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**ESE 2026 : Prelims Exam | GS & ENGINEERING
CLASSROOM TEST SERIES | APTITUDE**
Test 11
Section A : Information and Communication Technologies (ICT) [All Topics]

Section B : Ethics and Values in Engineering Profession [All Topics]

Section C : Basics of Project Management [All Topics]

Answer Key

1. (d)	11. (d)	21. (b)	31. (c)	41. (d)
2. (c)	12. (d)	22. (c)	32. (d)	42. (b)
3. (d)	13. (c)	23. (d)	33. (b)	43. (b)
4. (d)	14. (a)	24. (b)	34. (a)	44. (d)
5. (d)	15. (b)	25. (b)	35. (c)	45. (a)
6. (b)	16. (b)	26. (b)	36. (c)	46. (a)
7. (b)	17. (b)	27. (c)	37. (d)	47. (d)
8. (c)	18. (b)	28. (d)	38. (b)	48. (d)
9. (c)	19. (b)	29. (b)	39. (c)	49. (c)
10. (b)	20. (c)	30. (b)	40. (b)	50. (d)

**Section A : Information and Communication
Technologies (ICT)**

1. (d)

2. (c)

- Bluetooth is a short-range wireless technology standard that is used for exchanging data between fixed and mobile devices over short distances and building personal area networks (PANs).
- Bluetooth divides transmitted data into packets, and transmits each packet on one of 79 designated Bluetooth channels.

3. (d)

A logic bomb is a type of malicious code embedded in software that remains dormant until specific conditions are met. When triggered, a logic bomb virus executes a destructive action, such as deleting files or disrupting critical systems. Unlike traditional malware, a logic bomb does not propagate actively but rather lies in wait for its pre-defined activation event.

4. (d)

SSL uses both asymmetric and symmetric encryption to protect the confidentiality and integrity of data-in-transit. It uses asymmetric encryption to securely share the symmetric session key between parties, and symmetric encryption is used to exchange data within the secured session. SSL uses digital signatures and digital certificates for establishing a trusted relationship between a sender and a receiver of information sent over a network. It contains the website's public key and the website's identity, along with related information.

5. (d)

- In FDMA, the total bandwidth is divided into smaller, non-overlapping frequency channels and each user is assigned a specific, unique channel.
- TDMA divides a single frequency channel into recurring time slots. Multiple users share the same frequency but transmit in different, allocated time slots. Thus, TDMA can accommodate more users in the same spectrum space than an FDMA system.
- In CDMA, all users transmit simultaneously over the same frequency band. However, each user's data is multiplied (spread) by a unique, orthogonal spreading code.

6. (b)

- National Agriculture Market (e-NAM) is a pan-India electronic trading portal which networks the existing Agricultural Produce Market Committee (APMC) mandis to create a unified national market for agricultural commodities. The market facilitates farmers, traders and buyers with online trading in commodities.
- Launched on April 14, 2016, e-NAM is completely funded by the Central Government and is implemented by Small Farmers Agribusiness Consortium (SFAC), under the aegis of Ministry of Agriculture and Farmers' Welfare.

7. (b)
- Cookies are small files of information that a web server generates and sends to a web browser.
 - Web browsers store the cookies they receive for a predetermined period of time, or for the length of a user's session on a website. They attach the relevant cookies to any future requests the user makes to the web server.
 - Cookies help inform websites about the user, enabling the websites to personalize the user experience. For example, ecommerce websites use cookies to know what merchandise users have placed in their shopping carts. In addition, some cookies are necessary for security purposes, such as authentication cookies.
8. (c)
- eSign is an online electronic signature service which can be integrated with service delivery applications via an open API to facilitate an Aadhaar holder to digitally sign a document, thereby avoiding physical cryptographic token.
 - It ensures the privacy of the signer by requiring that only the thumbprint (hash) of the document be submitted for signature function instead of the whole document.
9. (c)
- e-Pathshala provides a platform to the teachers, students, and learners to access the books online. It is a joint initiative of Union Ministry of Education and National Council of Educational Research and Training (NCERT).
10. (b)
- **Elimination of Hierarchy:** The automation helps reduce procedural delays caused by hierarchical processes in the organisation. Through e-Governance, it is possible to send information and data across various levels in the organisation at the same time.
 - **Change in Administrative Culture:** Automation in the processes change/ modernize administrative culture e.g., moving from rigid, paper-based, bureaucratic practices to more transparent, ICT-driven and responsive administration.
 - **Better Efficiency:** Automation speeds up workflow, and provides better monitoring, thus ensuring greater efficiency and faster completion of tasks/projects.
11. (d)
- Online auctions are a common example of C2C e-commerce. In C2C e-commerce, consumers sell directly to other consumers. Examples include platforms like eBay where individuals can auction items to other individuals.
12. (d)
- Pro-Active Governance And Timely Implementation (PRAGATI) is a multi-purpose and multi-modal platform that is aimed at addressing common man's grievances and simultaneously monitoring and reviewing important programmes and projects of the Government of India as well as projects flagged by State Governments. It is built as an ICT-enabled system that combines video conferencing, data dashboards (digital data management), and geo-spatial tools.

13. (c)
A Virtual Private Network (VPN) extends a private network over a public network, functioning as a WAN-like secure overlay for connecting sites or remote users. VPN servers are placed at the edge of a corporate LAN and act as secure gateways, encrypting and managing traffic between the LAN and the internet.
14. (a)
Open source software is software that is developed and distributed under a license that allows users to access, modify, and redistribute the source code.
15. (b)
Laser printers give better quality print compared to both the inkjet printer and dot matrix printer due to their toner-based electrophotographic process, achieving resolutions of 600-2400 dpi for sharp text and graphics.
16. (b)
In AI, a hallucination occurs when an Large Language Model (LLM) generates false information confidently. It “hallucinates” facts that do not exist in its training data.
17. (b)
Bhashini is an AI-led language translation platform aiming to bridge the language barrier in India. Statement 3 is incorrect because, Bhashini actively promotes open-source contributions to build datasets.
18. (b)
The Internet Layer is part of the TCP/IP model. In the OSI model, its equivalent is the Network Layer. The OSI layers are Physical, Data Link, Network, Transport, Session, Presentation, Application.
19. (b)
Edge computing involves processing data closer to where it is created (e.g., on the sensor or a local gateway). This reduces latency and bandwidth use compared to sending everything to a centralized Cloud.
20. (c)
FASTag uses a passive Radio Frequency Identification (RFID) tag fixed on the vehicle, which is scanned by RFID readers to enable automatic deduction of toll charges, allowing vehicles to pass through toll plazas without stopping for cash transactions.
21. (b)
Read-only memory, or ROM, is a non-volatile memory containing permanent data that can only be read, not written to eg. BIOS firmware to start up the device.
22. (c)
RFID operates across three primary frequency (LF) bands: low frequency (HF), high frequency, and ultra-high frequency (UHF) bands.

23. (d)

- The presentation layer is responsible for syntax and semantics of information exchanged between two systems.
- The primary function of the transport layer is to accept the data from above it, split it into smaller units/segments and pass these to the network layer and ensure that they are correctly reassembled at the other end.

24. (b)

- Quantum dots are excited by the blue light from the display panel to emit pure basic colors, which reduces light losses and color crosstalk in color filters, improving display brightness and color gamut.
- Quantum dots are nanoparticles/structures that exhibit 3-dimensional quantum confinement, which leads to many unique optical and transport properties.
- Because the electrons and holes are trapped in all three dimensions, Quantum Dots have discrete, tunable energy levels, causing them to emit specific colors of light determined by their size, making them great for displays

25. (b)

The Simple Mail Transfer Protocol (SMTP) is an Internet standard communication protocol for electronic mail transmission that allows client-server applications to send and receive email messages by specifying the message sender, recipient(s), and the content to be sent.

Section B : Ethics and Values in Engineering Profession

26. (b)

- Internal Whistleblowing is reporting within the organization (e.g., to a supervisor or ombudsman).
- Reporting to media/law enforcement is an example of external whistleblowing.

27. (c)

The owner must demonstrate that they actively protected the information (e.g., through Non-Disclosure Agreement, encryption, or physical security) for it to qualify as a trade secret.

28. (d)

John Locke argued that rights to life, liberty, and property are natural and inherent to human existence, not granted by external authorities.

29. (b)

Sustainability balances Economy, Environment, and Society, not just profit.

30. (b)

- Bribery is voluntary action. The payer offers money to get something they do not deserve (e.g., winning a contract over a better competitor).
- Extortion is coercive action. The payer is forced to pay to get something they may deserve.
- While both are corrupt, moral philosophers often argue that paying extortion is less morally culpable than paying a bribe.

31. (c)

Deontological ethics (Duty Ethics) argues that morality is based on duties and rules, not consequences. Kant's Categorical Imperative states that you should act only according to that maxim whereby you can, at the same time, will that it should become a universal law.

32. (d)

- While you owe loyalty to an employer, it is never the primary obligation.
- An engineer must strictly refuse to sign off on substandard or dangerous work, regardless of client pressure.

33. (b)

The Tragedy of the Commons illustrates an economic and ethical dilemma where every individual tries to reap the greatest benefit from a given resource (like a pasture or the atmosphere). As the demand for the resource overwhelms the supply, every individual who consumes an additional unit directly harms others who can no longer enjoy the benefits.

34. (a)

Moonlighting refers to holding a second job outside of primary employment. When this second job creates a conflict of interest with the primary employer, it is ethically impermissible.

35. (c)

Preventative ethics consists of rules and prohibitions (like the NSPE code) designed to stop accidents, bribes, conflicts, etc. from happening.

36. (c)

37. (d)

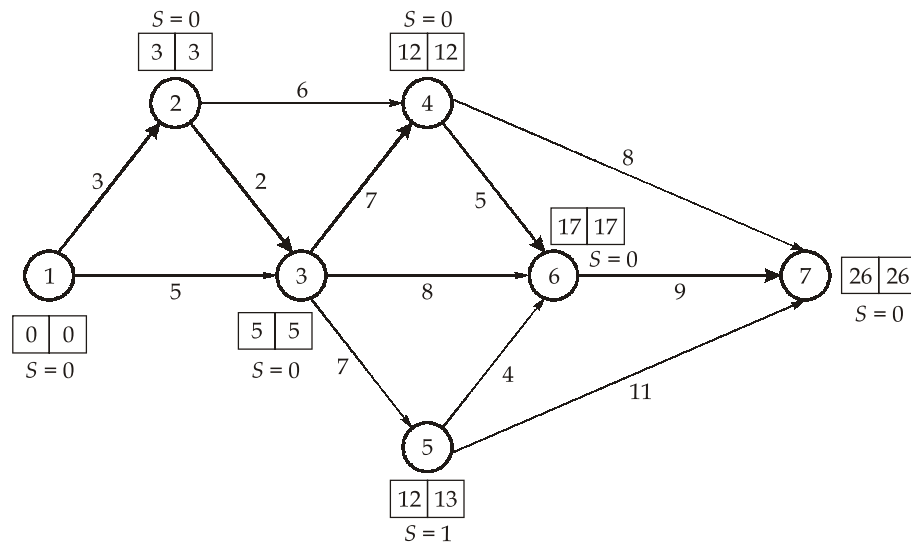
38. (b)

Section C : Basics of Project Management

39. (c)

Work breakdown structure. A WBS is a hierarchical structure that breaks down the entire project scope into manageable elements called work packages, facilitating better planning and control.

40. (b)



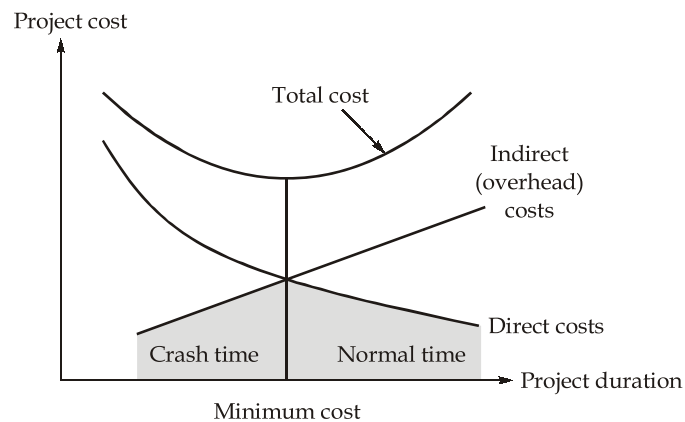
41. (d)

The scope baseline is a foundational document in project management that defines the approved scope of the project. It is comprised specifically of three key, interlinked components: the project scope statement, the Work Breakdown Structure (WBS), and the WBS dictionary. These documents collectively ensure all stakeholders have a shared, detailed understanding of all project work and deliverables.

42. (b)

- The project manager's primary responsibilities in integrated change control involve managing the process and maintaining project integrity.
- Changing baselines not part of integrated change control.

43. (b)



Decrease the project duration below optimum time also increases the cost.

44. (d)
45. (a)
46. (a)
During the process of updating, neither activities are added nor deleted.
47. (d)
48. (d)
Following are the stakeholders of a construction project :
Architect, Client (owner), Constructor, Engineering (consultant), Subcontractor/Supplier/Vendor, Lawyer, Insurer etc.
49. (c)
Risk management can be justified on almost all projects. However, the implementation can vary from project to project depending on factors such as size, type of project, who the customer is, contractual requirements, relationship to the corporate strategic plan and corporate culture.
50. (d)
 - When a company desires a strong matrix, the project manager is generally promoted from within the organization and may have had assignments in several line functions throughout the organization.
 - In a weak matrix, the company may hire from outside the organization but should atleast require that the person selected understand the technology and the industry.

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