

# Cyberethics

## Fastrack REVISION

- ▶ **Cyberethics:** Cyberethics are the ethics, or the moral principles, applied to the online environment. It is the philosophic education of ethics related to computers, incorporating user behaviour and what computers are programmed to do.
- ▶ **E-Commerce:** The branch of ICT that allows selling or buying things online, is known as e-commerce. The process of buying and selling of products or services over electronic systems and using communication technology like Internet is defined as e-commerce.
- ▶ E-commerce not only covers buying or selling, rather a wide variety of commerce including Electronic Funds Transfer, Supply Chain Management, Internet Marketing, Online Transaction Processing, Electronic Data Interchange (EDI), etc.
- ▶ **Requirements for Safe E-Commerce Transactions:** The following are some of the fundamental requisites that ensure safe electronic transactions and payments.
  - **Confidentiality:** At the time of buying some objects online, we are generally asked to enter our personal information such as name, delivery address (house address), credit card or debit card details, etc. Such information should be kept confidential and not be accessible by any unauthorised person. It should not be hacked or leaked at the time of transaction or transmission.
  - **Integrity:** Information should not be hampered or changed during its transmission over the network. **For example:** If you are making a payment of ₹ 2,000 using your credit card or debit card, then ₹ 2,000 should be deducted from your account. This information should not get changed.
  - **Encryption:** Information should be encrypted and decrypted only by the authorised user.
  - **Availability:** As e-commerce is a crucial branch of ICT, the information required for completing a transaction should be available on time. Delay in the availability of information may incur loss in business.
  - **Authenticity:** Authenticity is an important requisite of e-commerce. Only authorised persons should be allowed to gain access to information. Otherwise, unauthorised persons may steal and misuse the information.
- ▶ **Measures to Ensure Security during E-Commerce:** Security is one of the primary concerns that restrain consumers from engaging with the e-commerce and doing various online transactions such as online banking, or the use of credit cards, debit cards and other tokens like the PayPal, Paytm, etc.
- ▶ **Encryption:** Encryption is a secure technique to protect data being transmitted over a network. It is a process of converting plain text or data into ciphertext (the text that is not easily understandable), so that the transmitted information cannot be accessed by anyone other than the receiver and the sender. The sender of the information encrypts the data using a secret code and the specified receiver only can decrypt the data using the same or different secret code.
- ▶ **Digital Signature:** A digital signature is a form of electronic signature that authenticates a document or transaction through encryption and password. So, the use of the digital signatures should be encouraged while doing online transactions to ensure the authenticity of information.
- ▶ **Security Certificates:** Security certificate is also a unique digital identification that is used to verify the identity of an individual website or user. It can also be used to ensure the authenticity of a person and information.
- ▶ **Security Protocols Used Over the Internet:** There are different security protocols available over the Internet that ensure security during e-commerce transactions. Some such protocols are SSL (Secure Sockets Layer) and SHTTP (Secure Hypertext Transfer Protocol). These protocols ensure and meet different security requirements such as authentication, encryption, integrity and digital signatures.
- ▶ **Some More Ethics in Computing:** The term ethics generally refers to a set of moral principles that govern the behaviour of an individual or a group of individuals. In the same manner, ethics in computing or computer ethics is a set of moral principles which regulate and govern the use of computing and Internet technology. Plagiarism, Cyber bullying, Hacking, Phishing, Spamming, Software piracy, Intellectual property rights are some common issues that are governed by computer ethics.
- ▶ **Intellectual Property Rights:** The term Intellectual Property (IP) refers to the creations of the mind, which have both a moral and a commercial value. Intellectual property is a property that evolves from the human intellect and is a product of the human creation. It has two distinct forms: Literary and Artistic works and Industrial property.



The most significant effect of this form of licensing is that the end-user must accept the software licence if ownership of the software remains with the software publisher. The end-users may not be able to use the software at all if they do not accept the terms of the licence. One example of such a proprietary software licence is the licence for Adobe Acrobat. As is the case with proprietary software licences, Acrobat's licence contains an extensive list of activities which are restricted, such as reverse engineering, simultaneous use of the software by multiple users, etc.

- ▶ **Free Software Licence:** A free software licence is a notice that grants the receiver of software wide-ranging rights to use, modify or redistribute that particular software. These actions are usually prohibited by copyright law, but the rights-holder (usually the author) of that software can remove these restrictions by accompanying the software with a licence which grants the receiver these specific rights.
- ▶ **Opensource Software Licence:** An opensource licence for computer software and other products allows the source code or design to be used, modified and/or shared under defined terms and conditions. Opensource licenced software is mostly available free, though this does not necessarily have to be the case.
- ▶ **Popular Opensource Licences:** The following OSI-approved licences are popular, widely used, or have strong communities:
  - ▶ Apache Licence 2.0
  - ▶ BSD 3-Clause 'New' or 'Revised' licence
  - ▶ BSD 2-Clause 'Simplified' or 'FreeBSD' licence
  - ▶ GNU General Public Licence (GPL)
  - ▶ GNU Library or 'Lesser' General Public Licence (LGPL)
  - ▶ MIT licence
  - ▶ Mozilla Public Licence 2.0
  - ▶ Common Development and Distribution Licence
  - ▶ Eclipse Public Licence
- ▶ **Opensource Movement:** Opensource doesn't just mean access to the source code. The distribution terms of opensource software must comply with the following criteria:
  - ▶ **Free Redistribution:** The licence shall not restrict any party from selling or giving away the software as a component of an aggregate software distribution containing programs from several different sources. The licence shall not require a royalty or other fee for such sale.
  - ▶ **Source Code:** The program must include source code, and must allow distribution in source code as well as in its compiled form. Where some form of a product is not distributed with source code, there must be a well-publicised means of obtaining the source code for no more than a reasonable reproduction cost, preferably downloading via the Internet without charge. The source code must be the preferred form in which a programmer would modify the program. Deliberately obfuscated source code is not allowed. Intermediate forms such as the output of a preprocessor or translator are also not allowed.

- ▶ **Derived Works:** The licence must allow modifications and derived works, and must allow them to be distributed under the same terms as the licence of the original software.
  - ▶ **Integrity of the Author's Source Code:** The licence may restrict a source code from being distributed in modified form only if the licence allows the distribution of 'patch files' with the source code for the purpose of modifying the program at build time. The licence must explicitly permit distribution of software built from modified source code. The licence may require derived works to carry a different name or version number from the original software.
  - ▶ **No Discrimination against Persons or Groups:** The licence must not discriminate against any person or group of persons.
  - ▶ **No Discrimination against Fields of Endeavour:** The licence must not restrict anyone from making use of the program in a specific field of endeavour. **For example**, it may not restrict the program from being used in a business, or from being used for genetic research.
  - ▶ **Distribution of Licence:** The rights attached to the program must apply to all to whom the program is redistributed without the need for execution of an additional licence by those parties.
  - ▶ **Licence Must not be Specific to a Product:** The rights attached to the program must not depend on the program being part of a particular software distribution. If the program is extracted from that distribution and used or distributed within the terms of the program's licence, all parties to whom the program is redistributed should have the same rights as those that are granted in conjunction with the original software distribution.
  - ▶ **Licence Must not Restrict other Software:** The licence must not place restrictions on other software that is distributed along with the licenced software. **For example**, the licence must not insist that all other programs distributed on the same medium must be opensource software.
  - ▶ **Licence Must be Technology-Neutral:** No provision of the licence may be predicated on any individual technology or style of interface.
- ▶ **Digital Divide:** It refers to two regions of the society, *i.e.*, one where people are well-informed and have access to information and communication technology and another where people have either zero or a very limited access to the facilities. The facilities include the telecommunication services, television, personal computers and the Internet.
  - ▶ **Digital Unite:** It refers to a society where everyone would be skilled and equipped to take advantages of various ICT services. Everyone would be able to access the Internet, even in the rural and remote areas. People will be educated enough to utilise technology.



- **Bridging the Gap between the Digital Divide and Digital Unite:** The gap between the Digital divide and the Digital unite must be covered up, so that maximum benefits can be taken from the technologies. For making this possible, both the people and governments should work together. People should use such tools to educate themselves and not feel hesitant about learning and using new technologies.

Governments should work on providing the basic education and basic infrastructure for using such technologies to all the people, so that maximum people can get the benefits.

- **Netiquettes:** These are the etiquettes that are to be followed while communicating online such as: Personal information should not be revealed online. Strong password should be made so that no one can hack your profile.

## Practice Exercise

### ? Multiple

#### Choice Questions

- Q 1. Statement 1: FOSS is more user friendly as compared to Proprietary software. (CBSE QP-2021, Term-1)**  
**Statement 2: Proprietary software allows developers across the globe to participate in the ongoing development of the software.**  
**Select the best option from the list given below to understand the correctness of both the statement:**
- Both 1 and 2 statements are correct.
  - Statement 1 Correct and Statement 2 Incorrect.
  - Statement 1 Incorrect and statement 2 correct.
  - Statement 1 incorrect and Statement 2 Incorrect.
- Q 2. Which of the following is privacy threats to e-commerce? (CBSE QP-2021, Term-1)**
- Password theft
  - Identity theft
  - Phishing
  - All of these
- Q 3. GIMP, Mozilla Firefox, GNU/Linux, Python, etc., come under: (CBSE QP-2021, Term-1)**
- Freeware
  - FOSS
  - Shareware
  - Proprietary
- Q 4. What are computer ethics?**
- An honest, moral code that should be followed when on the computer
  - A computer program about honesty
  - A computer that fits on or under a desk
  - A list of commandments in the Bible
- Q 5. .... are the ethics, or the moral principles, applied to the online environment.**
- E-commerce
  - E-shopping
  - Cyberethics
  - Cyberbullying
- Q 6. In this modern age, users have easy access to large volumes of information available .....**
- anytime
  - anywhere
  - almost for anybody
  - All of these
- Q 7. The branch of ICT that allows selling or buying things online, is known as .....**
- E-commerce
  - E-shopping
  - E-learning
  - E-reservation
- Q 8. EDI stands for .....**
- Effective Data Interchange
  - Electrical Data Interchange
  - Electronic Data Interchange
  - None of the above

- Q 9. ICT stands for .....**

- Informatics and Communication Technology
- Information and Communication Trade
- Information and Commerce Technology
- Information and Communication Technologies

- Q 10. E-commerce not only covers buying or selling, rather a wide variety of commerce including electronic funds transfer, supply chain management, ....., etc.**

- internet marketing
- online transaction processing
- electronic data interchange
- All of the above

- Q 11. .... is an essential part of any electronic transaction that takes place over the Internet.**

- Security
- Networking
- Communication
- Password

- Q 12. Secure data transmission means:**

(CBSE SP-2021, Term-1)

- Data is accessible by any unauthorised person during transmission.
- Data cannot be accessed by any unauthorized person during transmission.
- Transmission of data happens easily.
- No one can access it.

- Q 13. Arun clicks on a link received in a message on his phone which promises him a complimentary trip to a destination of his choice. He forwarded this message to his friend, Panshul and asked him to do the same. But Panshul refuses and tells Arun that his personal and private information, such as online account names, login information and passwords can be stolen and he should be careful of such ..... attacks. (CBSE SP-2021, Term-1)**

- Phishing
- Spamming
- Scamming
- Plagiarism

- Q 14. Which of these is not an example of Cyber bullying? (CBSE SP-2021, Term-1)**

- Copying a classmate's personal photo against his/her permission from his social media account and sending it to other friends on their e-mails.
- Bullying a classmate in the school corridor.
- Threatening someone on whatsapp.
- Posting mean messages about someone on their social media.



► **Different Types of Intellectual Property Rights are as follows:**

- **Patent:** Patent is a legal document that gives the inventor sole rights to make, sell or use an invention. A person or a group of persons or an organisation or company can get their invention covered under a patent to protect it from unauthorised use.
- **Trademark:** A logo or symbol that is printed on business items to make it exclusive, is known as a trademark. A trademark is valid for ten years and can be renewed after that.
- **Copyright:** Copyright is a right that is granted by law to the creator or inventor for his original work. The rights concerning a copy of any product are reserved by the writer or the company that has published the work. Copyright covers literary and artistic establishments such as books, plays, novels, articles, music compositions and much more.
- **Plagiarism or Copyright Infringement:** The word plagiarism comes from a Latin word for kidnapping. In this perspective, plagiarism may be defined as the act of taking another person's writing, conversation, song, or even an idea and passing it off as your own, without citing or crediting the original author or source.
- **Types of Plagiarism:** Depending on its intensity, plagiarism can be of following different types:
  - **Direct or Complete Plagiarism:** It is the verbatim transcription of a section of someone else's work, without making any changes in the original work. **For example,** when you copy someone else's assignment and submit it as if it is yours and you have made it, such an act is referred to as direct plagiarism.
  - **Minimal Plagiarism:** In this, the original work is edited, reframed and reproduced. It is very common in the education field.
  - **Mosaic or Substantial Plagiarism:** Here, more work is added to the original work and the sequence is changed. It occurs when a student borrows phrases from a source without using quotation marks, or finds synonyms for the author's language while keeping to the same general structure and meaning of the original.
- **Protective Measures to Prevent Plagiarism:** The following steps should be taken to prevent plagiarism.
  - Always cite the source of the text. Citation strengthens the resource.
  - Rephrase the text material to avoid plagiarism.
  - One should promote innovative and original thoughts and ideas instead of using other's work. One should be aware of the pattern of references while referring to different resources.
  - Always remember that a precise documentation could be a waste of time, but you would waste a lot more time trying to defend yourself against an allegation of plagiarism.
  - Ensure to point out in your document where you are directly quoting a source, when you are paraphrasing or when you are summarising.

► **Digital Property Rights:** Digital assets that users create, and which exist in any kind of digital form, **for example,** online or on storage media, constitute the digital property of users. Digital property includes digital documents, audio files video files and other digital data that is shared, or stored on digital devices such as mobile phones, personal computers, laptops, portable media players, tablets, storage devices, etc.

► **Protection of Digital Property Rights:** The guiding premise of various copyright and patent laws is the ethic that legal protection of digital property is needed to encourage user welfare as it promotes creative genius, and therefore, great products. The following are some ways to protect digital property rights.

- **Using a Software Escrow:** Software developers may want to share their software with as few people as possible. Only the most trusted, or the team of developers, should have access to the source code. Anyone outside the team, be it licencees, vendors, distributors, etc., can be a threat to the security of your digital assets. One solution is the use of a software escrow, which keeps your software's source code in safe hands to make sure that no one can obtain it without authorisation.
- **Using Digital Rights Management (DRM) Solutions:** DRM is a set of access control technologies for restricting the use of proprietary software and copyrighted works. DRM controls the use, modification and distribution of copyrighted works, such as software or other digital products. A Digital Rights Management (DRM) solution may also protect your software from being accessed for source codes using computer programs like decompilers.
- **Anti-hacker Software:** There are many anti-hacking software and technologies available which can be used to protect digital assets such as proprietary software, applications, tools, etc. These anti-hacking tools prevent attackers from controlling or accessing your software, and therefore, help in protecting digital assets.
- **Software Licence:** It is a document that provides legally binding guidelines for the use and distribution of software. Software licences typically provide end-users with the right to one or more copies of the software without violating copyrights.
- **Proprietary Software Licences:** The primary aspect of proprietary software licences is that a software publisher allows the use of one or more copies of software under the End-User Licence Agreement (EULA), but ownership of those copies remains with the software publisher (hence term "proprietary" is used).

This aspect of proprietary software licences means that certain rights regarding the software are reserved solely by the software publisher. Therefore, it is typical of EULAs to include terms which define the uses of the software, such as the number of installations allowed or the terms of distribution.



**Q 15. Name the activity of electronically buying or selling of products on online services or over the Internet.**

(CBSE QP-2021, Term-1)

- a. Cyber Commerce      b. E-Commerce
- c. Internet business      d. Electric commerce

**Q 16. Which of the following is related to cyberethics?**

- a. Ethics in the online environment
- b. Online gaming
- c. Ethics at school
- d. Telecommunications

**Q 17. .... are the fundamental requisites that ensure safe electronic transactions and payments.**

- a. Confidentiality, integrity
- b. Encryption, availability
- c. Authenticity
- d. All of the above

**Q 18. .... is a secure technique to protect data being transmitted over a network.**

- a. E-commerce      b. Encryption
- c. Plagiarism      d. Digital property

**Q 19. Such information should be kept ..... and not be accessible by any unauthorised person.**

- a. confidential      b. integrity
- c. encryption      d. available

**Q 20. When you use the word ..... it means you are protecting your data from getting disclosed.**

- a. confidentiality      b. integrity
- c. authentication      d. availability

**Q 21. • This kind of software is freely distributed to users on a trial basis.  
• There's a time limitation inherent in the software and would be deactivated when the time period is finished.  
• One has to pay for the software to use it after the time limit.**

**Identify the type of software:** (CBSE QP-2021, Term-1)

- a. OSS      b. Proprietary
- c. Freeware      d. Shareware

**Q 22. Select the e-commerce fraud from the following list:**

(CBSE QP-2021, Term-1)

- a. payment fraud      b. identity theft
- c. phishing      d. All of these

**Q 23. .... means the protection of data from modification by unknown users.**

- a. Confidentiality      b. Integrity
- c. Authentication      d. Non-repudiation

**Q 24. When integrity is lacking in a security system, ..... occurs.**

- a. database hacking      b. data deletion
- c. data tampering      d. data leakage

**Q 25. .... of information means, only authorised users are capable of accessing the information.**

- a. Confidentiality      b. Integrity
- c. Non-repudiation      d. Availability

**Q 26. Why these four elements (confidentiality, integrity, authenticity and availability) are considered fundamental?**

- a. They help understanding hacking better
- b. They are key elements to a security breach
- c. They help understand security and its components better
- d. They help to understand the cyber-crime better

**Q 27. This helps in identifying the origin of information and authentic user. This referred to here as .....**

- a. confidentiality      b. integrity
- c. authenticity      d. availability

**Q 28. Data ..... is used to ensure confidentiality.**

- a. encryption      b. locking
- c. deleting      d. backup

**Q 29. Preeti needs to send a very confidential message to her colleague in office over a secure channel. She uses a technique wherein an actual message (which is in readable form) can be converted into an unreadable message. This concept is known as .....**

- a. Encryption      b. Decryption
- c. Plagiarism      d. Data security

**Q 30. Which of the following is not an example of intellectual property rights?**

- a. Patent      b. Trademark
- c. Password      d. Industrial design

**Q 31. Which of the following techniques can be used for security of data?**

- a. Authentication      b. Authorisation
- c. Encryption      d. All of these

**Q 32. Term ..... refers to the gap between those who have access to ICTs and those who don't.**

(CBSE QP-2021, Term-1)

- a. internet gap      b. internet divide
- c. digital divide      d. technology divide

**Q 33. Which of the following will come under IPR?**

(CBSE QP-2021, Term-1)

- a. Trademark      b. Patent
- c. Copyright      d. All of these

**Q 34. A unique symbol or word used to represent, a business or its products is known as:**

(CBSE QP-2021, Term-1)

- a. Patent      b. Trademark
- c. Copyright      d. None of these

**Q 35. Manish has copied the information from the resources available on the Internet for his article without acknowledging the original source or taking the permission from the original creator. This unethical act is termed as:** (CBSE QP-2021, Term-1)

- a. phishing      b. plagiarism
- c. spying      d. identity theft



**Q 36. Which of these is not a proper method of maintaining confidentiality?**

- a. Biometric verification
- b. ID and password based verification
- c. 2-factor authentication
- d. Switching off the phone

**Q 37. Data integrity gets compromised when ..... and ..... are taken control off.**

- a. access control, file deletion
- b. network, file permission
- c. access control, file permission
- d. network, system

**Q 38. .... is the latest technology that faces an extra challenge because of CIA paradigm.**

- a. Big data
- b. Database systems
- c. Cloud storages
- d. Smart dust

**Q 39. One common way to maintain data availability is .....**

- a. data clustering
- b. data backup
- c. data recovery
- d. data altering

**Q 40. The sender of the information ..... the data using a secret code and the specified receiver only can decrypt the data using the same or different secret code.**

- a. encrypts
- b. decrypts
- c. Both a. and b.
- d. None of these

**Q 41. Encryption is a process of converting plaintext or data into ..... so that the transmitted information cannot be accessed by anyone other than the receiver and the sender.**

- a. ciphertext
- b. simple text
- c. encoded text
- d. decrypted text

**Q 42. Charlene is an artist. She displays her artwork on the Internet using her website to attract buyers. One day while browsing the Internet she discovers that another artist has displayed her painting portraying it as his own. Which right of Charlene was infringed?**

(CBSE SP-2021, Term-1)

- a. Digital privacy right
- b. Intellectual property right
- c. Digital property right
- d. Intellectual privacy right

**Q 43. Which of the following is not a reason for the digital divide in different demographic regions?**

(CBSE SP-2021, Term-1)

- a. Cost of technology
- b. Lack of information
- c. Lack of access to high performance computers
- d. Lack of access to the disabled

**Q 44. One of the most popular method of encrypting data is Ceaser cipher where original data is replaced by a key character like if key is -2 then 'a' will be replaced by 'y', 'b' is replaced by 'z' and so on.**

If the key is 2 i.e. Every letter is replaced by its next to next letter means the letter 'A' will be replaced

by 'C', the letter 'B' is replaced by 'D', and so on then what will be the replacement of the word 'CoMpUtEr'.

(CBSE SP-2021, Term-1)

- a. Eqorwvgt
- b. eQOrwVtG
- c. eqroWVTG
- d. EqOrWvGt

**Q 45. The use of the digital signatures should be encouraged while doing online transactions to ensure the ..... of information.**

- a. integrity
- b. availability
- c. confidentiality
- d. authenticity

**Q 46. Security certificate is also a unique digital identification that is used to verify the identity of an individual website or user.**

- a. User certificate
- b. Security certificate
- c. Secure certificate
- d. None of these

**Q 47. SHTTP stands for .....**

- a. Session Hypertext Transfer Protocol
- b. Socket Hypertext Transfer Protocol
- c. Secure Hypertext Transfer Protocol
- d. None of the above

**Q 48. Secure Electronic Transaction is a secure protocol developed by ..... in collaboration.**

- a. Mastercard
- b. Visa
- c. Both a. and b.
- d. None of these

**Q 49. Secure Electronic Transaction has various components such as ..... that provide and meet different security requirements in the field of e-commerce.**

- a. certificate authority software
- b. merchant software
- c. card holder's digital wallet
- d. All of the above

**Q 50. The term ..... generally refers to a set of moral principles that govern the behaviour of an individual or a group of individuals.**

- a. ethics
- b. security
- c. encryption
- d. decryption

**Q 51. .... are some common issues that are governed by computer ethics.**

- a. Plagiarism
- b. Cyber bullying
- c. Hacking
- d. All of these

**Q 52. The ..... law grants exclusive rights to a variety of intellectual works such as literary, musical, artistic works and much more.**

- a. patent
- b. copyright
- c. intellectual property
- d. None of these

**Q 53. A person or a group of persons or an organisation or company can get their invention covered under a ..... to protect it from unauthorised use.**

- a. patent
- b. copyright
- c. intellectual property
- d. None of these

**Q 54. .... are the rights given to persons over the creations of their minds.**

(CBSE QP-2021, Term-1)

- a. Creative rights
- b. Intellectual property rights
- c. Intellectual creative rights
- d. Creative property rights



- Q 55.** The process of converting the original representation of the information (plaintext), into an alternative form (ciphertext) is known as: (CBSE SP-2021, Term-1)  
 a. Encryption                      b. Decryption  
 c. Phishing                         d. Plagiarism
- Q 56.** Encryption is one of the most prominent technique used for: (CBSE SP-2021, Term-1)  
 a. fast data transmission  
 b. secure data transmission  
 c. far away data transmission  
 d. free data transmission
- Q 57.** R in IPR stands for: (CBSE SP-2021, Term-1)  
 a. Role                                b. Rights  
 c. Range                             d. RAM
- Q 58.** A trademark is valid for ..... years and can be renewed after that.  
 a. seven      b. five              c. ten              d. twelve
- Q 59.** ..... covers literary and artistic establishments such as books, plays, novels, articles, music compositions and much more.  
 a. Patent                              b. Copyright  
 c. Intellectual property      d. None of these
- Q 60.** Which one of the following software comes under Open-Source Software category? (CBSE SP-2021, Term-1)  
 a. Photoshop                      b. Ms-Paint  
 c. Linux                              d. Windows
- Q 61.** Which of the following is not a cybercrime? (CBSE SP-2021, Term-1)  
 a. Plagiarism  
 b. Phishing  
 c. Using licensed software  
 d. Hacking
- Q 62.** ..... is a software for which exclusive rights of modification in the source code remain with the owner. (CBSE SP-2021, Term-1)  
 a. Free open-source software  
 b. Freeware  
 c. Open-source software  
 d. Proprietary software
- Q 63.** In ....., the original work is edited, reframed and reproduced. It is very common in the education field.  
 a. minimal plagiarism  
 b. direct or complete plagiarism  
 c. mosaic or substantial plagiarism  
 d. None of the above
- Q 64.** ..... that users create, and which exist in any kind of digital form, for example, online or on storage media, constitute the digital property of users.  
 a. Electronic assets              b. Digital assets  
 c. E-assets                         d. None of these
- Q 65.** ..... keeps your software's source code in safe hands to make sure that no one can obtain it without authorisation.  
 a. Digital Rights Management (DRM)  
 b. Anti-hacker software  
 c. Software escrow  
 d. None of the above
- Q 66.** A ..... is the right given by the government to an inventor to protect his/ her invention from being used/copied for a fixed period of time. (CBSE SP-2021, Term-1)  
 a. copyright                              b. intellectual Property  
 c. patent                                 d. trademark
- Q 67.** Pratham is excited to use a new software which is freely available to download but he cannot modify or change the source code. Pratham is using: (CBSE SP-2021, Term-1)  
 a. Freeware                              b. Open-source software  
 c. Both a. and b.                      d. None of the above
- Q 68.** ..... controls the use, modification, and distribution of copyrighted works, such as software or other digital products.  
 a. Digital Rights Management (DRM)  
 b. Anti-hacker software  
 c. Software escrow  
 d. None of the above
- Q 69.** A ..... solution may also protect your software from being accessed for source codes using computer programs like decompilers.  
 a. Digital Rights Management (DRM)  
 b. anti-hacker software  
 c. software escrow  
 d. None of the above
- Q 70.** Which of the following is a way to avoid plagiarism when using material from the Internet? (CBSE SP-2021, Term-1)  
 i. Citing                                  ii. Paraphrasing  
 iii. Referencing                      iv. Embedding  
**Choose the correct option:**  
 a. i and ii                                  b. Only i  
 c. i, ii and iii                              d. ii and iv
- Q 71.** Identify the correct statement regarding OSS: (CBSE QP-2021, Term-1)  
 a. It is available for nominal or zero licensing and usage charges  
 b. It can be shared with others freely  
 c. It is modifiable  
 d. All of the above
- ? Fill in the Blanks**  
 Type Questions
- Q 72.** Selling or buying stuff online, is known as .....
- Q 73.** ..... is a secure technique to protect data being transmitted over a network.



Q 74. .... may be defined as the act of taking another person's writing, conversation, song, or even an idea and passing it off as your own.

Q 75. .... refers to two regins of the society.

## ? Assertion and Reason

### Type Questions

**Directions (Q. Nos. 76-83):** In the questions given below, there are two statements marked as Assertion (A) and Reason (R). Read the statements and choose the correct option.

- a. Both (A) and (R) are true and (R) is the correct explanation of (A).
- b. Both (A) and (R) are true, but (R) is not correct explanation of (A).
- c. (A) is true, but (R) is false.
- d. (A) is false, but (R) is true.

Q 76. Assertion (A): Plagiarism, Cyber bullying, Hacking, Phishing, Spamming, Software piracy, Intellectual property rights are some common issues that are governed by computer ethics.

Reason (R): Patent refers to the creations of the mind, which have both a moral and a commercial value.

Q 77. Assertion (A): Patent is a legal document that gives the inventor sole rights to make, sell or use an invention.

Reason (R): Intellectual Property (IP) is a right that is granted by law to the creator or inventor for his original work.

Q 78. Assertion (A): A logo or symbol that is printed on business items to make it exclusive, is known as a trademark. A trademark is valid for seven years and can be renewed after that.

Reason (R): Copyright covers literary and artistic establishments such as books, plays, novels, articles, music compositions and much more.

Q 79. Assertion (A): In minimal plagiarism the original work is edited, reframed and reproduced. It is very common in the education field.

Reason (R): Direct or complete plagiarism is the verbatim transcription of a section of someone else's work, without making any changes in the original work.

Q 80. Assertion (A): Digital assets that users create, and which exist in any kind of digital form, for example, online or on storage media, constitute the digital property of users.

Reason (R): The owners are the ones who only can decide in what form the assets can be sold, reused, modified, repurposed or applied in any other media other than what the assets were originally meant for.

Q 81. Assertion (A): There are many anti-hacking software and technologies available which can be used to protect digital assets such as proprietary software, applications, tools, etc.

Reason (R): These anti-hacking tools prevent attackers from controlling or accessing your software, and therefore, help in protecting digital assets.

Q 82. Assertion (A): A software licence is a document that provides legally binding guidelines for the use and distribution of software.

Reason (R): Opensource software licences a notice that grants the receiver of software wide-ranging rights to use, modify or redistribute that particular software.

Q 83. Assertion (A): Digital unite refers to a society where everyone would be skilled and equipped to take advantages of various ICT services.

Reason (R): The licence must discriminate against any person or group of persons.

## Answers

- 1. (b) Statement 1 Correct and Statement 2 incorrect.
- 2. (d) All of these
- 3. (b) FOSS
- 4. (a) An honest, moral code that should be followed when on the computer
- 5. (c) Cyberethics
- 6. (d) All of these
- 7. (a) E-commerce
- 8. (c) Electronic Data Interchange
- 9. (d) Information and Communication Technologies

- 10. (d) All of the above
- 11. (a) Security
- 12. (b) Data cannot be accessed by any unauthorised person during transmission.
- 13. (a) Phishing
- 14. (b) Bullying a classmate in the school corridor.
- 15. (b) E-Commerce
- 16. (a) Ethics in the online environment
- 17. (d) All of the above
- 18. (b) Encryption
- 19. (a) confidential



20. (a) confidentiality
21. (d) Shareware
22. (d) All of these
23. (b) Integrity
24. (c) data tampering
25. (d) Availability
26. (c) They help understand security and its components better
27. (c) authenticity
28. (a) encryption
29. (a) Encryption
30. (c) Password
31. (d) All of these
32. (c) digital divide
33. (d) All of these
34. (b) Trademark
35. (b) plagiarism
36. (d) Switching off the phone
37. (c) Access control, file permission
38. (a) Big data
39. (b) data backup
40. (a) encrypts
41. (a) ciphertext
42. (b) Intellectual property right
43. (c) Lack of access to high performance computers
44. (d) EqOrWvGt
45. (d) authenticity
46. (b) Security certificate
47. (c) Secure Hypertext Transfer Protocol
48. (c) Both a. and b.
49. (d) All of the above
50. (a) ethics
51. (d) All of these
52. (c) intellectual property
53. (a) patent
54. (b) Intellectual property rights
55. (a) Encryption
56. (b) secure data transmission
57. (b) Rights
58. (c) ten
59. (b) Copyright
60. (c) Linux
61. (c) Using licensed software
62. (d) Proprietary software
63. (a) minimal plagiarism
64. (b) Digital assets
65. (c) Software escrow
66. (c) patent
67. (a) Freeware
68. (a) Digital Rights Management (DRM)
69. (a) Digital Rights Management (DRM)
70. (c) i, ii and iii
71. (d) All of the above
72. e-commerce
73. Encryption
74. Plagiarism
75. Digital Divide
76. (c) (A) is true, but (R) is false.
77. (c) (A) is true, but (R) is false.
78. (d) (A) is false, but (R) is true.
79. (b) Both (A) and (R) are true, but (R) is not correct explanation of (A).
80. (b) Both (A) and (R) are true, but (R) is not correct explanation of (A).
81. (a) Both (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).
82. (c) (A) is true, but (R) is false.
83. (c) (A) is true, but (R) is false.

## **? Case Study Based**

### **Questions**

### **Case Study 1**

**Read the given passage carefully and answer the following questions:** (CBSE QP-2021, Term-1)

Nowadays we spend more time in the cyber world. Anyone who uses digital technology along with the Internet is a digital citizen or a netizen. Being a good netizen means practicing safe, ethical and legal use of digital technology. A responsible netizen must abide by net etiquettes, communication etiquettes and social media etiquettes.

We follow certain etiquettes during our social interactions. Similarly, we need to exhibit proper manners and etiquettes while being online. One should be ethical, respectful and responsible while surfing the Internet. We should not use copyrighted materials without the permission of the creator or owner. In a group or public forum we should respect the diversity of the people in terms of knowledge, experience, culture and other aspects.



**Q 1. Identify the net etiquette which every netizen should follow:**

- a. one should be responsible
- b. one should be ethical
- c. one should be respectful
- d. All of the above

**Q 2. Being ethical in the cyber world means:**

- a. We should share information in the cyber world.
- b. We should not use copyrighted materials without the permission of the creator or owner.
- c. We should further forward the information without checking its reliability at our own end.
- d. All of the above

**Q 3. Being respectful in the cyber world means:**

- a. We should respect different opinion of others.
- b. We should use respectful language.
- c. We should respect others privacy.
- d. All of the above

**Q 4. A netizen will be considered very irresponsible in nature if he or she:**

- a. feed the troll
- b. avoid cyber bullying
- c. checks the details before befriending on social media.
- d. All of the above

**Q 5. Person who spends more time in the cyber world may be termed as:**

- a. Netizen
- b. C. Citizen
- c. D-Citizen
- d. All of these

## Answers

1. (d) All of the above
2. (b) We should not use copyrighted materials without the permission of the creator or owner.
3. (d) All of the above
4. (a) feed the troll
5. (a) Netizen

## Case Study 2

*Read the given passage carefully and answer the following questions:*

**Cyberethics in E-Commerce:** The branch of ICT that allows selling or buying things online, is known as e-commerce. The process of buying and selling of products or services over electronic systems and using communication technology like Internet is defined as e-commerce. It is generally regarded as the sales and commercial function of e-business. Now, many businesses are running online with the help of the Internet, and a substantial increase has

been observed in the level of trade and business conducted electronically.

E-commerce not only covers buying or selling, rather a wide variety of commerce including electronic funds transfer, supply chain management, Internet marketing, online transaction processing, Electronic Data Interchange (EDI), etc.

**Q 1. Which of the following describes e-commerce?**

- a. Doing business electronically
- b. Buying goods only
- c. Sale of goods only
- d. All of the above

**Q 2. E-Commerce stands for:**

- a. Electronic Commerce
- b. Electronic Data Exchange
- c. Electric Data Exchange
- d. Electronic Commercialisation

**Q 3. Legal recognition for transactions are carried out by:**

- a. electronic data interchange
- b. electronic data exchange
- c. electronic data transfer
- d. electrical data interchange

**Q 4. Which of the following is related to cyberethics?**

- a. Ethics in the online environment
- b. Online gaming
- c. Ethics at school
- d. Telecommunications

**Q 5. Selling or buying stuff online, is known as .....**

- a. E-commerce
- b. Plagiarism
- c. Digital property
- d. Authenticity

**Q 6. Which of the following refers to intellectual property?**

- a. Creations of the mind
- b. Literary works
- c. Industrial property
- d. All of the above

**Q 7. Which of the following do anti-hacking solutions prevent attackers from?**

- a. Accessing your hardware
- b. Accessing your property
- c. Accessing your software
- d. None of the above

## Answers

1. (a) Doing business electronically
2. (a) Electronic Commerce
3. (a) electronic data interchange
4. (a) Ethics in the online environment
5. (a) E-commerce
6. (d) All of the above
7. (c) Accessing your software



## Case Study 3

*Read the given passage carefully and answer the following questions:* (CBSE SP-2021, Term-1)

Geetika has recently created her social accounts. She is very excited as she waited so long to go online. She has recently also got admission in a prestigious high school and does not know many students.

When she logs into her social media a few days later, she finds that someone is posting negative, demeaning comments on her social media profile. She is also getting repeated mails from unknown people. Whenever she goes online, she is trolled by multiple unknown people.

- Q 1. Geetika is a victim of .....**
- eavesdropping
  - plagiarism
  - phishing
  - cyber stalking
- Q 2. Which of the following is the most appropriate action she should take?**
- She should stop going online and delete her social media accounts.
  - She should not share this with anyone as she might face more of such kind of behaviour.
  - She should file a complaint at the nearest police station.
  - She should inform her parents and bring to the notice of school authorities.
- Q 3. After hearing her ordeal, the school decides to publish a set of moral principles that determines the appropriate behaviour of students while using the Internet. The school is referring to.....**
- intellectual property rights
  - internet privacy
  - computer ethics
  - cyber ethics
- Q 4. Geetika is advised by her best friend, Seerat to protect her personal information from intentional or unintentional attacks by others. This is also known as .....**
- Digital right
  - Copyright
  - Data privacy
  - Intellectual property
- Q 5. The computer teacher of Geetika's class decides to take an online session on the topic Netiquettes, which generally includes:**
- safeguarding one's passwords and sensitive online information.
  - logging out of social media accounts after the session.
  - not bullying or trolling anyone by disrespecting them or passing inappropriate remarks.
  - All of the above

## Answers

- (d) cyber stalking
- (d) She should inform her parents and bring to the notice of school authorities.
- (d) cyber ethics
- (c) Data privacy
- (d) All of the above

## Case Study 4

*Read the given passage carefully and answer the following questions:*

**Requirements for Safe E-Commerce Transactions:** In addition to the benefits gained from the e-commerce branch of ICT, there are many security concerns and other issues that prevent people to take its maximum benefits. Security is an essential part of any electronic transaction that takes place over the Internet. Clients will lose their faith in e-business if its security is compromised. At the time of buying some objects online, we are generally asked to enter our personal information such as name, delivery address (house address), credit card or debit card details, etc. Information should not be hampered or changed during its transmission over the network.

Information should be encrypted and decrypted only by the authorised user. As e-commerce is a crucial branch of ICT, the information required for completing a transaction should be available on time. Delay in the availability of information may incur loss in business. Authenticity is an important requisite of e-commerce. Only authorised persons should be allowed to gain access to information. Otherwise, unauthorised persons may steal and misuse the information.

- Q 1. Unauthorised user cannot read the data in the ..... security aspect.**
- confidentiality
  - integrity
  - authorisation
  - non-repudiation
- Q 2. In ....., data is transferred in coded form.**
- encryption
  - decryption
  - firewall
  - digital certification
- Q 3. To convert cipher text to plain text is called .....**
- firewall
  - digital certificate
  - decryption
  - virus
- Q 4. Which of the following is a fundamental requisite to ensure safety of personal information?**
- Confidentiality
  - Encryption
  - Integrity
  - Authenticity
- Q 5. What is a form of electronic signature called?**
- Certificate
  - Encryption
  - Password
  - Digital signature



Q 6. Using ..... encrypted data is decrypted.

- a. digital certificate                      b. key
- c. firewall                                      d. digital certification

Q 7. Which of the following is related to cyberethics?

- a. Ethics in the online environment
- b. Online gaming
- c. Ethics at school
- d. Telecommunications

## Answers

- 1. (a) confidentiality
- 2. (a) encryption
- 3. (c) decryption
- 4. (a) Confidentiality
- 5. (d) Digital signature
- 6. (b) key
- 7. (a) Ethics in the online environment

## Case Study 5

Read the given passage carefully and answer the following questions:

Cyberethics is a branch of applied ethics that examines moral, legal and social issues at the intersection of computer/information and communication technologies. This field is sometimes also referred to by phrases such as Internet ethics, computer ethics, and information ethics. The expression "Internet ethics" is somewhat narrow in scope and thus unable to capture the range of cyber-related ethical issues that arise independently of the Internet and networked computers per se. Because "computer ethics" connotes ethical issues affecting either computer professionals or computing machines, it also can easily fail to include a cluster of relevant issues that fall under the heading "cyberethics".

- Q 1. What do you mean by cyber ethics?
- Q 2. What is the other name of netiquettes?
- Q 3. Why it is important to use netiquettes?
- Q 4. What is spam?
- Q 5. What are the types of hacking?
- Q 6. Name any two popular open-source licences.
- Q 7. Define free software licence.

## Answers

- 1. Cyber ethics is the study of ethics pertaining to computers, covering user behaviour and what computers are programmed to do.
- 2. Internet etiquette is the other name for the netiquettes.
- 3. It is important to use netiquettes because communication online is non-verbal.
- 4. Spam is unwanted e-mail which is business related and sent to the email account in bulk.

- 5. There are two types of hacking:
  - (i) White hacking
  - (ii) Black hacking.
- 6. The two popular open-source license are:
  - (i) GNU General Public Licence (GPL)
  - (ii) GNU Library or 'Lesser' General Public licence (LGPL)
- 7. A free software licence is a notice that grants the receiver of software wide-ranging rights to use, modify or redistribute that particular software.

## ? Very Short Answer

### Type Questions

Q 1. Ritika wants to buy and sell goods online. Which term is used to describe this process?

Ans. E-commerce is the term used to describe this process.

Q 2. Geetu is an artist. She posts her artwork on the Internet. One day she comes to know that Shreyas has downloaded one of the paintings that she had posted without her permission. He had further printed that image on an invitation card. Has Shreyas done the right thing? Which right of Geetu has he infringed? (CBSE Sample Paper 2019-20)

Ans. No, he infringed intellectual property rights of Geetu.

Q 3. Define DRM solutions.

Ans. Digital Rights Management (DRM) solutions is a set of access control technologies for restricting the use of proprietary software and copyrighted works. DRM controls the use, modification, and distribution of copyrighted works, such as software or other digital products.

Q 4. Define patent.

Ans. Patent is a legal document that gives the inventor sole rights to make, sell or use an invention. A person or a group of persons or an organisation or company can get their invention covered under a patent to protect it from unauthorised use.

Q 5. Define trademark.

Ans. A logo or symbol that is printed on business items to make it exclusive, is known as a trademark. A trademark is valid for ten years and can be renewed after that.

Q 6. Define plagiarism. (CBSE Sample Paper 2019-20)

Ans. When we download someone else's work or ideas and pass them as our own, then this practice is known as plagiarism.

Q 7. What do you understand by minimal plagiarism?

Ans. In minimal plagiarism, the original work is edited, reframed and reproduced. It is very common in the education field.

Q 8. Ritwik wants to use a software but does not want to pay for it. Which type of software can he use?

(CBSE Sample Paper 2019-20)

Ans. Open-source software can be used.



**Q 9. What do you understand by open-source software licence?**

**Ans.** An open-source software licence for computer software and other products allows the source code or design to be used, modified and/or shared under defined terms and conditions.

**Q 10. Define free software licence.**

**Ans.** A free software licence is a notice that grants the receiver of software wide-ranging rights to use, modify or redistribute that particular software.

**Q 11. Define the term digital divide.**

(CBSE Sample Paper 2019-20)

**Ans.** The gap between technical knowledge of the people who have access to computers and internet and those who do not have that access is called as digital divide.

**Q 12. What do you understand by netiquettes?**

**Ans.** Netiquettes are the etiquettes that are to be followed while communicating online.

### COMMON ERRORS

*Some students get confused in abbreviation so they should learn all abbreviations carefully.*

## ? Short Answer

### Type-I Questions

**Q 1. What is e-commerce? Write any two preventive measures to be taken for secure online transaction.**

(CBSE SQP 2021 Term-1)

**Ans. E-commerce:** Buying and selling of goods on the internet is called e-commerce.

Two preventive measures for secure online transaction are as follows:

- (i) Never share OTP with anyone.
- (ii) Before making an online payment, ensure that connection is secure (HTTPS).



*Students should give the preventive measures in points and do not skip any part of the question.*

**Q 2. Name fundamental requisites that ensure safe electronic transactions and payments.**

**Ans.** The fundamental requisites ensuring safe electronic transactions and payments are:

- (i) Confidentiality
- (ii) Availability
- (iii) Integrity
- (iv) Authenticity
- (v) Encryption

**Q 3. Define the term 'computer ethics'.**

**Ans.** Computer ethics is the branch of practical principles that deals with how computer experts should make decisions about social and professional behaviour. It is a set of moral principles which regulates and governs the use of computing and Internet technology.

**Q 4. Kuhu has just learnt how to do online banking. Name any two precautions that she should take to prevent online fraud.** (CBSE Sample Paper 2019-20)

**Ans.** Two precautions that she should take to prevent online fraud are as follows:

- (i) Do not share user ID and password with anyone.
- (ii) Avoid doing transactions from cyber café and other public places.

**Q 5. Define the following:**

(i) **Intellectual Property Rights**

(ii) **Plagiarism** (CBSE Sample Paper 2020-21)

**Ans. (i) Intellectual Property Rights:** These are the rights given to creators for creations of their minds.

(ii) **Plagiarism:** It refers to taking credit of ideas/ words of another person.

**Q 6. Mention any two different types of plagiarism.**

**Ans.** Two different types of plagiarism are as follows:

- (i) Direct or complete plagiarism.
- (ii) Minimal plagiarism.

**Q 7. Write any two steps to prevent plagiarism.**

**Ans.** Two steps to prevent plagiarism are as follows:

- (i) Always cite the source of the text. Citation strengthens the resource.
- (ii) Rephrase the text material.

**Q 8. What are digital property right?**

**Ans.** Digital assets that users create and which exist in any kind of digital form constitute the digital property rights of users. Digital property includes digital documents, audio files, video files and other digital data that is shared or stored on digital devices such as mobile phones, personal computers, laptops, etc.

**Q 9. What is meant by an LGPL software licence?**

**Ans.** A Lesser General Public License (LGPL) is a licence designated for an opensource software that allows provisions for including elements of free software in either free or proprietary software. LGPL is sometimes referred to as 'Library GPL' or 'GNU libraries', and some associate it with the idea of engineering for libraries in shared resources.

**Q 10. Define freedom of information.**

**Ans.** Freedom of information refers to a citizen's right to access information that is held by the government. The right to information is a fundamental right that helps in creating a more open and democratic society, challenging corruption and enhancing transparency.



## ? Short Answer

### Type-II Questions

**Q 1. What do you mean by digital signatures and security certificates?**

**Ans.** A digital signature is a form of electronic signature that authenticates a document or transaction through encryption and password.

Security certificate is a unique digital identification that is used to verify the identity of an individual website or user. It ensures the authenticity of a person and information.

**Q 2. Who is a 'black hat hacker'?**

**Ans.** When a person breaks into a computer system like a hacker but tries to steal the passwords, files or other information with the intention to misuse it, the person is considered a black hat hacker. A black hat hacker is also called a cracker or a cyber-criminal.

**Q 3. Describe the different types of intellectual property rights.**

**Ans.** The different types of Intellectual property rights are as follows:

(i) **Patent:** It is a legal document that gives the inventor sole rights to make, sell or use an invention. A person, a group of persons, an organisation or a company can get their invention covered under a patent to protect it from unauthorised use.

(ii) **Trademark:** A logo or symbol that is printed on a business item to make it exclusive is known as a trademark. A trademark is valid for 10 years and can be renewed after that.

(iii) **Copyright:** It is a right that is granted by law to the creator or inventor for his or her original work. The rights concerning a copy of any product are reserved by the creator or the company that has published the work. Copyright covers literary and artistic works such as books, plays, articles, music compositions and much more.

**Q 4. What are the three ways to protect digital property rights?**

**Ans.** Three ways to protect digital property rights are as follows:

(i) **Using a Software Escrow:** Software developers may want to share their software with as few people as possible. Only the most trusted or the team of developers, should have access to the source code. Anyone outside the team, be it licencees, vendors, distributors, etc., can be a threat to the security of our digital assets. One solution is the use of a software escrow, which keeps the software's source code in safe hands to make sure that no one can obtain it without authorisation.

(ii) **Using Digital Rights Management (DRM) Solutions:** DRM is a set of access control technologies for restricting the use of proprietary software and copyrighted works. DRM controls

the use, modification and distribution of copyrighted works, such as software or other digital products. A DRM solution may also protect the software from being accessed for source codes using computer programs such as decompilers.

(iii) **Anti-hacker Software:** There are many anti-hacking softwares and technologies available which can be used to protect digital assets such as proprietary software, applications and tools. These anti-hacking tools prevent attackers from controlling or accessing the software and, therefore, help in protecting digital assets.

**Q 5. What is the digital divide? Write any two reasons for digital divide in India.**

(CBSE Sample Paper 2020-21)

**Ans.** Digital divide refers to the differing amount of information between those who have access to ICT and those who don't have access.

**Reasons:**

(i) Due to the unequal distribution of wealth, poverty is higher in rural areas.

(ii) Less literacy rate in rural India.

**Q 6. What is digital unite? Mention the measures to bridge the gap between digital divide and digital unite.**

**Ans.** Digital unite refers to a society where everyone would be skilled and equipped to take advantages of various ICT services. Everyone would be able to access the Internet, even in rural and remote areas. People will be educated enough to utilise technology.

The gap between the digital divide and the digital unite must be covered, using the following measure:

(i) For making this possible, both the people and the governments should work together. People should use such tools to educate themselves and not feel hesitant about learning and using new technologies.

(ii) Governments should work on providing basic education and basic infrastructure for using such technologies to all the people, so that maximum people can get the benefits of technology.

## ? Long Answer

### Type Questions

**Q 1. Answer the following questions:**

(i) **Write about the Freedom of Information Act (FOIA).**

(ii) **Give advantages and disadvantages of secure electronic transaction.**

(iii) **Explain security certificate.**

**Ans.** (i) FOIA (Freedom of Information Act) is a federal law which generally provides that any person has a right to obtain access to federal agency



records. It is intended to increase transparency. It does not provide access to all government documents.

The FOI Act provides that every person has the following legal rights:

- (a) The right to access official records held by government departments as defined by the act.
- (b) The right to be given reasons for decisions taken by governments that affects them.

**(ii) Advantages of SET (Secure Electronic Transactions):**

- (a) SET prevents merchants from seeing the customer payment information.
- (b) To ensure merchant policy, SET prevents the payment gateway from seeing the order information.

**Disadvantages of SET (Secure Electronic Transactions):**

- (a) The customers must install additional software, which can handle SET transactions.
- (b) Implementing SET is more costly than SSL for merchants as well.
- (iii) Security certificate is also a unique digital identification that is used to verify the identity of an individual website or user. It can also be used to ensure the authenticity of a person and information.

**Q 2. Answer the following questions:**

- (i) **Give any two effects of digital divide.**
- (ii) **Explain refund fraud.**
- (iii) **Define merchant fraud.**

**Ans.** (i) The two effects of digital divide are as follows:

- (a) **Economic Inequality:** Digital divide create economic inequality, because those who have access to modern technology can easily collect valuable economical information.
- (b) **Effects on Education:** It has an impact on education. Because students who have internet access and computer, can acquire more valuable knowledge from Internet.

(ii) **Refund Fraud:** In this case, fraudster using a stolen credit card makes an overpayment on purpose. He will ask to refund of the excess amount, claiming his credit card is closing so they need to send the money using an alternative method. This means that the original charge of the credit card is not refunded.

(iii) **Merchant Fraud:** It is another method, which must be mentioned. It is very simple; goods are offered as cheap prices, but are never shipped of course, the payments are kept. This method of fraud also exists in wholesale.

**Q 3. Explain few netiquettes used in online communication.**

**Ans.** Netiquettes refer to Internet netiquette or the use of good manners in online communication such as e-mail, forums, blogs and social networking sites. Such etiquettes are important to be used as online communication is non-verbal.

A few netiquettes used in online communication are:

- (i) The provided information should be accurate and the facts should be checked before giving any advice.
- (ii) Online study resources should be used to support learning in an ethical manner.
- (iii) Healthy discussions are to be promoted to get the most out of online forums.
- (iv) It is best to ignore inflammatory comments by trolls. These are Internet users who try to bait other users into a reaction.
- (v) Others are to be respected as equals. The correct language should always be used while communicating online.
- (vi) The personal information should never be revealed online.
- (vii) A strong password should be made to ensure that no one can hack your profile.
- (viii) Anyone who indulges in inappropriate communication should be blocked and reported.

## CHAPTER TEST

### Multiple Choice Questions

**Q 1.** There are many ..... and technologies available which can be used to protect digital assets such as proprietary software, applications, tools, etc.

- a. digital rights management
- b. anti-hacker software
- c. software escrow
- d. None of the above

**Q 2.** A..... is a document that provides legally binding guidelines for the use and distribution of software.

- a. software licence
- b. document licence
- c. e-licence
- d. None of these

**Q 3.** Software licences typically provide end-users with the right to one or more copies of the software without violating .....

- a. plagiarism
- b. copyrights
- c. trademark
- d. patent

**Q 4.** EULA stands for .....

- a. End-User Licence Agreement
- b. Electronic-User Licence Agreement
- c. Both a. and b.
- d. None of the above



Q 5. The primary aspect of ..... is that a software publisher allows the use of one or more copies of software under the End-User Licence Agreement (EULA), but ownership of those copies remains with in the software publisher.

- a. publisher software licences
- b. proprietary software licences
- c. public software licences
- d. None of the above

### **Fill in the Blanks**

Q 6. Digital assets that users create, and which exist in any kind of digital form, constitute the ..... of the users.

Q 7. A..... is a document that provides legally binding guidelines for the use and distribution of software.

### **Assertion and Reason Type Questions**

**Direction (Q. Nos. 8-10)** In the questions given below, there are two statements marked as Assertion (A) and Reason (R). Read the statements and choose the correct option:

- a. Both (A) and (R) are true and (R) is the correct explanation of (A).
- b. Both (A) and (R) are true, but (R) is not correct explanation of (A).
- c. (A) is true, but (R) is false.
- d. (A) is false, but (R) is true.

Q 8. Assertion (A): Encryption is a secure technique to protect data being transmitted over a network.

Reason (R): The sender of the information encrypts the data using a secret code and the specified receiver only can decrypt the data using the same or different secret code.

Q 9. Assertion (A): A digital signature is a form of electronic signature that authenticates a document or transaction through encryption and password.

Reason (R): Security certificate is also a unique digital identification that is used to verify the identity of an individual website or user.

Q 10. Assertion (A): Session Electronic Transaction is a secure protocol developed by MasterCard and Visa, in collaboration.

Reason (R): The term ethics generally refers to a set of moral principles that govern the behaviour of an individual or a group of individuals.

### **Case Study Based Questions**

Q 11. Read the given passage carefully and answer the following questions.

Cyber ethics is the study of ethics pertaining to computers, covering user behavior and what computers are programmed to do, and how this affects individuals and society. For years, various governments have enacted regulations while organisations have explained policies about cyber ethics.

With the increase of young children using the internet, it is now very essential than ever to tell children about how to properly operate the internet and its dangers. It is especially hard to talk to teens because they do not want to be lectured about what is right and wrong. They seem to think they have it all sorts out. That is why, it is important to instill appropriate cyber etiquette at an early age but if you haven't there is still time to tell to your child.

- (i) What do you understand by the word Privacy?
- (ii) What do you understand by malicious code?
- (iii) Name the types of malicious code.
- (iv) What is worm?
- (v) What is Trojan?
- (vi) What is viruses?
- (vii) Name any two internal threats to the system.

### **Very Short Answer Type Questions**

- Q 12. What do you mean by ethics? What is it necessary?
- Q 13. What is Spam?
- Q 14. What is Hacking?
- Q 15. What do you know about computer viruses?

### **Short Answer Type-I Questions**

- Q 16. What do you know about software copyright law?
- Q 17. What is spoofing?

### **Short Answer Type-II Questions**

- Q 18. What a short note on cyber crime.
- Q 19. What do you understand by Internal and External threats to a computer system?

### **Long Answer Type Questions**

- Q 20. The illegal use of computer system is sometimes known as computer related crimes.
  - (i) Give three distinct examples of computer related crimes.
  - (ii) Give three steps can be computers related crimes are:
- Q 21. Describe four separate measure that can be taken to prevent accidental or deliberate misuse of data on a standalone computer system.