

## Society and Ethics in Information Technology

**Course Title:** Society and Ethics in Information Technology

**Course No:** CSC323

**Nature of the Course:** Theory + Lab

**Full Marks:** 60 + 20 + 20

**Pass Marks:** 24 + 8 + 8

**Credit Hrs:** 3

### Course Description:

This course covers different concepts related with sociology, and social and ethical issues related with the use of Information Technology. This course also covers social context of computing, software issues and new frontiers of computer ethics.

### Course Objective:

The basic objective of this course is to provide fundamental knowledge on the concept of sociology to understand social, cultural, economic, political and technical aspects, and knowledge of different social and ethical issues related with Information Technology.

### Detail Syllabus:

<b>Unit 1</b>	<b>Introduction</b>	<b>Teaching Hours (4)</b>
Concept and Evolution of Sociology	History, definitions	1
Applications of Sociology	Related to IT	0.5
Emergence of Social and Ethical Problems	Need, Resilience, types	0.5
Computer Ethics and Computer Ethics Education	Need, types	1
Ethics and Professions	Difference, moral values	1
<b>Unit 2</b>	<b>Social and cultural change</b>	<b>Teaching Hours (6)</b>
Process; Theories of Social Change	Evolution, Functional, Conflict	1
Factors of Social Change	Economics, Technology, Education, Demography	1
Role of Media and Communication in Social and Cultural Change	<b>CASE study</b>	1
Innovation and Diffusion	<b>CASE study</b>	1
Resistance of Social Change	<b>CASE study</b>	1

Technological Changes and its Consequences	<b>CASE study</b>	1
<b>Unit 3</b>	<b>Understanding development</b>	<b>Teaching Hours (5)</b>
Definition and Approaches of Development	Definition, approaches	1
Indicators of Development	Types	1
Features of Developing Countries	Types	1
Development Planning	Techniques, Strategies	1
Role of National and International Community and State	<b>CASE study</b>	1
<b>Unit 4</b>	<b>Process of transformation</b>	<b>Teaching Hours (4)</b>
Modernization	Basic concepts	1
Globalization	Definition, Effect on morality	1
Migration	Basic concepts	1
E-governance, E-commerce	CASE study	1
<b>Unit 5</b>	<b>Ethics and Ethical Analysis</b>	<b>Teaching Hours (4)</b>
Traditional Definition	Definitions	0.5
Ethical Theories	Consequentialism, Deontology, Human nature, Relativism, Hedonism, Emotivism	1
Functional Definition of Ethics	Functional definition covering different sets	0.5
Ethical Reasoning and Decision Making	Framework for ethical decision making, making and evaluating ethical arguments	0.5
Codes of Ethics	Preamble, objectives	1
Technology and Values	Issues and discussion	0.5
<b>Unit 6</b>	<b>Intellectual Property Rights and Computer Technology</b>	<b>Teaching Hours (6)</b>
Definitions	Definitions	0.5
Computer Products and	Basic concepts	0.5

Services		
Foundations of Intellectual Property	Copyrights, Patents, Trade secrets, Trademarks, Personal identity	0.5
Ownership	Politics of ownership, Psychology of ownership	0.5
Intellectual Property Crimes	Infringement, first sale doctrine, Fair use doctrine	1
Protection of Ownership Rights	Domain, source, Duration and strategies of protection	1
Protecting Computer Software	Software piracy, Protection of software under copyright, Patent, Trademarks and Trade secrets	1
Transnational Issues and Intellectual Property	Basic concepts	1
<b>Unit 7</b>	<b>Social Context of Computing</b>	<b>Teaching Hours (4)</b>
Introduction; Digital Divide	Access, Technology, Human capacity, Infrastructure, Enabling Environments	1
Obstacles to Overcome the Digital Divide	Techniques	0.25
ICT in the Workplace	Electronic office, Office on wheels and wings, Virtual workplace, Quiet revolution : Telecommuters and Telecommuting	0.75
Employee Monitoring	Workplace privacy and surveillance, Electronic monitoring	1
Workplace, Employee, Health, and Productivity	Ergonomics	1
<b>Unit 8</b>	<b>Software Issues</b>	<b>Teaching Hours (5)</b>
Definitions	Standards, Reliability, Security, Safety, Quality, Quality of Service	1.5
Causes of Software Failures	Human factors, Nature of software	1
Risk; Consumer Protection	Risk assessment and management, Risk hazards in workplace systems, Buyer and provider rights, A-service provider – user contract	1.75
Improving Software Quality	Techniques	0.5
Producer Protection	Basic concepts	0.25
<b>Unit 9</b>	<b>New Frontiers for Computer Ethics</b>	<b>Teaching Hours (7)</b>
Artificial	Basic concepts, Definitions, Requirements, Challenges	2

Intelligence and Ethics		
Virtualization	Terminologies, Types, Benefits	1
Virtual Reality, and Ethics	Types, Social and ethical implication of virtualization	2
Cyberspace and Ethics	Introduction, Concept of telepresence and immersion, Detecting attacks in cyberspace, Intellectual property rights in cyberspace	1
Cyberbullying	Legal definition, Types, Legislation, Effects and Dealing with cyberbullying	1

### Laboratory works:

- 5 Case Studies that are specified in the micro syllabus
- Practical related to quality assurance, risk analysis, VR, reliability, security, safety, quality, quality of service.
  - **Selenium** for automation testing of functional aspects of web based applications, wide range of platforms and browsers.
  - **Apache Jmeter** for load testing
  - **Jira** for task, effort, team performance and defect tracking
  - Development of RMMM (Risk Monitoring, Management, Mitigation) plan for any scenario.

*The students should write reports for 5 case studies and other practical works.*

### Recommended Books:

1. Alex Inkles, "What is Sociology? Introduction in the Discipline & Profession", Prentice Hall of India
2. Joseph MiggaKizza, Ethical and Social Issues in the Information Age, Springer International Publishing, 6<sup>th</sup> Edition, 2017
3. Michael J. Quinn, Ethics for the Information Age, 7th Edition, Pearson Education, 2017
4. G. M. Foster, "Traditional Culture & Impact of Technological Change"
5. C.N.S. Rao, "Principle of Sociology with an Introduction of Social Thought", S. Chand & Co. Ltd.
6. Pratley Peter, "The Essence of Business Ethics", Prentice Hall of India, New Delhi
7. A .Giddens & D. Mitchell, "Introduction to Sociology", 3rd Ed., London, W.W. Norton & company

## Model Question

**Course Title:** Society and Ethics in Information Technology  
**Course No:** CSC323  
**Semester:** V

**Full Marks:** 60  
**Pass Marks:** 24  
**Credit Hrs:** 3

### Section A

*Attempt any two questions. (2 × 10 = 20)*

1. What significant role does media and communication play in social and cultural change? Explain with respect to real examples. (10)
2. List out different forms that ethical codes can take depending on domain. Summarize ACM code of ethics and professional conduct. (2+8)
3. Explain the role of E-governance for the development of the nation with respect to relevant case study. You should write Title of the case study, a short summary, Strengths and Weaknesses, vision and Conclusion. (10)

### Section B

*Attempt any eight questions. (8 × 5 = 40)*

4. Compare and contrast on personal ethics and professional ethics. (5)
5. List down the features of a developing countries. Highlight on the development planning strategies. (1+4)
6. Why is it difficult to apply patent laws to software? Explain. (5)
7. “There are a multitude of causes and enablers, and as long as these exist in any society, the digital divide will exist.” Justify the statement.
8. Why SLA is important? Explain different layers of SLAs based on the product and the user of the product. (1+4)
9. List out different types of Virtual Reality. Explain social and ethical implication of virtualization.
10. What is the effect of globalization on morality?
11. Discuss about the problems that may arise by the reuse of existing software components.
12. Write short notes on: (2 × 2.5 = 5)
  - a. Implied warranties
  - b. Cyberbullying