

Class 12 Informatics Practices

Chapter 6: Societal Impact – One-Shot Exam Guide

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PART 1: Important Terms

1. **Digital Footprint** – Data trail left by a person when they use digital services (websites, apps, etc.).
2. **Active Digital Footprint** – Data intentionally submitted by a user (e.g., posts, emails).
3. **Passive Digital Footprint** – Data collected without user's direct input (e.g., browsing history).
4. **Netizen** – A responsible citizen of the digital world.
5. **Net Etiquettes** – Ethical behavior followed while interacting online.
6. **Cyberbullying** – Online activity that humiliates, harasses, or threatens someone.
7. **Troll** – A person who posts offensive or off-topic content online for attention.
8. **Phishing** – Attempt to obtain sensitive information by pretending to be a trusted source.
9. **Ransomware** – Malware that locks user data and demands payment to release it.
10. **Identity Theft** – Using someone's personal data without permission for fraud or crime.
11. **IPR (Intellectual Property Rights)** – Legal rights protecting creations of the mind (art, ideas, inventions).
12. **Copyright** – Legal right of authors over their creative work.
13. **Patent** – Legal protection for an invention or process.
14. **Trademark** – Symbol, logo, or brand name legally registered for use by a company.
15. **Creative Commons (CC)** – Licenses that allow free use/sharing of creative work under specific terms.
16. **GPL (General Public License)** – Open source software license allowing users to modify and share.
17. **FOSS (Free and Open Source Software)** – Software freely available along with its source code.
18. **Ergonomics** – Science of designing user-friendly and safe work environments.
19. **E-waste** – Discarded electronic devices no longer in use.

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20. IT Act (Information Technology Act, 2000) – Indian law to deal with cybercrimes and digital governance.

PART 2: MCQs

1. Which of the following is an example of passive digital footprint?
 - a) Writing a blog post
 - b) Sending an email
 - c) Browsing a website
 - d) Posting on social media

✓ **Ans: c**
2. What does the term “Netizen” refer to?
 - a) Network engineer
 - b) Frequent flyer
 - c) Digital citizen
 - d) Hacker

✓ **Ans: c**
3. The act of deliberately offending people online is called:
 - a) Spamming
 - b) Trolling
 - c) Phishing
 - d) Networking

✓ **Ans: b**
4. Which of the following is protected by copyright law?
 - a) Chemical formula
 - b) Business strategy
 - c) Painting
 - d) Invention

✓ **Ans: c**
5. What does GPL allow users to do?
 - a) Sell software
 - b) Lock software
 - c) Use, modify and distribute software
 - d) Hack software legally

✓ **Ans: c**

6. Which one is not a cyber crime?
a) Phishing
b) Email spoofing
c) Blogging
d) Hacking
✓ **Ans: c**
7. "Digital signature" is used to:
a) Lock a system
b) Authenticate identity online
c) Create passwords
d) Scan for viruses
✓ **Ans: b**
8. The trail of data left behind while using the Internet is:
a) Cyber mark
b) Data print
c) Digital footprint
d) Web log
✓ **Ans: c**
9. Which of these is a violation of IPR?
a) Editing own blog
b) Sharing open-source code
c) Using someone's work without credit
d) Quoting an author with reference
✓ **Ans: c**
10. Which license allows work to be reused and shared freely under some terms?
a) PayPal
b) Public License
c) Creative Commons
d) DRM
✓ **Ans: c**
11. Ergonomics helps in:
a) Coding better
b) Eye protection
c) Designing comfortable workspaces
d) Surfing the web
✓ **Ans: c**

12. Phishing is related to:

- a) Hardware theft
- b) Software upgrades
- c) Fake websites/emails
- d) Data backup

✓ **Ans: c**

13. Cyber crime where system access is blocked for ransom is called:

- a) Malware
- b) Virus attack
- c) Spoofing
- d) Ransomware

✓ **Ans: d**

14. Which of the following is a Creative Commons license type?

- a) CC BY-ND
- b) GPL-RT
- c) OP-CC
- d) CA-Copyright

✓ **Ans: a**

15. Which metal in e-waste causes brain and kidney damage?

- a) Iron
- b) Zinc
- c) Lead
- d) Aluminum

✓ **Ans: c**

16. Free and Open Source Software (FOSS) gives access to:

- a) Paid modules
- b) Source code
- c) Private data
- d) Banking APIs

✓ **Ans: b**

17. The Indian law that deals with digital frauds and crimes is:

- a) Cyber Act 2001
- b) Information Technology Act
- c) Digital Safety Act
- d) Technology Ethics Act

✓ **Ans: b**

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18. A user posts fake news on social media. This violates:

- a) Social etiquette
- b) Digital footprint
- c) IPR
- d) Net neutrality

✓ **Ans: a**

19. Creative Commons license **CC BY-NC** allows:

- a) Commercial use
- b) No credit to creator
- c) Free reuse with attribution and no commercial use
- d) Copy only without reuse

✓ **Ans: c**

20. Which practice helps reduce e-waste?

- a) Spoofing
- b) Rebooting
- c) Refurbishing
- d) Copy-pasting

✓ **Ans: c**

PART 3: Answers to Exercise Questions

Q1.Question:

Atharv left the lab without logging out. Revaan used Atharv's email account to send inflammatory messages.

Which type of cybercrime is this?

- a) Hacking
- b) Identity theft
- c) Cyber bullying
- d) Plagiarism

Answer:

b) Identity theft

Justification: Using someone else's login to impersonate them and send messages is identity theft.

Q2. Rishika's Ethical Action

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Question:

Rishika found Garvit's email ID and password. What should she do?

- a) Inform Garvit
- b) Share with classmates
- c) Use the password to access his account

Answer:

a) Inform Garvit

Justification: It's ethically correct to inform Garvit so he can protect his account.

Q3. Shaurya's Copyright Act

Question:

Shaurya added his name to a downloaded video and sent it to Suhana. This is:

- a) Fair use
- b) Hacking
- c) Copyright infringement
- d) Cyber crime

Answer:

c) Copyright infringement

Justification: Modifying and distributing someone else's work without permission is copyright violation.

Q4. Cyberbullying Case

Question:

Which activity is **not** cyberbullying?

- a) Sending an apology email
- b) Threatening a friend online
- c) Posting an embarrassing picture

Answer:

a) Sending an apology email

Justification: Apology is respectful; other actions are harmful and fall under cyberbullying.

Q5. Sourabh's Project – IPR Violation

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Question:

Which of Sourabh's actions is copyright infringement or plagiarism?

- a) Rephrased a paragraph from a webpage
- b) Made a collage using 3 downloaded images
- c) Used an icon from a government site

Answer:

b) is copyright infringement if permission wasn't taken.

Justification: Images are protected content unless marked as free to use.

Q6. Match the Following

Column A	Column B
Plagiarism	Copy-pasting online content without credit
Hacking	Breaking into computers to access private data
Credit card fraud	Tricking users to share banking details
Digital footprint	Trail left when a person uses the Internet

Q7. Bank SMS

a) Will you SMS your PIN?

No, never share sensitive info via SMS.

b) Will you call the helpline?

Yes, verify such messages with the official bank number.

Q8. Deleted Birthday Photos Case

a) How did Himanshu access the deleted image?

→ He likely downloaded or saved it before deletion.

b) Can others access deleted images?

→ Yes, if they downloaded or shared them.

- c) Are deleted images still part of digital footprint?
→ Yes, especially if stored on third-party servers.
-

Q9. School Wi-Fi Email Scam

- a) Discrepancy:
→ The email or URL may be fake or suspicious (phishing trap).
- b) What happens if a student clicks it?
→ They may share personal info unknowingly.
- c) Is this cyber crime?
→ **Yes – phishing**, a form of identity fraud.
-

Q10. Vacation Planning – Digital Footprint

Question:

Which activity created a digital footprint?

- a) Weather check
- b) Air ticket search
- c) Hotel deals
- d) Places to visit

Answer:

All of them.

Justification: Any online activity leaves a digital trace.

Q11. Detecting Cyberbullying

- a) Signs of cyberbullying:
- Mood changes
 - Avoiding devices
 - Mention of online abuse
- b) IT Act Provision:
→ **Section 66A & amendments** deal with online harassment and abusive communication.
-

Q12. Differences

a) Copyright vs Patent

Copyright	Patent
Protects creative work (e.g., art)	Protects inventions or processes
Automatic	Requires filing

b) Plagiarism vs Copyright Infringement

Plagiarism	Infringement
Ethical issue	Legal violation
No credit to author	Use without permission

c) Ethical vs Non-ethical Hacking

Ethical	Non-ethical
With permission	Unauthorized access

d) Active vs Passive Footprint

Active	Passive
Intentional activity	Background data collection

e) Free Software vs FOSS

Free Software	FOSS
Free to use	Free to use and edit source code

Q13. Crediting Sources (Text Use)

- Use quotation marks

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- Mention source/URL
 - Paraphrase and still cite the original content
-

Q14. Using Public Domain Images

- Use Google Advanced Search > Usage Rights
 - Use platforms like Pixabay, Unsplash
 - Check for Creative Commons licensing
 - Always credit if license requires it
-

Q15. Home Wi-Fi Security

- Use strong password (e.g., **MyNet#2025@home**)
 - Change regularly
 - Share password with:
 - ✓ Parents
 - ✗ Friends
 - ✗ Neighbours
 - ✗ Tutors (only if needed)
-

Q16. Safety for Device and Surfing

a) Computer Maintenance:

- Clean device
- Avoid food/drink nearby
- Update antivirus
- Don't install pirated software

b) Safe Internet Surfing:

- Use strong passwords
 - Use secure (HTTPS) sites
 - Avoid suspicious links
 - Use incognito when needed
-

Q17. Data Privacy

Answer:

Protection of personal information from misuse.

Websites collect: IP address, location, browser, search history, email ID, etc.

Q18. Sunil vs Jagdish – Tech Differences

Student	Browser Used	Word Processor Used
Sunil	Google Chrome	Google Docs (Cloud-based)
Jagdish	Mozilla Firefox	Libre Office Writer (FOSS)

Q19. Cyber Crime Experience

a) Identity Theft Example:

A fake bank account opened using your Aadhaar details.

IT Act Section: 66C

b) Credit Card Account Theft:

Unauthorized purchases using your card.

IT Act Section: 66D

Q20. Neerja's Email Etiquette

Missing Etiquettes:

- Subject line
 - Formal greeting
 - Clear message body
 - Sender's name & class
 - Proper closing (e.g., Regards)
-

Q21. Health Hazards of Laptop Overuse

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- Eye strain
 - Back/neck/wrist pain
 - Poor posture
 - Obesity from lack of activity
 - Mental fatigue
 - Sleep disturbance
 - Stress
 - Repetitive strain injuries
-

2-Mark Questions

What is open-source software? Give one example.

Open-source software is software whose source code is available to users for use, modification, and distribution. Example: LibreOffice.

What is the GNU General Public License (GPL)?

GPL is a free software license that guarantees end users the freedom to run, study, share, and modify the software.

What is the difference between freeware and open-source software?

Freeware is software available at no cost but without source code access. Open-source software is free and provides access to its source code.

Name any two FOSS tools and their purpose.

1. GIMP – Image editing
2. LibreOffice – Document processing

What is the role of Creative Commons in copyright?

Creative Commons provides licenses that allow creators to share their work with specific usage rights.

What do the CC BY and CC BY-NC licenses allow?

CC BY allows reuse with attribution. CC BY-NC allows reuse with attribution but not for commercial purposes.

Who are white hat hackers? How do they help organizations?

White hat hackers are ethical hackers who help organizations find and fix security vulnerabilities.

Who are black hat hackers or crackers?

Black hat hackers exploit security weaknesses illegally for personal gain or to cause harm.

Define ransomware in simple terms.

Ransomware is a type of malware that locks user data and demands payment for access.

What is a digital signature and who issues it in India?

A digital signature verifies the authenticity of digital documents. In India, it is issued by Certifying Authorities like NIC or eMudhra.

What is the Cyber Appellate Tribunal? What is its function?

It is a body that handles appeals related to cyber law offenses under the IT Act.

What is WEEE in the context of e-waste?

WEEE stands for Waste Electrical and Electronic Equipment, referring to discarded electronic devices.

What is leaching and how does it impact the environment?

Leaching is the process where toxic chemicals seep from e-waste into the soil and groundwater, polluting them.

Define the Polluter Pays Principle.

It is the principle that those who produce pollution must bear the costs of managing it.

List any two harmful effects of e-waste on human health.

1. Brain and kidney damage due to lead exposure
2. Lung cancer from inhaling toxic fumes

What is plagiarism? How is it different from copyright infringement?

Plagiarism is using someone's work without credit. Copyright infringement is illegal use of copyrighted material.

How can you identify a phishing email?

By checking for suspicious links, unknown senders, spelling errors, and urgent or threatening language.

Define identity theft. Give two examples.

Identity theft is stealing personal information to commit fraud.

Examples: Using someone's Aadhaar to open a bank account; Accessing someone's email account.

Differentiate between CC BY-SA and CC BY-ND.

CC BY-SA: Share alike with attribution.

CC BY-ND: Share only without changes, with attribution.

What is ergonomics and why is it important for digital users?

Ergonomics is designing safe and efficient workspaces. It helps prevent health issues like back pain and eye strain.

4-Mark Questions

Explain the environmental and health hazards caused by e-waste.

E-waste contains toxic materials like lead, mercury, and cadmium. It can cause groundwater pollution, air pollution from burning plastics, and health problems like cancer, brain damage, and respiratory issues.

Describe the role of the Central Pollution Control Board (CPCB) in e-waste management.

CPCB sets guidelines for e-waste disposal, monitors compliance, supports research on recycling technologies, and works with state boards to ensure safe handling of electronic waste.

How does the Department of Information Technology (DIT) contribute to e-waste regulation?

DIT promotes awareness about e-waste, encourages R&D in eco-friendly disposal methods, supports e-waste policy development, and collaborates with industries for safe practices.

Explain the significance of ergonomics in preventing computer-related health issues.

Ergonomics helps design workspaces that prevent strain and injuries. Proper seating, screen positioning, and breaks reduce risks like carpal tunnel syndrome, eye strain, and back pain.

Discuss different types of Creative Commons licenses with one example each.

1. CC BY – Reuse allowed with attribution.
2. CC BY-SA – Reuse with attribution and share alike.
3. CC BY-NC – Reuse with attribution, non-commercial only.
4. CC BY-ND – Reuse with attribution, no modifications allowed.

Differentiate between white hat hackers and black hat hackers. Give examples of both.

White hats are ethical hackers helping organizations fix security. Example: Security analyst.
Black hats break into systems illegally. Example: Cybercriminal stealing data.

What are the different types of identity theft? Explain each with one line.

1. Financial identity theft – Using credit/debit card info for fraud.
2. Criminal identity theft – Impersonating someone during a crime.
3. Medical identity theft – Using someone's health insurance info.
4. Child identity theft – Using a minor's identity for illegal acts.

Explain the concept of ransomware. How does it spread and what are its dangers?

Ransomware encrypts files and demands payment. It spreads through phishing emails, infected software, or malicious ads. It leads to data loss and financial extortion.

What are the features of Free and Open Source Software (FOSS)? Give two examples.

FOSS allows free use, modification, and distribution of software. It promotes transparency and collaboration.

Examples: Linux, LibreOffice.

How does the Polluter Pays Principle help in e-waste management? Illustrate with an example.

This principle ensures that producers bear the cost of managing waste. Example: A company must pay for recycling old electronics they manufacture.

👉 A Note by Srishti Ma'am (for the Exam):

"Keep reading — even if you feel you'll forget everything in the exam. Trust me, you won't. When the moment comes, your mind will recall more than you expect. Just don't give up."

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