(20)

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATIONS- 2026

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

COURSE CODE (CREDITS): 19B1WCI831 MAX MARKS: 25

COURSE NAME: ETHICS AND INFORMATION TECHNOLOGY

COURSE INSTRUCTOR: Dr. Ruchi Verma MAX. TIME: 1 Hour 30 Min

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	Critically examine the concept of professional ethics in computing by discussing the role and limitations of professional codes of ethics. In your answer, analyze John Ladd's criticisms of such codes, and evaluate whether Gotterbarn's threefold distinction successfully addresses these criticisms. Support your answer with relevant examples from the computing profession, including situations such as safety critical software or whistle blowing.	CO2	5
Q2	Examine the concept of personal privacy in the age of cyber technology, highlighting how privacy threats posed by modern technologies such as dataveillance, Big Data, RFID, and Internet cookies differ from those of earlier technologies. Assess whether privacy should be regarded as an intrinsic or instrumental value, and discuss the challenges involved in protecting personal privacy in public spaces and pervasive computing environments. Additionally, explain the role of professional codes of ethics, including Gotterbarn's principles and the IEEE-CS/ACM SECEPP, in guiding ethical decision making when handling sensitive data, and support your answer with relevant examples.	CO3	5
Q3	Evaluate the ethical, legal, and moral issues related to cybersecurity and cyberwarfare. In your answer, discuss the term ethical hacker and consider the risks and justification for certifying individuals to hack for companies or governments. Using examples like GhostNet and the Olympic Games cyber operation, explain when it is morally or legally acceptable for nations to carry out cyberattacks, including asking help from international hacking groups. Finally, discuss whether it is possible to create a hacker code of ethics for non malicious hackers without falling into moral relativism, and give real-world examples to	CO2	5

	support your points.		
Q4	Critically evaluate the use of Internet sting operations and entrapment systems to catch pedophiles from a computer science perspective. In your answer, discuss the design and implementation challenges of online monitoring tools, automated detection algorithms, and secure communication systems used in such operations. Analyze the ethical implications of programming and deploying such systems, including potential risks like false positives, privacy violations, and misuse of data. Justify your position using multiple ethical frameworks , utilitarianism, deontology, virtue ethics and propose how CS professionals can ethically develop, test, and maintain such surveillance technologies. Support your discussion with real-world examples and technical considerations.	CO3	5
Q5	Examine the ethical, legal, and technical challenges of implementing biometric systems, facial recognition, iris scanning in public spaces from a computer science perspective. Discuss the algorithmic, software, and data security considerations, including accuracy, bias, scalability, and potential vulnerabilities. Critically evaluate the trade-offs between enhancing security and protecting user privacy, and propose CS-based solutions or design guidelines to minimize harm, ensure fairness, and comply with ethical standards. Support your answer with practical examples, ethical reasoning, and system design considerations.	CO2	5