
- 2.c. Define the term PPML and name one scenario where it is applied.(CO3,K2) 2
- 2.d. Name two acts under Indian law that deal with cybercrime.(CO4,K3) 2
- 2.e. Explain how AI improves global healthcare systems.(CO5,K3) 2

SECTION-B

15

3. Answer any three of the following:-

- 3-a. Examine the risks of facial recognition AI in public surveillance. Discuss the trade-offs between safety and privacy.(CO1,K4) 5
- 3-b. Compare different fairness measurement techniques in AI.(CO2,K3) 5
- 3-c. Compare and contrast GDPR and HIPAA with respect to their scope, penalties, and AI relevance.(CO3,K3) 5
- 3-d. Compare copyrights and patents with respect to purpose and duration.(CO4,K3) 5
- 3.e. Describe a day in the life of a worker in a factory where robots are used. Focus on how their job has changed.(CO5,K2) 5

SECTION-C

20

4. Answer any one of the following:-

- 4-a. Explain the concept of Artificial Intelligence and give two real-world applications.(CO1,K2) 4
- 4-b. Discuss the key principles of Responsible AI as defined by major AI frameworks.(CO1,K2) 4

5. Answer any one of the following:-

- 5-a. Describe different types of bias encountered in AI models.(CO2,K2) 4
- 5-b. Describe two real-world cases of AI bias and their consequences.(CO2,K2) 4

6. Answer any one of the following:-

- 6-a. Explain the importance of privacy in AI-based decision-making through three suitable examples.(CO3,K3) 4
- 6-b. Identify and categorize the risks in AI usage across three sectors: healthcare, finance, and marketing.(CO3,K4) 4

7. Answer any one of the following:-

- 7-a. Explain various categories of intellectual property rights (IPR) with suitable 4

definitions.(CO4,K3)

7-b. Identify major legal measures available for combating cybercrime.(CO4,K4) 4

8. Answer any one of the following:-

8-a. Compare the positive and negative effects of AI on privacy rights.(CO5,K4) 4

8-b. Explain the risks and rewards of using AI for workforce automation.(CO5,K3) 4

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