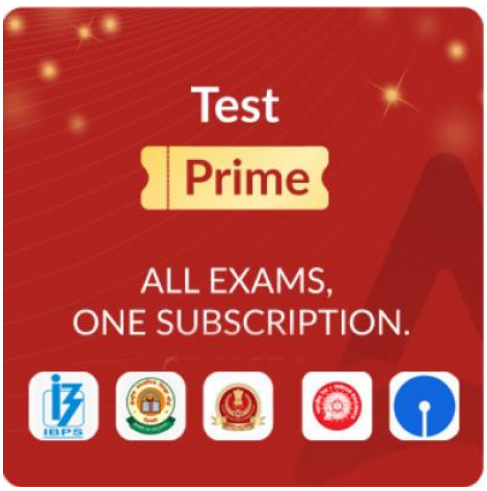
UGC NET Paper -1 : Memory Based 27th June Shift -1 Topic Based Questions

Q1. Which of the following are the encompassing principles underlying the successful implementation of value education?
A. Conviction
B. Connection
C. Critical Thinking
D. Commitment
E. Courage
Choose the most appropriate answer from the options given below:
(a) A, C and D only
(b) B, C and E only
(c) A, B, D and E only
(d) A, B, C and E only
Ans.(c)
Sol. The successful implementation of value education requires the integration of various core principles. Among the options, the principles that contribute most directly to this success are Conviction, Connection, Commitment, and Courage. These elements are essential as they help in building a strong moral framework, fostering understanding, encouraging consistent dedication, and empowering individuals to act on their values. Critical Thinking, while important in education generally, is not typically categorized as one of the core principles driving value education.
Hence, the correct answer is (d) A, B, D, and E only.
Information Booster:
Conviction refers to the inner belief and strong adherence to values, which is necessary to pass on those values effectively.
Connection helps in creating an understanding and empathy between individuals, crucial for transmitting values in an interconnected world.
Commitment emphasizes the necessity of consistent efforts in upholding and practicing values.
Courage enables individuals to stand by their values, even in challenging situations, contributing significantly to the success of value education.
Additional Knowledge:
Critical Thinking is vital for analyzing situations and making informed decisions. Although it supports value education indirectly, its focus on reasoning and problem-solving is more central to general education rather than value education specifically.



Q2. Which of the following is NOT an affective domain?
(a) Receiving
(b) Analysing
(c) Valuing
(d) Organising

Ans.(b)

Sol. Analysing is not an affective domain, it falls under the cognitive domain of Bloom's Taxonomy, which deals with intellectual tasks such as understanding, analyzing, and evaluating information. The affective domain, on the other hand, deals with emotions, attitudes, and values, including receiving, valuing, and organising.

Information booster

Receiving, Valuing, and Organising are stages within the affective domain as per Bloom's Taxonomy.

The cognitive domain includes stages like remembering, understanding, and analyzing.

The psychomotor domain deals with physical movement, coordination, and the use of motor skills.

Q3. What is the correct sequence for risk assessment of environmental pollutants?

A. Exposure Assessment

B. Dose-Response Assessment

C. Risk Characterization

D. Hazard Identification

E. Risk Indicators

Choose the correct answer from the options given below:

(a) D, A, B, E, C

(b) D, A, B, C, E

(c) C, E, D, B, A

(d) E, C, B, A, D

Ans.(a)

Sol. The process of risk assessment of environmental pollutants involves a structured sequence of steps to evaluate and manage potential risks associated with exposure to harmful substances. The correct sequence is:

1. D. Hazard Identification (Phase I):
   - Identifies substances or pollutants that could potentially cause harm to human health or the environment.
   - Example: Determining whether a chemical is carcinogenic.
2. A. Exposure Assessment (Phase II):
   - Estimates the magnitude, frequency, and duration of exposure to the pollutant.
   - Example: Measuring the concentration of a chemical in air, water, or soil and estimating human exposure.
3. B. Dose-Response Assessment (Phase III):
   - Evaluates the relationship between the dose of a pollutant and the severity of its health effects.
   - Example: Determining the threshold dose at which a pollutant causes harm.
4. E. Risk Indicators (Phase IV):
   - Identifies and highlights the signs of potential risks based on collected data.
   - Example: Indicators like rising respiratory illnesses due to air pollution.
5. C. Risk Characterization (Phase V):
   - Combines information from the previous steps to provide an overall assessment of the risk.
   - Example: Estimating the probability of adverse health effects in the exposed population.

Information Booster:
1. Hazard Identification: Focuses on identifying the nature of potential harm.
2. Exposure Assessment: Determines the level of human or environmental contact with pollutants.
3. Dose-Response Assessment: Studies the impact of different exposure levels.
4. Risk Indicators: Highlights trends and signs that indicate a risk.
5. Risk Characterization: Summarizes findings to inform decision-making and risk management.

Q4. What is the concept of 'informed consent' in research ethics?
(a) Researchers must be informed of the study's findings before the participant's consent is obtained.
(b) Participants must voluntarily agree to the study with full knowledge of the risks involved.
(c) Researchers must seek consent from their colleagues before publishing findings.
(d) Participants must be given incentives to take part in the research.
Ans.(b)
Sol. Informed consent means that participants are fully informed about the nature of the research, any potential risks, and their right to withdraw at any time. This ensures they participate voluntarily and knowingly.
Information Booster:
- Informed consent is a cornerstone of ethics in human research.
- It ensures that participants are aware of the purpose, methodology, and any potential discomforts or hazards involved in the study.

Additional Knowledge:
- Informed consent forms include information about confidentiality, the purpose of the study, and any compensation for participation.
- Ethics review boards ensure that researchers follow these guidelines.

Q5. When a research problem is related to heterogeneous population, the most suitable sampling method is:
(a) Cluster Sampling
(b) Stratified Sampling
(c) Convenient Sampling
(d) Lottery Method
Ans.(b)
Sol. When dealing with a heterogeneous population, Stratified Sampling is the most appropriate method. In this approach, the population is divided into distinct subgroups or strata based on shared characteristics (such as age, gender, income level, etc.). Researchers then draw samples from each subgroup proportionally. This ensures that each subgroup is adequately represented in the sample, which is essential for obtaining accurate and reliable results in a population with diverse characteristics.
The other options are less suitable for a heterogeneous population:
- Cluster Sampling (Option a): Primarily used when the population is geographically dispersed and divided into clusters. While efficient in certain cases, it doesn't ensure representation of all subgroups within a heterogeneous population.
- Convenient Sampling (Option c): A non-probability sampling method, where samples are selected based on availability and convenience. This method lacks representativeness and may lead to bias.

- Lottery Method (Option d): A random sampling technique but does not guarantee proportional representation of all subgroups in a heterogeneous population.

Information Booster:

1. Stratified Sampling: Divides the population into homogeneous subgroups to ensure diversity and accuracy in results.
2. Increased Accuracy: Reduces sampling error and improves reliability by capturing each subgroup proportionally.
3. Applications: Useful in studies with diverse populations in terms of demographics, social factors, or other relevant characteristics.
4. Representative Sample: Ensures that smaller, distinct groups within a population are not overlooked.
5. Types of Stratified Sampling: Can be proportionate (sample size based on subgroup size) or disproportionate.
6. Enhanced Comparability: Allows researchers to analyze differences between subgroups within the population.

Q6. Given below are two statements:
Statement I: A research design is blueprint that guides the use of a research method and analysis of data.
Statement II: A research design is in no way connected with the expression of causal relations between variables. In light of the above statements, choose the most appropriate answer from the options given below:
(a) Both Statement I and Statement II are correct
(b) Both Statement I and Statement II are incorrect
(c) Statement I is correct but Statement II is incorrect
(d) Statement I is incorrect but Statement II is correct
Ans.(c)
Sol. Statement I: A research design is blueprint that guides the use of a research method and analysis of data.
A research design is indeed a blueprint or framework that outlines how research is to be conducted. It includes decisions about data collection, measurement, and analysis, guiding the use of research methods.
Statement I is correct:
Statement II: A research design is in no way connected with the expression of causal relations between variables.
A research design can be connected with the expression of causal relationships between variables, especially in experimental or causal-comparative designs. For example, randomized controlled trials are specifically designed to explore causality.
Statement II is incorrect:
The correct answer is: (c) Statement I is correct but Statement II is incorrect

Q7. For an ideal normal distribution, the median will be equivalent to which of the following measures?
A. Second quartile
B. Mean
C. 50th percentile
D. Mode
E. 5th decile

Choose the most appropriate answer from the options given below:
(a) Only A, B, and C
(b) Only A, B, and D
(c) Only A, B, C, and D
(d) A, B, C, D, and E
Ans.(d)
Sol. (d) A, B, C, D, and E
In an ideal normal distribution, the distribution is symmetric about the mean, and therefore, several measures coincide. The median of a normal distribution is equivalent to the mean and the mode, as all three are located at the center of the distribution.
Second quartile (A): The second quartile is the same as the median, which is the 50th percentile.
Mean (B): In a normal distribution, the mean is equal to the median.
50th percentile (C): The 50th percentile is by definition the median.
Mode (D): The mode is the value that appears most frequently, and in a perfectly normal distribution, it coincides with the mean and median.
5th decile (E): The 5th decile also refers to the median, as deciles divide the data into ten equal parts, and the 5th decile is the midpoint.
Thus, all these measures (A, B, C, D, and E) are equivalent in an ideal normal distribution.
Information Booster:
Normal Distribution: In a normal distribution, the data is symmetrically distributed with no skew, resulting in the mean, median, and mode being equal.
Median: The middle value that divides the data into two equal halves.
Mean: The arithmetic average of the data points.
Mode: The value that occurs most frequently in the data set.
Percentiles and Deciles: Percentiles divide the data into 100 equal parts, and deciles divide it into 10 equal parts. The 50th percentile and 5th decile both refer to the median.

Q8. With respect to telecommunications, which of the following forms of communication are synchronous?
A. Email
B. Instagram posts
C. Blogging
D. Telephone calls
E. Instant Messaging
Choose the correct answer from the options given below:
(a) A, B and C only
(b) D and E only
(c) A, B, D and E only
(d) A, B, C, D and E
Ans.(b)
Sol. The correct answer is D and E only.
- Telephone calls (D) and Instant Messaging (E) are synchronous forms of communication because they occur in real time, requiring both parties to be present and engaged simultaneously.
- Email (A), Instagram posts (B), and Blogging (C) are asynchronous forms of communication, meaning the interaction does not require both parties to be present at the same time.

Information Booster

1. Synchronous Communication: Synchronous communication occurs in real-time, requiring both parties to be present simultaneously.

2. Asynchronous Communication: Asynchronous communication allows the sender and receiver to be separated in time and doesn't require real-time interaction.

Additional Knowledge

- Email, Instagram posts, and Blogging: Incorrect. These are all asynchronous forms of communication, as they don't require real-time interaction.
- Telephone calls and Instant Messaging: Correct. Both require simultaneous engagement.

Q9. Which of the following are the characteristics of Teacher classroom management? A. Discipline comes from itself B. Teacher is the sole leader C. Students are facilitators for the operations of the classroom D. Students are allowed limited responsibilities. Choose the most appropriate answer from the options given below:

(a) A, B and C only

(b) C and D only

(c) B and D only

(d) A, C and D only

Ans.(c)

Sol. Effective teacher classroom management often involves the teacher being the primary authority (sole leader) and students having limited responsibilities. While some modern approaches promote student facilitation, traditional models emphasize the teacher's leadership role and controlled student involvement.

Q10. Given below are two statements:

Statement I: In social science research, the term 'gender' is preferred only on rare occasions.

Statement II: The term 'gender' is sociological and cultural construction of differences related to biological feature.

In the light of the above statement, choose the correct answer from the options given below:

(a) Both statement I and statement II are true

(b) Both statement I and statement II are false.

(c) Statement I is true but statement II is false

(d) Statement I is false but statement II is true

Ans.(d)

Sol. Statement I: In social science research, the term 'gender' is preferred only on rare occasions is false. In social science research, the term 'gender' is commonly used to refer to the social and cultural roles and identities associated with being male or female, as opposed to 'sex,' which refers to biological differences. Gender is a central concept in many areas of social science research.

Statement II: The term 'gender' is sociological and cultural construction of differences related to biological feature is true. Gender is understood as a sociological and cultural construct that defines roles, behaviors, and identities based on perceived differences related to biological sex. It focuses on how society and culture interpret and organize differences between sexes.

Therefore, Statement I is false but statement II is true

Q11. A trader marked the price of his commodity so as to include a profit of 25%. He allowed a discount of 16% on the marked price. What is the actual profit he earns?
(a) 9%
(b) 5%
(c) 16%
(d) 20%
Ans.(b)
Sol. Given:
Discount offered = 16%
Solution:
Let the Cost Price of article be 100
If profit is 25% then marked price will be CP + Profit
= 100 + 25% of 100 = 125
If a discount of 16% is offered then selling price = 125 - 16% of 125 = 125 -20 = 105
Profit = 105 - 100 = 5
Profit percentage = 5/100 × 100 = 5%

Q12. Match the List-I with List-II:

List-I (Statement)	List-II (Result)
A. Average of the squares of first 10 natural numbers	I. 13
B. Average of first 5 multiples of 5	II. 45
C. Average of first 25 natural numbers	III. 38.5
D. Average of cubes of first 5 natural numbers	IV. 15

Choose the correct answer from the options given below:
(a) A-I, B-II, C-III, D-IV
(b) A-II, B-III, C-IV, D-I
(c) A-IV, B-I, C-II, D-III
(d) A-III, B-IV, C-I, D-II
Ans.(d)
Sol. Given:
List I: Statements
A. Average of the squares of the first 10 natural numbers
B. Average of first 5 multiples of 5
C. Average of first 25 natural numbers
D. Average of cubes of the first 5 natural numbers
List II: Results
I. 13
II. 45
III. 38.5
IV. 15

Concept Used:
Average =Sum of termsNumber of termsNumber of termsSum of terms
Formula Used:
Average of squares of first n natural numbers:12+22+⋯+n2nn12+22+⋯+n2
Average of first n multiples of 5:5·1+5·2+⋯+5·nnn5·1+5·2+⋯+5·n
Average of first n natural numbers:1+2+⋯+nnn1+2+⋯+n
Average of cubes of first n natural numbers:13+23+⋯+n3nn13+23+⋯+n3
Solution:
For A (Average of the squares of the first 10 natural numbers):
The squares of the first 10 numbers are: 1^2, 2^2, 3^2, \dots, 10^2
Sum
=12+22+⋯+102=1+4+9+16+25+36+49+64+81+100=38512+22+⋯+102=1+4+9+16+25+36+49+64+81+100=385
Average =38510=38.510385=38.5
This matches with III.
For B (Average of first 5 multiples of 5):
The first 5 multiples of 5 are: 5, 10, 15, 20, 25
Sum = 5 + 10 + 15 + 20 + 25 = 75
Average =755=15575=15
This matches with IV.
For C (Average of first 25 natural numbers):
The first 25 natural numbers are: 1, 2, 3, \dots, 25
Sum =1+2+⋯+25=25·(25+1)2=3251+2+⋯+25=225·(25+1)=325
Average =32525=1325325=13
This matches with I.
For D (Average of cubes of the first 5 natural numbers):
The cubes of the first 5 numbers are:13,23,33,43,5313,23,33,43,53
Sum =13+23+33+43+53=1+8+27+64+125=22513+23+33+43+53=1+8+27+64+125=225
Average =2255=455225=45
This matches with II.
Thus, the correct option is (d) A-III, B-IV, C-I, D-II.

Q13. In an arithmetic series having 50 terms, the first and last terms are 3 and 199, respectively. What is the sum of the series?
(a) 4950
(b) 5050
(c) 5150
(d) 4850
Ans.(b)
Sol. According to the question,
50th term = 3 + (50 - 1)d
=> 199 = 3 + 49d
=> 196 = 49d
=> d = 4
Sum of 50 terms = 50/2[2 × 3 + (50 - 1) × 4]
=> 25[6 + 49 × 4]
=> 25 × 202
=> 5050

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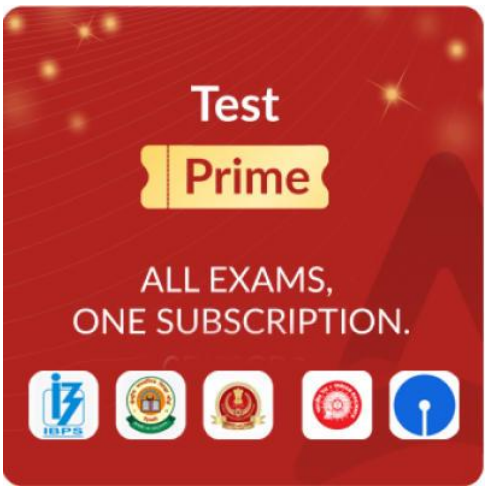
Q14. The cost price of an article is 95% of its selling price. Find the percentage of profit or loss.



(a) 5% loss
(b) 5% profit
(c) 5.26% profit
(d) 5.5% loss

Ans.(c)

Sol. Given:
CP = 95% of SP
Let SP = 100 (assume for simplicity)
Then, CP = 95
Formula:
Profit = SP − CP
Profit% = (Profit / CP) × 100
Solution:
SP = 100
CP = 95
Profit = 100 − 95 = 5
Profit% = (5 / 95) × 100 = 5.26%
Final Answer:
(C) 5.26% profit

Q15. An informal fallacy where something is assumed as a fact because the contrary of that is not yet proven to be true is called:
(a) Begging the question
(b) Appeal to Ignorance
(c) Complex Question
(d) Red Herring

Ans.(b)

Sol. Appeal to Ignorance (Argumentum ad Ignorantiam) is an informal fallacy that occurs when it is assumed that a proposition is true simply because it has not been proven false, or vice versa.

Q16. As per square of opposition which of the following propositions are so related that if one of them is true, the other must be false and vice-vessa?
A. All mammals are vertebrates.
B. No mammals are vertebrates.
C. Some non mammals are not vertebrates.
D. Some mammals answer from the options given below:
Choose the correct answer from the options given below:
(a) A and D Only
(b) A and C Only
(c) A and B Only
(d) C and D Only

Ans.(a)

Sol. In traditional logic, the square of opposition outlines relationships between four types of statements: A (universal affirmative), E (universal negative), I (particular affirmative), and O (particular negative).

Here's a simplified explanation:

- Proposition A makes a universal affirmative statement about mammals and vertebrates. It claims that all mammals are vertebrates.
- Proposition D makes a particular affirmative statement. It claims that some mammals are not vertebrates.

The contradiction between these statements arises as follows:

- If Proposition A is true (all mammals are vertebrates), then there cannot be any mammals that are not vertebrates, making Proposition D false.
- Conversely, if Proposition D is true (some mammals are not vertebrates), it contradicts Proposition A's claim that all mammals are vertebrates.

This means that if one of these propositions is true, the other must be false. Thus, Propositions A and D are contradictories according to the square of opposition, which describes their relationship as one where the truth of one necessitates the falsehood of the other.

Q17. In communication, denotation is the level of

(a) Belief

(b) Contrast

(c) Description

(d) Dissent

Ans.(c)

Sol. Denotation refers to the literal or primary meaning of a word, in contrast to the feelings or ideas that the word suggests. It is the objective description or definition of a term, without any emotional or associative implications. For example, the word "rose" denotes a type of flower, regardless of its connotations of love and beauty.

Q18. HTTP stands for:

(a) Hyper transfer text protocol

(b) Hypo transfer text protocol

(c) Hyper text transfer protocol

(d) Hypo text transfer protocol

Ans.(c)

Sol. HTTP is an acronym for Hyper Text Transfer Protocol. It is the foundation of data communication for the World Wide Web, where it defines how messages are formatted and transmitted, and how web servers and browsers should respond to various commands.

Therefore, the correct answer is (c) Hyper Text Transfer Protocol

Q19. Identify the correct order of the following major technological changes A-D in the development of computers based on first to fourth generation of computers:

A. Transistors

B. Microprocessor

C. Vacuum tubes

D. Integrated circuits

Choose the correct answer from the options given below:

(a) A, C, D, B

(b) B, A, C, D

(c) D, A, C, B

(d) C, A, D, B

Ans.(d)

Sol. The development of computers can be traced through these technological advancements:

1. First Generation – Vacuum Tubes (C)
2. Second Generation – Transistors (A)
3. Third Generation – Integrated Circuits (D)
4. Fourth Generation – Microprocessor (B)

Correct order: C → A → D → B.

Information Booster:

1. Vacuum Tubes: Used in the earliest computers, they were large and inefficient.
2. Transistors: Replaced vacuum tubes and were smaller, faster, and more reliable.
3. Integrated Circuits: Allowed for the development of smaller and more powerful computers by integrating multiple transistors on a single chip.
4. Microprocessors: Enabled personal computers by placing the CPU on a single chip. The Microprocessor was invented in 1971 by Intel and is the foundation for modern computing.

Q20. Which of the following statements about networked computers are TRUE?

A. Network users communicate by email and instant messenger.

B. Files can easily be shared between users.

C. Viruses cannot be spread to another computer throughout a computer network.

D. It is possible for many users to access and share one printer on a network.

Choose the most appropriate answer from the options given below:

(a) A, B and D only

(b) A and C only

(c) B, C and D only

(d) A and B only

Ans.(a)

Sol. Statement A: This is true. Network users can communicate via email and instant messaging.
Statement B: This is true. Files can be easily shared between users on a network.
Statement C: This is false. Viruses can spread to other computers through a network.
Statement D: This is true. Many users can access and share one printer on a network.

Q21. World Wide Web (WWW) was invented by whom?
(a) Alan Turing
(b) Steve Jobs
(c) Bill Gates
(d) Tim Berners-Lee

Ans.(d)

Sol. Tim Berners-Lee, a British computer scientist, invented the World Wide Web (WWW) in 1989 while working at CERN. The World Wide Web revolutionized how information is shared and accessed on the internet by introducing the concept of web pages connected by hyperlinks.
Information Booster:
1. WWW is a system of interlinked hypertext documents accessed via the internet. It is based on protocols like HTTP and is one of the main services provided over the internet.
2. Tim Berners-Lee also created the first web browser and web server.
Additional Knowledge:

- Alan Turing was a pioneer in theoretical computer science and artificial intelligence.
- Steve Jobs co-founded Apple Inc. and was instrumental in the personal computing revolution, while Bill Gates co-founded Microsoft, but neither were involved in the invention of the World Wide Web.

Q22. Statement 1: Charles Babbage is considered the "father of the computer" due to his invention of the Analytical Engine. Statement 2: The Analytical Engine was a fully operational machine during Babbage's time.
(a) Both Statement 1 and Statement 2 are true.
(b) Statement 1 is true, but Statement 2 is false.
(c) Statement 1 is false, but Statement 2 is true.
(d) Both Statement 1 and Statement 2 are false.

Ans.(b)

Sol. Statement 1 is true. Charles Babbage is indeed considered the "father of the computer" because he designed the Analytical Engine, which was a mechanical, programmable computer that laid the groundwork for future computing machines.
Statement 2 is false. Although the Analytical Engine was designed in the 1830s, it was never completed or made operational during Babbage's lifetime due to technological and financial limitations. The machine's construction was never fully realized, and it wasn't until much later that its true significance was recognized.
Thus, Statement 1 is true and Statement 2 is false. Therefore, the correct answer is (b).
Information Booster:
1. Charles Babbage's Legacy: Babbage's Analytical Engine was the first design for a general-purpose computing machine and had all the fundamental components of modern computers, including a control unit, arithmetic logic unit, memory, and input/output mechanisms.

2. Ada Lovelace's Role: Ada Lovelace, an associate of Babbage, is often credited as the first computer programmer due to her work on the Analytical Engine, specifically her notes on how the machine could be programmed to perform calculations beyond mere numbers.

Additional Knowledge:

- Technology Limitation: The Analytical Engine was never completed due to the limitations of the time, such as the lack of precise mechanical parts and the financial difficulties of Babbage's projects. It was a visionary design that was ahead of its time.
- Modern Recognition: In recent years, there have been efforts to build a working model of the Analytical Engine, which showcases its theoretical brilliance but also highlights how far ahead of its time Babbage truly was.

Q23. Which of the following statements is/are true?

A. BIOS is an example of Application Software

B. A utility software is an example of firmware

C. Spyware is an example of malware

Choose the correct answer from the options given below:

(a) A only

(b) B only

(c) C only

(d) B and C only

Ans.(c)

Sol. A. BIOS is an example of Application Software. (False): BIOS (Basic Input/Output System) is a type of firmware, not application software. It is a set of built-in software instructions stored on a motherboard chip that initializes hardware components during the boot process and provides basic input/output services to the operating system and other software. It operates at a lower level than application software and is responsible for the fundamental functions of a computer system.

B. A utility software is an example of firmware. (False): Utility software, such as antivirus programs, disk cleanup tools, and backup utilities, are examples of application software, not firmware. Application software refers to programs designed to perform specific tasks or provide specific functionality for users. Firmware, on the other hand, refers to software that is embedded into hardware devices and is responsible for controlling the device's operation.

C. Spyware is an example of malware. (True): Spyware is a type of malicious software (malware) that is designed to secretly monitor and collect information about a user's activities on a computer system without their knowledge or consent. It can track keystrokes, capture screenshots, record browsing habits, and transmit sensitive data to third parties. Spyware is considered harmful and intrusive, and its presence on a computer can compromise user privacy and security.

Q24. The depletion of the ozone layer due to anthropogenic air pollution occurs when:

(a) NO_2 reacts with stratospheric ozone

(b) CO_2 dissolves in rainwater

(c) PM2.5 blocks sunlight

(d) Methane forms ground-level ozone

Ans.(a)

Sol. The depletion of the ozone layer primarily occurs when nitrogen oxides (NO_2), along with other ozone-depleting substances like chlorofluorocarbons (CFCs), react with ozone (O_3) molecules in the stratosphere. This reaction breaks down ozone molecules, thinning the ozone layer and reducing its ability to absorb harmful ultraviolet (UV) radiation from the sun. Nitrogen oxides (NO_2) play a significant role in the ozone depletion process, as they catalyze reactions that lead to the breakdown of ozone molecules.

Information booster

The ozone layer is crucial for protecting life on Earth by absorbing most of the sun's harmful ultraviolet radiation, which can cause skin cancer, cataracts, and harm ecosystems.

Chlorofluorocarbons (CFCs), halons, and other man-made chemicals, when released into the atmosphere, break down ozone molecules, and nitrogen oxides (NO_2) further contribute to this depletion process.

Ozone depletion is most pronounced in the polar regions, forming the ozone hole, especially during the spring in the Southern Hemisphere.

International agreements like the Montreal Protocol have led to a significant reduction in the use of ozone-depleting substances, helping the ozone layer to recover slowly.

Additional Knowledge:

CO_2 dissolves in rainwater

CO_2 causes ocean acidification, not ozone depletion.

PM2.5 blocks sunlight

PM2.5 affects tropospheric air quality and climate (aerosol effects), but not stratospheric ozone.

Methane forms ground-level ozone

Methane (CH_4) contributes totropospheric ozone(smog), which is harmful to health but does not deplete thestratospheric ozone layer.

Q25. What is the correct increasing order of the wavelength of the following components of solar radiation?

(A) Visible light

(B) Microwaves

(C) Infra-red rays

(D) Ultra-violet rays

Choose the correct answer from the options given below:

(a) (C), (D), (B), (A)

(b) (A), (B), (D), (C)

(c) (D), (A), (B), (C)

(d) (D), (A), (C), (B)

Ans.(d)

Sol. Ultra-violet rays (D) have wavelengths shorter than visible light, typically ranging from 10 nm to 400 nm.

Visible light (A) has wavelengths between 400 nm and 700 nm.

Infra-red rays (C) have longer wavelengths than visible light, typically ranging from 700 nm to 1 mm.

Microwaves (B) have the longest wavelengths among the given options, typically ranging from 1 mm to 1 m.

Information Booster:

1. Wavelength and Energy: In electromagnetic radiation, the shorter the wavelength, the higher the energy. UV rays have high energy due to their short wavelengths, while microwaves have low energy due to their longer wavelengths.
2. Role of UV Rays (D): UV rays are vital for vitamin D synthesis but can be harmful in excess, causing skin damage.
3. Visible Light (A): This is the only part of the spectrum visible to the human eye, and it is the most commonly used form of light.
4. Infrared Rays (C): These are often used in thermal imaging and are essential in studying heat signatures in both natural and technological contexts.
5. Microwaves (B): Used in communication technologies (like satellite and radar) and household appliances like microwave ovens for heating food.

Q26. Which region showed the least progress in Millennium Development Goals (MDG) attainment ?
(a) Latin America and the Caribbean
(b) Sub-Saharan Africa
(c) South Asia
(d) East Asia and the Pacific
Ans.(b)
Sol. The region that showed the least progress in achieving the Millennium Development Goals (MDGs) was Sub-Saharan Africa. While some advancements were made, particularly in areas like primary education enrollment and gender parity in schools, the overall progress was significantly slower compared to other regions.
Key challenges in Sub-Saharan Africa included:
High levels of extreme poverty and limited access to basic healthcare.
High child and maternal mortality rates, despite reductions.
Low access to clean drinking water and sanitation.
Persistent issues such as conflict, poor infrastructure, and weak institutional capacity.
According to the UN MDG 2015 Report, although the global poverty rate was halved, Sub-Saharan Africa still had:
The highest under-five mortality rate.
The lowest literacy levels among youth.
A high maternal mortality ratio.
A slower pace of improvement in gender equality and empowerment of women.
In contrast:
East Asia and the Pacific, particularly China, made remarkable progress in poverty reduction.
South Asia (notably India) improved in primary education and reducing child mortality.
Latin America and the Caribbean showed strong progress in hunger reduction, education, and access to drinking water.
Information Booster:
Sub-Saharan Africa faced severe developmental and institutional challenges.
Despite international aid, weak governance and conflict hindered progress.
It remained the region with the highest poverty and child mortality rates in 2015.
Primary school completion and maternal health indicators lagged behind other regions.
Global MDG achievements were uneven, with wealthier and more stable regions showing greater success.
The MDG review prompted stronger emphasis on inequality and sustainability in the SDGs.
Progress in HIV/AIDS treatment and malaria prevention was notable but not sufficient.

Q27. Assertion Reason Question :
Assertion (A): The Montreal Protocol supports SDG 13.
Reason (R): It phases out ozone-depleting substances, mitigating climate change.
(a) Both A and R are true, and R explains A.
(b) Both are true, but R does not explain A.
(c) A is true, but R is false.
(d) A is false, but R is true.
Ans.(a)
Sol. The Montreal Protocol is a landmark international treaty agreed upon in 1987 to phase out the production and consumption of substances that deplete the ozone layer, such as chlorofluorocarbons (CFCs) and halons. Over time, scientists discovered that many of these ozone-depleting substances (ODS) are also potent greenhouse gases, contributing significantly to global warming.
Thus, by eliminating ODS, the Montreal Protocol not only helps protect the ozone layer but also delivers significant climate co-benefits—thereby supporting SDG 13: Climate Action, which aims to combat climate change and its impacts. This connection was further emphasized in the Kigali Amendment (2016), which targets the phasedown of hydrofluorocarbons (HFCs)—greenhouse gases used as substitutes for ODS, which, while not ozone-depleting, have high global warming potential (GWP).
Therefore:
Assertion (A) is true: The Montreal Protocol supports SDG 13.
Reason (R) is also true and correctly explains the assertion: Phasing out ODS reduces emissions of greenhouse gases, mitigating climate change.
Information Booster:
Montreal Protocol (1987) is one of the most successful environmental treaties.
It aims to protect the ozone layer by phasing out ozone-depleting substances.
Many ODS are also potent greenhouse gases, hence their removal benefits climate action.
Kigali Amendment (2016) expanded the scope to phase down HFCs.
The Protocol supports SDG 13 (Climate Action) and SDG 3 (Good Health and Well-being) by reducing UV-related health risks.
It has universal ratification by all UN member states.
The Protocol is estimated to have prevented millions of cases of skin cancer and cataracts.

Q28. Which scale measures earthquake intensity?
(a) Mercalli
(b) Richter
(c) Beaufort
(d) Saffir-Simpson
Ans.(a)
Sol. The Mercalli scale measures the intensity of an earthquake, assessing its effects and how strongly it is felt by people. Unlike the Richter scale, which measures the earthquake's magnitude, the Mercalli scale focuses on the observed impact, including damage to buildings and human perception.
Hence, the correct answer is (b) Mercalli.
Information Booster:
The Mercalli scale ranges from I (not felt) to XII (total destruction), based on human and structural responses to the shaking.
It does not measure the earthquake's energy but rather its observable effects on people, buildings, and the Earth's surface.

The Mercalli scale is subjective, meaning it can vary depending on location, distance from the epicenter, and local building practices.
Unlike the Richter scale, the Mercalli scale is not logarithmic and does not provide a numerical measure of the energy released by the earthquake.
The scale helps to understand the severity of an earthquake's impact, particularly in terms of damage and human experience.
Additional Knowledge:
Richter scale measures the magnitude of an earthquake, quantifying the energy released at the source.
Beaufort scale is used to measure wind speed, not earthquake intensity.
Saffir-Simpson scale is designed for measuring the intensity of hurricanes, not earthquakes.

Q29. IGNOU hosts secretariats of the SAARC consortium on open and distance learning (SACODIL) and the Global Mega Universities Network (GMUNET), initially supported by:
(a) UNDP
(b) UNESCO
(c) UNHCR
(d) UNICEF
Ans.(b)
Sol. The SAARC consortium on open and distance learning (SACODIL) and the Global Mega Universities Network (GMUNET) hosted by IGNOU were initially supported by UNESCO. UNESCO has been actively promoting distance education and open learning worldwide.

Q30. The National Education policy document of 1986 revised in 1992 suggested
(a) Use of multimedia for distance education.
(b) Linking degrees with jobs.
(c) Abolition of AICTE.
(d) Focus on research, only for degrees.
Ans.(a)
Sol. The National Education Policy of 1986, which was revised in 1992, emphasized the importance of using modern technological tools to enhance education. One of the significant suggestions was the use of multimedia in distance education. This was aimed at improving the reach and quality of education, especially in remote and rural areas, and making education more accessible and effective through the use of technology.

Q31. Given below are two statements:
Statement I: Value education is knowledge based and information oriented.
Statement II: Value education is essential for holistic development of students.
In the light of the above statements, choose the most appropriate answer from the options given below:
(a) Both Statement I and Statement II are correct
(b) Both Statement I and Statement II are incorrect
(c) Statement I is correct but Statement II is incorrect
(d) Statement I is incorrect but Statement II is correct
Ans.(d)
Sol. Statement I is incorrect because value education is not merely knowledge-based and information-oriented; it focuses on imparting moral and ethical values rather than just factual knowledge or information. Value education aims to cultivate the attitudes, behavior, and skills necessary for students to develop into responsible and morally sound individuals.

Statement II is correct because value education indeed plays a crucial role in the holistic development of students. It helps in the development of emotional, social, and moral aspects, contributing to a well-rounded individual capable of making ethical decisions, fostering positive relationships, and contributing meaningfully to society.

Q32. According to National Education Policy (2020), National Higher Education Regulatory Council will be the single point regulator for all disciplines except
(a) Teacher Education
(b) Medical and Legal education
(c) Agricultural sciences
(d) Management
Ans.(b)
Sol. According to the National Education Policy (NEP) 2020, the National Higher Education Regulatory Council (NHERC) will be the overarching regulator for higher education in India, except for the fields of medical and legal education. These disciplines are to remain under the purview of their respective regulatory bodies, such as the Medical Council of India (MCI) for medical education and the Bar Council of India (BCI) for legal education. The NEP aims to streamline regulatory frameworks to make them more efficient and less fragmented, but it makes an exception for these two critical disciplines due to their specialized requirements.
Information Booster · NEP 2020: Introduced significant reforms across various levels of education, including school and higher education, to make India's education system more flexible and globally competitive.
· NHERC: This body is part of a larger restructuring of the higher education sector, designed to regulate academic standards, accreditation, and funding.
· Medical and Legal Education: These sectors require specific professional competencies and ethics, which are why they remain under independent regulatory bodies.

Q33. The process by which a message is transmitted via some form of medium is identified as_____ communication
(a) Formative
(b) Inter-connective
(c) Mediated
(d) Formal
Ans.(c)
Sol. The process by which a message is transmitted via some form of medium is identified as mediated communication. This term refers to any communication that is carried out using some channel or medium, such as television, radio, newspapers, the internet, or any other technology that transmits information between the sender and the receiver.
Information Booster:

- Formative Communication: Typically refers to communication that occurs during the development or implementation of a process, often aimed at improvement or feedback.
- Inter-connective Communication: Not a standard term in communication studies.
- Formal Communication: Refers to structured communication that follows organizational hierarchies and protocols, often found in professional settings.

Q34. Which of the following institutions were to play a role in shaping the National System of Education at higher level under the National Education Policy (1986) ?
(A) UNESCO
(B) UNDP
(C) UGC
(D) AICTE
(E) ICAR
Choose the correct answer from the options given below:
(a) (A), (B), and (C) only
(b) (B), (C), and (d) only
(c) (A), (C), and (D) only
(d) (C), (D), and (E) only
Ans.(d)
Sol. The National Education Policy (1986) emphasized improving the higher education system through collaboration with national institutions to ensure quality education, relevant curricula, and practical implementation. The policy explicitly mentioned the role of national regulatory and advisory bodies for achieving these objectives.
1. (C) UGC (University Grants Commission): The UGC was identified as a central body for coordinating higher education institutions, ensuring academic standards, and promoting research.
2. (D) AICTE (All India Council for Technical Education): The AICTE was tasked with the regulation and development of technical education to align it with national priorities and global standards.
3. (E) ICAR (Indian Council of Agricultural Research): The ICAR contributed to shaping education in the field of agriculture and allied sciences, which was critical for rural development and self-reliance.
Information Booster:
1. The NEP (1986) aimed to modernize and improve the quality of education through national institutions and advanced research facilities.
2. Focus areas included:
- Universalizing education.
- Enhancing technical and agricultural education.
- Promoting equality and social justice.

3. UGC and AICTE were central to standardizing curricula and implementing reforms.
4. ICAR played a pivotal role in improving agricultural education, aligning with national economic goals.
5. The policy also laid the groundwork for private participation and vocational training in higher education.

Q35. In a certain code language, 'DREAM' coded as 71692, 'CHILD' coded as 85437 . How will 'LEADER' be coded in the same language?
(a) 569761
(b) 369761
(c) 365761
(d) 369765

Ans.(b)

Sol. Solution:

Step 1: Create letter-to-digit mappings from the given codes

From "DREAM" → 71692

D → 7

R → 1

E → 6

A → 9

M → 2

From "CHILD" → 85437

C → 8

H → 5

I → 4

L → 3

D → 7 (this confirms D → 7 again)

Step 2: Now decode "LEADER"

The word is: L E A D E R

Now use the mappings:

L → 3

E → 6

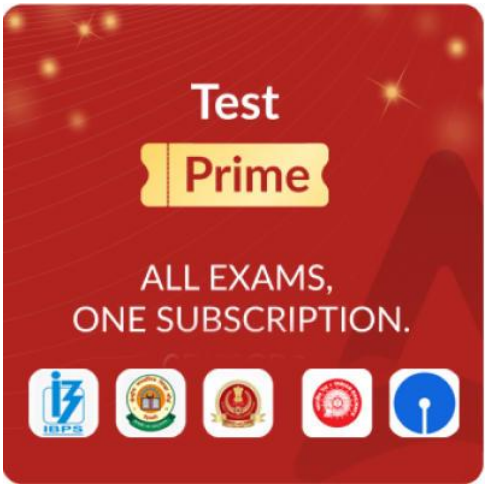
A → 9

D → 7

E → 6

R → 1

Final Code for LEADER = 369761



Q36. For all the six given years, the difference between the average number of employees working in office-D and office-E is: Read the given passage and answer the following questions

The following tables shows the number of employees working in six different Offices (A-F) of an IT Company during the years from 2018 to 2023. Based on the data in the table, answer the questions that follow.

Year-wise Details of employees of an IT Company						
Year	Number of Employees working in office					
	A	B	C	D	E	F
2018	290	176	222	240	280	272
2019	256	152	240	224	304	264
2020	272	192	264	248	316	280
2021	366	184	250	270	332	252
2022	320	214	280	236	340	292
2023	300	226	296	258	348	300

(a) 74

(b) 66

(c) 72

(d) 70

Ans.(a)

Sol. Solution:

Average number of employees in office D: The average number of employees in office D is calculated as: (240 + 224 + 248 + 270 + 236 + 258) / 6 = 246

Average number of employees in office E: The average number of employees in office E is calculated as: (280 + 304 + 316 + 332 + 340 + 348) / 6 = 320

Difference: The difference between the average number of employees in office D and office E is: 320 - 246 = 74

Answer:

The difference between the average number of employees working in office D and office E is 74.

Q37. In the year 2020, the number of employees working in office-C is approximately _____% less than the total number of employees working in all the six offices together. Read the given passage and answer the following questions

The following tables shows the number of employees working in six different Offices (A-F) of an IT Company during the years from 2018 to 2023. Based on the data in the table, answer the questions that follow.

Year-wise Details of employees of an IT Company						
Year	Number of Employees working in office					
	A	B	C	D	E	F
2018	290	176	222	240	280	272
2019	256	152	240	224	304	264
2020	272	192	264	248	316	280
2021	366	184	250	270	332	252
2022	320	214	280	236	340	292
2023	300	226	296	258	348	300

(a) 81

(b) 86

(c) 28

(d) 83

Ans.(d)

Sol. Given:

Number of employees in Office C in 2020 = 264

Number of employees in all offices in 2020:

Office A = 272, Office B = 192, Office C = 264, Office D = 248, Office E = 316, Office F = 280

Find: Percentage by which the number of employees in Office C is less than the total number of employees in all six offices in 2020

Formula:

Total employees = Sum of employees in all offices

Difference = Total employees – Employees in Office C

Percentage less = (Difference / Total employees) × 100

Solution:
Total employees in 2020:
272 + 192 + 264 + 248 + 316 + 280 = 1572
Difference:
1572 – 264 = 1308
Percentage less:
(1308 / 1572) × 100 ≈ 83.21%
Answer:
In 2020, the number of employees in Office C is approximately 83.21% less than the total number of employees in all six offices together.

Q38. In office-F, the percentage increase in the number of employees in comparison to the previous year is more than 6% for exactly _____ year(s). Read the given passage and answer the following questions
The following tables shows the number of employees working in six different Offices (A-F) of an IT Company during the years from 2018 to 2023. Based on the data in the table, answer the questions that follow.

Year-wise Details of employees of an IT Company						
Year	Number of Employees working in office					
	A	B	C	D	E	F
2018	290	176	222	240	280	272
2019	256	152	240	224	304	264
2020	272	192	264	248	316	280
2021	366	184	250	270	332	252
2022	320	214	280	236	340	292
2023	300	226	296	258	348	300

(a) 1
(b) 2
(c) 3
(d) 4
Ans.(b)
Sol. Given:
Office F: 2018 = 272, 2019 = 264, 2020 = 280, 2021 = 252, 2022 = 292, 2023 = 300
Find: Number of years where the percentage increase in employees in Office F compared to the previous year is more than 6%
Formula:
Percentage increase = [(New value – Old value) / Old value] × 100
Solution:
2019 vs 2018:
(264 – 272) / 272 × 100 = –8 / 272 × 100 ≈ –2.94% (decrease)
2020 vs 2019:
(280 – 264) / 264 × 100 = 16 / 264 × 100 ≈ 6.06% (more than 6%)
2021 vs 2020:
(252 – 280) / 280 × 100 = –28 / 280 × 100 = –10% (decrease)
2022 vs 2021:
(292 – 252) / 252 × 100 = 40 / 252 × 100 ≈ 15.87% (more than 6%)

2023 vs 2022:
(300 – 292) / 292 × 100 = 8 / 292 × 100 ≈ 2.74% (not more than 6%)
Answer:
The percentage increase is more than 6% in 2 year (2020 & 2022).
Number of years = 2

Q39. In the years 2018 and 2019, the ratio between the number of employees working in all the six offices together is: Read the given passage and answer the following questions
The following tables shows the number of employees working in six different Offices (A-F) of an IT Company during the years from 2018 to 2023. Based on the data in the table, answer the questions that follow.

Year-wise Details of employees of an IT Company						
Year	Number of Employees working in office					
	A	B	C	D	E	F
2018	290	176	222	240	280	272
2019	256	152	240	224	304	264
2020	272	192	264	248	316	280
2021	366	184	250	270	332	252
2022	320	214	280	236	340	292
2023	300	226	296	258	348	300

(a) 13:11
(b) 13:14
(c) 37:36
(d) 4:3
Ans.(c)
Sol. Given:
2018: A = 290, B = 176, C = 222, D = 240, E = 280, F = 272
2019: A = 256, B = 152, C = 240, D = 224, E = 304, F = 264
Find: Ratio of total employees in 2018 to total employees in 2019
Formula:
Total employees = Sum of employees in all offices
Ratio = Total in 2018 : Total in 2019
Solution:
Total employees in 2018:
290 + 176 + 222 + 240 + 280 + 272 = 1480
Total employees in 2019:
256 + 152 + 240 + 224 + 304 + 264 = 1440
Ratio:
1480 : 1440
Simplify by dividing both by their greatest common divisor (40):
1480 ÷ 40 = 37
1440 ÷ 40 = 36
Ratio = 37 : 36
Answer:
The ratio of the number of employees in 2018 to 2019 is 37 : 36.

Q40. Match the LIST–I with LIST–II

LIST–I *(Film Institutes)*	LIST–II *(City)*
A. FTII	I. Mumbai
B. SRFTI	II. Pune, Prabhat Studios
C. NFDC	III. Kolkata
D. NFAI	IV. Deccan Gymkhana, Pune

Choose the correct answer from the options given below:
(a) A - II, B - III, C - I, D - IV
(b) A - III, B - I, C - II, D - IV
(c) A - IV, B - II, C - III, D - I
(d) A - I, B - II, C - IV, D - III
Ans.(a)
Sol. Correct Answer: (a)
Introduction: India has a number of premier film and media institutes that nurture talent in filmmaking, screenwriting, editing, cinematography, and acting, spread across various cities.
Information Booster:

- FTII – Pune: The Film and Television Institute of India (FTII) is one of the most prestigious film schools, established in 1960, known for producing many iconic filmmakers and actors. It's situated on the grounds of the erstwhile Prabhat Studios.
- SRFTI – Kolkata: The Satyajit Ray Film and Television Institute was founded in 1995 and is named after legendary director Satyajit Ray.
- NFDC – Mumbai: The National Film Development Corporation of India promotes independent and parallel cinema. It is headquartered in Mumbai, the hub of Bollywood.
- NFAI – Deccan Gymkhana, Pune: The National Film Archive of India is also located in Pune and plays a key role in preserving the heritage of Indian cinema.

Additional Knowledge:

- FTII and NFAI are both in Pune, which can confuse students.
- SRFTI is sometimes mistaken to be in Mumbai due to the name of Satyajit Ray, but it is correctly placed in Kolkata.
- NFDC's association with mainstream cinema and funding activities places it firmly in Mumbai, not Delhi or Kolkata.

Q41. Match the LIST–I with LIST–II

LIST–I *(Communication Tools)*	LIST–II *(Type of Communication)*
A. Smartphone	I. Audio Communication
B. WhatsApp	II. Verbal + Visual
C. Email	III. Asynchronous
D. Radio	IV. Digital Messaging

Choose the correct answer from the options given below:
(a) A - I, B - IV, C - III, D - II
(b) A - II, B - IV, C - III, D - I
(c) A - III, B - II, C - I, D - IV
(d) A - IV, B - III, C - II, D - I

Ans.(b)

Sol. Correct Answer: (b)

Introduction: Communication tools refer to the various technological mediums used for interaction. They are categorized by their mode (verbal, visual, digital) and timing (synchronous or asynchronous).

Information Booster:

- Smartphone – Verbal + Visual: Smartphones support audio, video, and text communication, making them multi-modal tools.
- WhatsApp – Digital Messaging: It is a real-time digital communication tool, primarily used for text, image, and voice messaging.
- Email – Asynchronous: Emails are not real-time. They allow the sender and receiver to respond at different times, defining them as asynchronous communication.
- Radio – Audio Communication: A one-way mass communication tool delivering audio content such as news and entertainment.

Additional Knowledge:

- Though smartphones can do audio-only communication, they are not limited to it.
- WhatsApp, though sometimes used for voice calls, is best defined as a digital messaging platform.
- Email is not synchronous, and cannot be grouped with live chat.
- Radio, being non-visual, cannot fall under verbal + visual types.

Q42. Match the LIST–I with LIST–II

LIST–I *(Indian Movies)*	LIST–II *(Year of Release)*
A. Raja Harishchandra	I. 1975
B. Alam Ara	II. 1931
C. Sholay	III. 1913
D. Do Bigha Zamin	IV. 1953

Choose the correct answer from the options given below:

(a) A - IV, B - I, C - II, D - III

(b) A - I, B - III, C - IV, D - II

(c) A - II, B - I, C - III, D - IV

(d) A - III, B - II, C - I, D - IV

Ans.(d)

Sol. Correct Answer: (d)

Introduction: Indian cinema has evolved significantly over the decades, starting from silent films to talkies, then progressing into color, parallel, and commercial cinema. Each landmark movie marks a turning point in the history of Indian film.

Information Booster:

- Raja Harishchandra – 1913: Regarded as the first full-length Indian silent feature film, directed by Dadasaheb Phalke. It marked the birth of Indian cinema.
- Alam Ara – 1931: Directed by Ardeshir Irani, it was the first Indian talkie film (film with sound). It revolutionized Indian cinema with dialogues and songs.
- Sholay – 1975: A cult classic in Indian cinema, directed by Ramesh Sippy, it set new benchmarks in storytelling and remains one of the most successful Bollywood movies.
- Do Bigha Zamin – 1953: Directed by Bimal Roy, it is a pioneer in Indian neorealism, showcasing social issues and winning international acclaim.

Additional Knowledge:

- Some confuse Raja Harishchandra as a talkie, but it was silent.
- Alam Ara is often incorrectly placed in the 1920s, but its correct release year is 1931.
- Sholay is sometimes misattributed to earlier years, but its 1975 release made it a defining film of the decade.
- Do Bigha Zamin, despite being older than Sholay, is post-Independence and was released in 1953.

Q43. Match the LIST–I with LIST–II

LIST–I *(Technology Pioneer)*	LIST–II *(Contribution)*
A. Tim Berners-Lee	I. Father of the Internet
B. Charles Babbage	II. Turing Machine Concept
C. Alan Turing	III. Father of Computer
D. Vint Cerf	IV. Founder of World Wide Web

Choose the correct answer from the options given below:

(a) A - IV, B - III, C - II, D - I

(b) A - III, B - IV, C - I, D - II

(c) A - II, B - I, C - IV, D - III

(d) A - I, B - II, C - III, D - IV

Ans.(a)

Sol. Correct Answer: (a)

Introduction: Modern computing and the internet have evolved through the foundational work of various visionaries. Their contributions laid the theoretical and practical groundwork for today's digital systems.

Information Booster:

- Tim Berners-Lee – Founder of World Wide Web: Invented the WWW in 1989, making the internet accessible with URLs, HTTP, and HTML.
- Charles Babbage – Father of Computer: Designed the Analytical Engine, an early mechanical general-purpose computer in the 19th century.
- Alan Turing – Turing Machine Concept: Introduced the Turing Machine, a theoretical construct foundational to computer science and AI logic.
- Vint Cerf – Father of the Internet: Co-designed the TCP/IP protocols, which are the backbone of modern Internet communication.

Additional Knowledge:

- Tim Berners-Lee is not the father of the internet—a common confusion. He created the web, not the protocols.
- Charles Babbage is sometimes misattributed to AI, but his legacy is in mechanical computation.
- Alan Turing's contributions are theoretical, and he did not invent computers but shaped computational theory.
- Vint Cerf's title as "father of the internet" refers to his role in protocol development, not hardware.