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JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -3 EXAMINATIONS- 2026

B.Tech-II Semester (CSE/IT/BT/ECE/CE)

COURSE CODE (CREDITS): 19B1WCI831 MAX MARKS: 35

COURSE NAME: ETHICS AND INFORMATION TECHNOLOGY

COURSE INSTRUCTOR: DR. RUCHI VERMA MAX. TIME: 2 Hours

Note: *(a) All questions are compulsory.*

(b) The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems

(c) Use of calculator is not allowed

Q.No	Question	CO	Marks
Q1	**Assessment-Based Questions** 5*1 marks=5 marks Answer the following questions briefly: (a) Define Cyber Accountability. (b) What is Intellectual Property Right (IPR) in digital systems? (c) Define Digital Divide. (d) Define Ethical AI. (e) Differentiate between Proprietary Software and Free Software.	CO1	5
Q2	A nation introduces a Unified Citizen Intelligence Grid integrating biometric surveillance, digital identity systems, financial transactions, health records, social media activity, and predictive policing algorithms. The government claims the system will eliminate crime, terrorism, and financial fraud. Critically examine the ethical implications of this architecture from the perspective of informational privacy, surveillance ethics, democratic freedom, data ownership, and abuse of state power. Discuss whether national security objectives can ethically override individual privacy rights in digitally connected societies.	CO3	6
Q3	A powerful generative AI system becomes capable of autonomously writing malware, bypassing cyber security defenses, generating fake digital identities, and conducting highly sophisticated cyber attacks without direct human assistance. A government defense agency proposes deploying the same AI system as an autonomous cyber weapon capable of retaliatory attacks against hostile nations. Critically examine the ethical and societal implications of autonomous AI-based cyber warfare with respect to moral accountability, information warfare, international law, cyber security ethics, and the possibility of machines independently making destructive decisions. Discuss whether autonomous cyber weapons should ever be permitted to	CO4	6

	operate without meaningful human oversight. Analyze the ethical impact of algorithmic censorship caused by such systems		
Q4	**Derivation-Based Questions** 2*3 marks=6 marks (a) Derive a comparative ethical framework distinguishing Act Utilitarianism, Rule Deontology, and Contract-Based Ethics in the context of autonomous AI decision-making systems. (b) Develop a structured analytical model explaining how digital surveillance systems affect informational privacy, democratic freedom, and state accountability in cyberspace.	CO2	6
Q5	**Critical Thinking Questions** 2*3 marks=6 marks (a) Future AI-powered virtual ecosystems may replace human interaction with emotionally intelligent AI companions and immersive digital societies. Critically examine whether such technologies could redefine human identity, emotional relationships, and moral responsibility in society. (b) A government deploys autonomous AI systems capable of regulating online speech, detecting misinformation, and blocking encrypted communication channels. Critically analyze whether democratic governments should possess such powers in digitally connected societies.	CO3	6
Q6	**Project-Based Questions** 2*3 marks=6 marks (a) Design a conceptual framework for an ethical AI-based smart-campus system that balances academic analytics with student privacy and data protection. Clearly mention the ethical safeguards that should be implemented. (b) Propose a secure and ethically responsible AI-driven cybersecurity monitoring platform for protecting national digital infrastructure. Discuss how the framework would address transparency, accountability, and misuse prevention.	CO4	6