Computer ethics

✍ Very Short Answer Questions

(i) What is the full form of ICT?

The full form of ICT is Information and Communication Technology.

(ii) Mention any two areas of use of ICT.
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1. **Education**
2. **Health/Medicine**

(iii) Write the full forms of ATM and ABBS.

- **ATM**: Automated Teller Machine
- **ABBS**: Any Branch Banking Service

⌨ Short Answer Questions (5 Marks Each)

2. (i) What is e-commerce?

E-commerce (Electronic Commerce) refers to the buying and selling of goods or services, or the transmitting of funds or data, over an electronic network, primarily the internet. It involves a digital transaction between a buyer and a seller, usually facilitated by a website or a mobile application. Online shopping (e.g., Amazon, Flipkart), online ticketing, and internet banking. It offers convenience, a wider selection, and 24/7 accessibility for both businesses and consumers.

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2. (ii) Briefly mention the use of ICT in education sector.

ICT has revolutionized the education sector by enhancing the teaching and learning process.

- **E-learning/Online Courses:** Students can access educational content, lectures, and full courses from anywhere in the world (e.g., MOOCs, Khan Academy).
- **Interactive Learning:** Tools like smart boards, educational software, and simulations make learning more engaging and visualize complex concepts.
- **Administration:** ICT is used for managing student records, conducting online examinations, and improving communication between students, parents, and teachers.
- **Research Access:** Provides quick access to vast digital libraries, academic journals, and research databases.

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2. (iii) How is the ICT used in governance?

The use of ICT in governance is called e-Governance. It aims to make government services more accessible, efficient, and transparent.

- **Service Delivery:** Enables citizens to apply for documents e.g., licenses, passports, tax filings and receive services online without visiting government offices.
- **Transparency and Accountability:** Government information, laws, and policies are published online, allowing citizens to monitor government activities.
- **Efficiency:** Automates internal government processes, reducing paperwork and processing time.
- **Citizen Engagement:** Provides platforms for public feedback, online polls, and grievance redressal systems.

2. (iv) Briefly explain about the use of ICT in communication.

ICT tools are the foundation of modern communication, enabling instantaneous and global exchange of information.

- **Internet and Email: Email** is a primary tool for formal and informal communication, replacing traditional mail. The **Internet** itself provides the global infrastructure.
- **Instant Messaging & Social Media:** Tools like WhatsApp, Telegram, and various social platforms allow for real-time text, voice, and video communication, connecting individuals and groups instantly.
- **Video Conferencing:** Platforms (e.g., Zoom, Google Meet) enable face-to-face meetings and collaborations across vast geographical distances for business and personal use.
- **Mobile Communication:** Smartphones allow people to communicate while on the move, accessing all these digital communication methods anytime, anywhere.

Long Questions (10 Marks Each)

3. (i) What do you mean by ICT? Explain its various uses briefly.

What is ICT?

Information and Communication Technology (ICT) is an umbrella term that encompasses all the hardware, software, networking, and communication tools used to create, store, retrieve, transmit, and manage information in a digital electronic form.

- **Information Technology (IT)** focuses on handling data and information.
- **Communication Technology (CT)** focuses on transmitting that information.

Simply put, ICT deals with everything that makes the digital world work—from computers and the internet to mobile phones and various applications.

Various Uses of ICT

ICT is ubiquitous and has transformed nearly every aspect of modern life. Here are some of its primary uses:

1. **Education (E-learning):** Facilitates remote learning, digital classrooms, educational apps, and access to global academic resources. It makes learning **flexible** and **interactive**.
2. **Business and Commerce (E-commerce):** Enables online transactions (buying/selling), digital marketing, enterprise resource planning (ERP), and efficient supply chain management. It has created a **global marketplace**.
3. **Governance (E-Governance):** Improves the delivery of public services (e.g., tax filing, ID services), enhances transparency, and increases citizen participation through digital platforms.
4. **Health (E-Health/Telemedicine):** Allows remote diagnosis and consultation, maintains electronic health records (EHR), and aids in advanced medical imaging and research. It improves **access** and **quality** of care.
5. **Communication and Networking:** Provides tools like email, instant messaging, and social media for quick and vast interpersonal communication, connecting people globally. 6. **Banking and Finance:** Supports online banking, automated transactions (ATM, online payments), electronic fund transfers (NEFT, RTGS), and stock trading. It ensures **speed** and **security** in financial dealings.

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3. (iii) "Use of ICT in health sector is extensively increasing." Justify this statement.

The statement is absolutely justified. The use of ICT, often referred to as e-Health or Digital Health, is growing exponentially in the health sector due to its ability to solve critical problems related to accessibility, record-keeping, and diagnostic accuracy.

Justification:

1. Telemedicine and Remote Consultation

- **Increased Access:** ICT allows doctors to consult with patients in remote or underserved areas via video call, which is crucial where physical presence is difficult.
- **Specialist Consults:** Specialists can remotely view patient data and assist primary care physicians, improving the quality of diagnosis without the need for patient travel.

2. Electronic Health Records (EHRs)

- **Efficiency:** ICT systems replace bulky, error-prone paper records. EHRs allow instant access to a patient's complete medical history, including prescriptions, test results, and vaccination status.
- **Better Coordination:** They ensure seamless data sharing among different departments, hospitals, and even different cities, leading to better coordinated and continuous care.

3. Advanced Diagnostics and Imaging

- **Modern Equipment:** Medical imaging technologies e.g., MRI, CT scans, X-rays are all digital and rely on ICT to capture, process, store, and transmit high-resolution images.

- **AI Integration:** Artificial Intelligence and machine learning, a sub-domain of ICT, are increasingly used to analyze medical images and lab data, helping doctors detect subtle anomalies and improve diagnostic accuracy.

4. Health Monitoring and Wearables

- **Personal Health:** Wearable devices smartwatches, fitness trackers use ICT to continuously monitor vital signs heart rate, sleep patterns and health metrics.
- **Proactive Care:** This data is often shared with health applications, allowing individuals and healthcare providers to monitor health trends and intervene proactively to prevent serious conditions.

5. Medical Research and Education

- **Global Collaboration:** Researchers use ICT for instant data sharing, collaborative studies, and access to global medical journals and databases.
- **Training:** Medical students use simulations, virtual reality (VR), and advanced e-learning platforms for training, making complex surgical procedures safer to learn.