



EDU430

Final-Term (Solved)

ABSTRACT

This comprehensive collection of notes is accurately crafted to empower students to excel academically, ensuring they achieve a minimum of 80% marks in their examinations. The content is organized with clarity and precision, focusing on key concepts, critical analyses, and practical applications tailored to the syllabus. These notes serve as a reliable resource for both thorough preparation and last-minute revision. Designed to inspire confidence and mastery, this guide is an essential tool for students striving for academic excellence.

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Information Technology in Education

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Term	Answer / Definition
ANSI	American National Standards Institute – responsible for overseeing the development of voluntary consensus standards in the U.S.
Inactive Window	A window not currently selected or in use; it's in the background while another is active.
Cache	A memory used to temporarily store frequently accessed data for faster retrieval.
Successful and Relevant ICT Facility	Refers to cost-effective, interactive setups (like intranet-based tablet systems or mobile classroom buses) enabling personalized, feedback-based learning.
Benefit of Technology	Provides instant feedback, individualized learning, enhanced engagement, and removes barriers of physical classrooms.
A/D Converter	Analog-to-Digital Converter; it transforms analog signals into digital form.
Define Configuration	The arrangement of components in a system; includes hardware setup and software settings.
DMAX and DMIN	DMAX: Maximum density in an image. DMIN: Minimum density in an image.
Note on Educational Technology	Educational technology supports interactive, student-centered learning, enables peer instruction, and helps identify and correct misconceptions.
Impact of Computer Literacy in Schools	Enhances learning efficiency, enables self-paced learning, and prepares students for digital challenges.
Benefits of Situating ICTs Outside the Computer Classroom	Enables access for marginalized groups, mobile learning (e.g., learning buses), and more personalized instruction.
Binary Number System	A base-2 system using only 0 and 1; the foundation of digital computing.
Associate	Often used to describe an entry-level degree or job role; in computing, can refer to linking processes or elements.
Workstation	A high-performance computer for specialized tasks, used by professionals like designers or engineers.

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Computer Literacy	The ability to use computers effectively and efficiently for basic to advanced tasks.
ICT Outside the Classroom	Mobile learning via buses or tablets, bringing education to underserved areas.
Formative Assessment and Its Ways	Ongoing evaluation methods like quizzes, peer reviews, and classroom response systems to gauge learning progress.
Booting	The process of starting or restarting a computer system.
Firewall	A security system that controls incoming and outgoing network traffic based on predetermined security rules.
Pixel	The smallest unit of a digital image or display.
Crash	A failure of a computer system or application that causes it to stop functioning unexpectedly.
Disadvantages of ICT	Potential for digital divide, reinforcement of misconceptions, overreliance on technology, and exclusion of marginalized students if not managed well.
Briefly Explain BIOS and Bit	BIOS: Basic Input/Output System – firmware to start the computer. Bit: Binary digit (0 or 1), the smallest unit of data.
Difference Between Social and Cognitive Presence	Social presence: The ability to project oneself socially. Cognitive presence: Extent to which learners can construct and confirm meaning through reflection and discourse.
How to Disassemble ICTs; Explain Binary System	Disassembling ICT involves dismantling components for repair/reuse. Binary: Uses 0s and 1s to represent data.
Define Webmaster	A person responsible for maintaining one or more websites.
Impact of ICT Literacy in School	Promotes problem-solving, critical thinking, and access to global information.
Define Folder with Example	A container for storing related files. E.g., “Assignments” folder contains Word and PDF files.
Define IP Datagram	A basic transfer unit associated with packet-switched networks, containing source and destination information.

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Difference Between Encoding and Encryption	Encoding: Converts data into a readable format (e.g., ASCII). Encryption: Secures data so only authorized parties can read it.
Define IP	Internet Protocol – governs how data is sent and received over the Internet.
Effects of ICT in Education	Enhances accessibility, engagement, feedback, and individualized learning.
Effect of Interactive Community and Radio in Education	Promotes teacher outreach, student engagement, and remote learning through low-cost solutions.
Write Strategies for ICT in Schools	Use peer instruction, mobile learning units, tailored feedback systems, and teacher training with technology.
Define Filter	A tool or function that processes and selectively displays data or images.
Define Dial-up Line	A type of Internet connection using a modem over phone lines.
Term: Object Learning	Learning based on real-world objects or simulations to improve engagement and retention.
Industrial Teaching	A traditional model likened to mass production – uniform teaching with less individual focus.
Individual Automated Assessment Feedback	Technology-based systems that give students instant, personalized feedback based on their responses.
Integration of Subjects with ICT	Using technology to combine various disciplines (e.g., using simulation software to teach both physics and math).
Effect of Feedback	Helps correct misconceptions, improves motivation, and guides students toward deeper learning.
How ICT Can Be Used to Educate Illiterate People	Through audio-visual content, mobile-based apps, interactive radio, and community learning centers.
Resampling	Changing the resolution of an image by adding or removing pixels.
Uses of LMS	Learning Management Systems manage content, track progress, administer assessments, and facilitate communication.
Batch File	A script file in DOS/Windows that executes a sequence of commands.

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Byte	A unit of digital information, typically consisting of 8 bits.
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Dichroic Mirror	A special type of interference filter used in scanners to reflect certain parts of the spectrum while transmitting others, e.g., splitting light into RGB components.
Directory	A structure on a computer that contains files or other directories (subdirectories). Example: C:\Users\Documents.
Full Duplex	A communication mode where data can be sent and received simultaneously.
Important ICT Books	Examples include <i>"Rethinking Education in the Age of Technology"</i> , <i>"Race to Nowhere"</i> , and <i>"Mathematical Mindsets"</i> by Jo Boaler.
Educational Content for Dissemination through ICTs	Includes interactive videos, radio programs, mobile lessons, LMS modules, and digital textbooks.
How Assessment Facilitates Learning	Through formative assessment , students receive continuous feedback, understand their current level, and adjust their learning strategies to improve. Example: Interactive quizzes that adapt based on student performance.
How ICT Components in Donor Projects Should Be Identified	By conducting needs assessment, aligning with pedagogical goals, quantifying devices/software, ensuring sustainability, and linking to national education policy.
Homepage	The main or first page of a website; serves as the gateway to site content.
Email	Electronic mail used to send and receive digital messages over the Internet.
Benefits of Using Technology for Feedback	Offers instant feedback, identifies learning gaps, increases student engagement and self-awareness, and shapes future instruction.

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Address Resolution	The process of resolving an IP address into a MAC address in networking (ARP - Address Resolution Protocol).
Histogram	A graphical representation showing frequency distribution of data; often used in analyzing assessment results.
Clipboard	A temporary storage area in an OS for data that the user cuts or copies.
Compression	The process of reducing the size of a file for storage or transmission.
Hue	A property of color; describes the pure color without tint or shade (e.g., red, blue).
ISO	International Organization for Standardization – sets global technical and quality standards.
Domain Name System (DNS)	A hierarchical system for naming resources on the Internet. Example: www.google.com.
Bps (Bits per Second)	A unit to measure data transfer speed in digital networks.
File Server	A computer responsible for storing and managing files for networked users.
Where Should Computers Reside for Greatest Educational Impact?	Ideally integrated into classrooms and accessible to students outside school (e.g., mobile ICT labs, tablets).
Concrete Example of Integration of Subjects with ICT	Using simulation software to teach physics and mathematics , or digital storytelling combining language and ICT skills .
Advantage of Formative Assessment	Enables real-time feedback, encourages student reflection, and allows adaptive instruction based on learning progress.
Abbreviations: EPS, EBDCI	EPS : Encapsulated PostScript (a graphics file format). EBDCI may not be standard; please clarify the full term.
Advantages of Technology in Education Sector	Enhances access, provides personalized learning, supports inclusive education, enables remote learning, and reduces costs over time.
Types of Field Trips for Active Learning	Science museum visits, historical site tours, ecological nature walks, virtual reality field experiences, and industrial visits.

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How Interactive Radio Helps Education	Provides outreach to rural/remote students and teachers, supports curriculum delivery, and facilitates peer instruction in low-cost formats.
Successful ICT Strategies for Education	Use multi-channel learning, support teacher training, deploy interactive feedback systems, and develop local content for mobile and radio platforms.
How 3G Mobile Phones Help Education	Deliver learning content, facilitate communication, support apps for quizzes and dictionaries, and offer SMS-based learning services.
Assessment That Promotes Active Learning	Formative assessment with feedback and peer interaction promotes deeper engagement and reflection.
Define Internet	A global network of networks using protocols like TCP/IP to transmit data.
Broadband	A high-speed Internet connection that provides continuous, fast access.
Hacker	A person who explores systems for security, either ethically (white hat) or maliciously (black hat).
Hacking	The act of gaining unauthorized access to data in a system or network.
Benefits of EMIS (Education Management Information Systems)	Provides data-driven insights, improves planning, monitors attendance and performance, and aids resource allocation.
Practices for EMIS	Data collection, analysis, visualization dashboards, timely reporting, and stakeholder training.
Define Driver	Software that allows the operating system to communicate with hardware devices.
De-screening	Removal of halftone dot patterns from scanned printed images to avoid moiré effects.
How Mathematical Mindset Helps EdTech	Encourages risk-taking, problem-solving, and deeper understanding, which supports adaptive learning tools and formative assessment.
Abbreviation of E-mail	Electronic Mail.
Impact of Teacher Feedback on Students	Increases motivation, helps identify misconceptions, supports emotional well-being, and improves academic performance.

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How SMS & 3G Mobiles Support Education	Deliver lessons, reminders, vocabulary tips, quizzes, and enable communication with teachers.
How Classroom Response Systems Support Assessment	Allow real-time quizzes, feedback, performance tracking, and adaptive teaching based on student inputs.
Define FTP	File Transfer Protocol – used to transfer files over a TCP/IP network.
Compatibility	The ability of software or hardware to work together without conflict.
BSD	Berkeley Software Distribution – a Unix operating system derivative.
BGI	Borland Graphics Interface – a graphics library used in older DOS programs.

Term	Definition / Explanation
DCS	Desktop Color Separation: image format with four CMYK PostScript files and one EPS master for layout.
Hotlist	A list of frequently accessed websites saved in a browser—also called "bookmarks" or "favorites."
High Key	An image or photo with predominantly light tones or highlights.
Attachment	A file sent along with an email message.
Inline Image	An image embedded directly in a document or web page, displayed within the text flow.
Drum Scanner	A high-end scanner that uses a rotating drum to capture detailed images, often for publishing.
Dotted Decimal Notation	A format for writing IP addresses as four decimal numbers separated by dots (e.g., 192.168.0.1).
External Viewer	A separate application used to open and view specific file types outside the main program.
GCG	Typically refers to Genetics Computer Group; in computing, context-dependent—please clarify for relevance.

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Icon	A small graphical symbol representing a program, file, or function on a computer.
Backbone (Computer)	The main transmission path in a network that connects different LANs or segments.
Computer Search Service	A fee-based service providing access to databases for creating customized bibliographies.
Densitometer	A device that measures the optical density of images, often in printing.
FDDI	Fiber Distributed Data Interface – a standard for data transmission on fiber optic lines in LANs.
Header	The part of a packet or email that contains control and addressing information.
Computer Program	A set of instructions that a computer executes to perform a specific task.
Database	A structured collection of related data organized for easy access and retrieval.
Virus	A malicious software program that can copy itself and infect computers.
HTML	HyperText Markup Language – used for creating web pages.
Types of Graphs & Uses	Line graphs (trends), bar graphs (comparisons), pie charts (proportions), histograms (frequency distribution).
Floating Point	A numeric representation allowing for fractional values using scientific notation.
Halftoning	Technique in printing and imaging that simulates continuous tone by using dots of varying size and spacing.
Coprocessor	An additional processor designed to handle specific tasks like math operations or graphics.
Defragmentation	The process of reorganizing data on a disk to improve access speed and efficiency.
Byte	A unit of digital information, typically made up of 8 bits.
Dialogue Box	A small window that prompts the user to make a decision or enter information.
Baud	A unit of signal transmission speed; 1 baud = 1 signal change per second.

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IP Address	A unique string of numbers (IPv4 or IPv6) identifying a device on a network.
Decompression	The process of restoring compressed data to its original form.
Virtual Reality vs. Virtual World	VR: Immersive simulation via hardware; Virtual World: Computer-based environment for interaction, not necessarily immersive.
Differential Impact of ICT on Boys vs. Girls	ICTs may affect genders differently due to societal norms, access, or encouragement levels.
Public-Private ICT Partnerships	Can lower costs via shared infrastructure, devices, and teacher training.
ICT for Special Needs & Gender	Requires accessible content, voice-based tools, gender-sensitive strategies, and mobile learning for inclusion.
Best Practices: 3G for Teacher Development	Use for peer communication, access to training videos, lesson plans, SMS-based PD tips.
Benefits of ICTs Beyond Computer Class	Support out-of-school learning, parent involvement, teacher collaboration, and flexible access.
Benefits of Field Trips	Improve engagement, real-world understanding, retention, and motivation.
Three E-learning Benefits	1) Self-paced learning, 2) Broad resource access, 3) Flexible teacher scheduling and analytics.
Ways of Networking	Peer-to-peer, Client-server, PAN, LAN, MAN, WAN, WLAN.
ARPANET	The precursor to the modern Internet, created by the U.S. DoD in the 1960s.
Two Abbreviation-related Questions	EPS: Encapsulated PostScript, EBCDIC: Extended Binary-Coded Decimal Interchange Code.
Technology Advantages in Education	Interactive learning, immediate feedback, global access, personalized content, and cost-effective scaling.
Definitions & Functions of Teaching	Teaching is the process of facilitating learning; functions include knowledge transfer, skill development, attitude shaping, and critical thinking enhancement.