



UGC Net Memory Based Question Paper 26 June 2025 Shift 1

Q1. Given below are two statements:

Statement I: The circular model of communication does not favour feedback.

Statement II: The liner model of communication demands continuity of communication and enables immediate feedback.

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 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.(b)

Sol. The circular model of communication, also known as the transactional model, typically includes feedback as an integral part of the communication process. It emphasizes that communication is a dynamic and ongoing exchange between sender and receiver, where feedback helps adjust and refine the message. Therefore, Statement I is false.

The linear model of communication is characterized by a one-way flow of information from the sender to the receiver, without explicit feedback in the model itself. It does not inherently demand continuity of communication or enable immediate feedback within the model. Therefore, Statement II is also false So, the correct answer is (b) Both Statement I and Statement II are false.

Q2. Statement-I: DD GyanDarshan is a centre-owned television channel telecasting from Doordarshan Kendra and IGNOU.

Statement-II: DTH channels are using the GSAT-15 satellite for programme telecasts in SWAYAM Prabha. In the light of the above statements, choose the correct answer from the options given below:

Given below are two statements:

- (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 is false but Statement II is true. DD GyanDarshan was a collaboration between Doordarshan and IGNOU but it is no longer operational. On the other hand, the GSAT-15 satellite is indeed used for DTH channels including those in SWAYAM Prabha.

Q3. The difference between the compound interest and simple interest on Rs.10,000/- for 3 years at 10% per annum is

(a) 310

(b) 300

(c) 200

(d) 430

1



Ans.(a)

(a) 4.5 Km/hr(b) 5 Km/hr

2

Sol. Given P = Rs. 10000, r = 10% and n = 3 years C.I = 1000[(1+10/100)^3 -1] C.I = 10000[(11/10)^3 -1] C.I = 10(121+100+110) = 3310 S.I = (10000 x 3 x 10)/100 = 3000 C.I-S.I = 3310-3000=Rs. 310

Q4. The speed of a boat in still water is 10 km/hr. If it can travel 26 km downstream and 14 km upstream in the same time, the speed of the stream is:



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(c) 3 Km/hr (d) 4 Km/hr Ans.(c) Sol. Given: Speed of boat in still water = 10 km/hr Formula Used: Distance Speed =Time Upstream speed = Speed of boat - speed of current Downstream speed = speed of boat + speed of boat Solution: Let speed of stream be x km/hr Upstream speed = (10 - x) km/hr Downstream speed = (10 + x) km/hr Time taken to cover 26 km in downstream = $\frac{26}{10 + x}$ ----(1) Time taken to cover 14 km in upstream = $\frac{14}{10 - x}$ ----(2) According to the question, 2614 $\overline{10+x}$ = 10 - x $\Rightarrow 26(10-x) = 14(10+x)$ $\Rightarrow 260 - 26x = 140 + 14x$ $\Rightarrow 26x + 14x = 260 - 140$ $\Rightarrow 40x = 120$ $\Rightarrow x = \frac{120}{40}$ $\Rightarrow x = 3 \text{ km/hr}$





Q5. By how much above the cost should the goods be marked for sale, so that after allowing a trade discount of 20% and a cash discount of 6%, a net gain of 20% on the cost is made?

(a) 60% above the cost (b) 40% above the cost (c) 50% above the cost (d) 55% above the cost Ans.(a) **Sol.** Suppose, the cost price of good = Rs. 100 Also, let the marked price = Rs. xNow, since, the net gain is 20% of cost price. So, the selling price (SP), SP = Cost price + Gain SP = 100 + (20% of 100)SP = 100 + 20 = Rs. 120 = [(100 - 6(1/4)]% of (100 - 20)% of x = 120= (100 - 25/4)% of (80)% of x = 120 $= 375/4 \times 1/100 \times (80 \text{ x})/100 = 120$ 3x/4=120 x=120×4/3 =160 Since, 160 is 60% more than the 100.

Q6. "Killing is wrong. Abortion is killing. Therefore abortion is wrong". Which of the following fallacy is committed in this argument?

(a) Fallacy of Appeal to Inappropriate Authority

(b) Ad Hominem Fallacy

(c) Fallacy of Appeal to Emotion

(d) Fallacy of Equivocation

Ans.(d)

Sol. The fallacy committed in this argument is the Fallacy of Equivocation. This occurs when a key term is used ambiguously or in different senses within the argument, leading to a misleading or flawed conclusion.

In this argument, the term "killing" is equivocated:

1. In the first premise, "killing" is used as a broad term referring to any act that ends life, implying it is always morally wrong.

2. In the second premise, "abortion" is categorized as a form of killing, equating it morally to other types of killing, without addressing the specific ethical or legal considerations surrounding abortion.

Information Booster 1. Equivocation relies on ambiguous meanings of terms to construct misleading arguments.

2. Moral arguments often fall into this fallacy when complex ethical terms are oversimplified.

3. Addressing equivocation requires clear definitions and consistent usage of terms.

4. Common examples involve terms like "freedom," "justice," or "life," where their different interpretations lead to faulty reasoning.

5. Avoiding this fallacy ensures clarity and fairness in debates and discussions.





Additional Knowledge \cdot (a) Fallacy of Appeal to Inappropriate Authority: Occurs when an argument relies on an authority that is not qualified in the subject matter. It does not apply here as no authority is cited.

(b) Ad Hominem Fallacy: This fallacy attacks the person making the argument rather than addressing the argument itself. It is irrelevant in this case.

(c) Fallacy of Appeal to Emotion: This fallacy manipulates emotional responses to win an argument without relying on logical reasoning. While abortion debates often evoke emotions, this particular argument does not appeal to emotions.

Q7. Below are two statements:

Statement I: In the syllogism 'Nyaya', the first among the five (proposition) corresponds to the fifth (conclusion).

Statement II: In the syllogism 'Nyaya', the second among the five (reason) corresponds to the fourth (application).

Based on the above statements, select 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.(a)

Sol. Both Statement I and Statement II are correct.

In the classical Indian logic system of Nyaya, which uses a syllogistic structure known as the "Nyaya syllogism," there are five components: proposition, reason, example, application, and conclusion.

Statement I is correct: In Nyaya, the first component (proposition) sets forth the thesis or the claim that is being argued, and it indeed corresponds to the fifth component (conclusion), which reasserts the proposition based on the logical reasoning provided through the syllogism. This alignment ensures the structure and purpose of the argument come full circle, confirming the proposition initially stated.

Statement II is correct: The second component (reason) provides the justification for the proposition and indeed corresponds to the fourth component (application), which illustrates how the reason applies specifically to the case at hand. The reason supports the proposition by linking it directly to the evidence presented in the example, and the application shows this link in action, thereby reinforcing the argument's validity.

Information Booster:

Nyaya is one of the six orthodox schools of Hindu philosophy and focuses significantly on epistemology and logic. Its approach to logic and syllogism has been a substantial contribution to Indian philosophy and debate, emphasizing the practical application of reasoning to establish truths.

Q8. An informal fallacy in which one moves carelessly from individual cases of a given class of persons or things to all the members of that class is called:

A. Fallacy of Division

- B. Fallacy of Converse accident
- C. Fallacy of Slippery Slope
- D. Fallacy of Accident
- E. Hasty generalisation





Choose the correct answer from the options given below:

(a) B and E only

(b) C only

(c) E only

(d) C and E only

Ans.(a)

Sol. Two fallacies fit the given description:

Fallacy of Converse Accident (B): This fallacy arises when one improperly generalises from a specific, exceptional case to the broader population. Example: "A politician was corrupt; therefore, all politicians are corrupt."

Hasty Generalisation (E): This is the act of drawing a general conclusion based on insufficient or nonrepresentative evidence. Example: "Three students failed the test; the entire class must have failed." Information Booster 1. Hasty Generalisation is broader, while Converse Accident refers to exceptional cases.

2. Both are forms of informal fallacies arising from flawed reasoning.

3. Critical thinking requires assessing evidence size, representativeness, and exceptions before making generalisations.

4. These fallacies often lead to stereotypes, biases, and faulty conclusions.

5. Logical reasoning frameworks help avoid such errors by requiring thorough evidence evaluation.

Additional Knowledge A (Fallacy of Division): Involves assuming that what is true of a group must be true for all its members. Example: "The company is profitable, so every department is profitable."

C (Fallacy of Slippery Slope): Incorrect. Assumes a small action will lead to extreme consequences through a chain reaction.

D (Fallacy of Accident): Incorrect. It involves wrongly applying a general rule to a specific case that should be an exception.

Q9. Statement I: According to the classical Indian School of Logic, inference for oneself is called Svārtha Anumana.

Statement II: Svārtha Anumana is a syllogism and has to be presented in language.

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

Given below are two statements:

(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.(c)

Sol. Answer: I Statement I is true but Statement II is false Sol.Statement I is true because Svārtha Anumana refers to the process of inference made for oneself, which does not require verbal expression. Statement II is false because Svārtha Anumana is not a syllogism that needs to be presented in language (unlike Parārtha Anumana, which is inference for others and is presented in language). Information Booster:

1. Svārtha Anumana: Inference for oneself, not requiring linguistic presentation.

2. Parārtha Anumana: Inference for others, often presented as a syllogism in logical steps.

3. Anumana (Inference): One of the means of knowledge (Pramana) in Indian logic, focusing on reasoning based on observation and universal connections.





Q10. Pointing to a photograph Lata says, He is the son of the only son of my grandfather. How is the man in the photograph related to Lata?

(a) Son

(b) Father

(c) Brother

(d) Uncle

Ans.(c)

Sol. Identify "my grandfather":

This refers to Lata's grandfather (her father's father or mother's father).

"The only son of my grandfather":

Grandfather's only son = Lata's father(since he has no other sons).

"Son of the only son of my grandfather"= Son of Lata's father = Lata's brother.

Lata herself (but the photo shows "he", so not her)

Lata's brother (this must be the man in the photo)

Lata's Grandfather

L____ Only Son: Lata's Father

⊢— Daughter: Lata

Son: Man in Photograph (Lata's Brother)

The man in the photograph is Lata's brother.

Q11. If out of the number of viewers from Town-C, 32577325 % are female and713137 of the number of female viewers are unsubscribed viewers, then the number of unsubscribed male viewers from Town-C is:Read the given passage and answer the following questions

The following table shows the percentage (%) distribution of viewers of JIO TV channel in five different towns (A, B, C, D, and E) along with the number of viewers who subscribed to the channel among them in the year 2023. The number of viewers in town E is 1200. Based on the data in the table, answer the questions that follow.

Town-wise Details of Channel Viewers			
Town	Percentage Distribution Number of Viewers who		
	of Channel Viewers	subscribed for the Channel	
Α	12%	440	
В	15%	500	
С	28%	880	
D	25%	700	
E	20%	360	

Note: For each town, the number of channel viewers is the sum of the number of viewers who subscribed to the channel and the number of viewers who did not subscribe to the channel.

(a) 340

(b) 360

(c) 380

(d) 420

6



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Ans.(c)
Sol. Given:
Total number of viewer in town E = 1200
Percentage distribution of channel Viewer, $E = 20\%$
Percentage distribution of channel Viewer, C = 28%
Solution:
Total viewers =120020%=12000.2020%1200=0.201200 = 6000
So, Town C viewers = 28% of 6000 = 1680 viewers
From the table:
Viewers in Town C who subscribed = 880
So, viewers in Town C who did not subscribe = 1680 – 880 = 800
Female viewers =3257×1100×1680=5460007007325×1001×1680=700546000 = 780
Hence, male viewers = 1680 – 780 = 900
713137 of female viewers are unsubscribed:
Unsubscribed females =713×780137×780 = 420
Total unsubscribed viewers = 800
So, unsubscribed males = $800 - 420 = 380$

Q12. If P is the total number of unsubscribed viewers in Town-B and Town-C together, and Q is the number of subscribed viewers in Town-E, then Q is ______% less than P.Read the given passage and answer the following questions

The following table shows the percentage (%) distribution of viewers of JIO TV channel in five different towns (A, B, C, D, and E) along with the number of viewers who subscribed to the channel among them in the year 2023. The number of viewers in town E is 1200. Based on the data in the table, answer the questions that follow.

Town-wise Details of Channel Viewers		
Town	Percentage Distribution Number of Viewers who	
	of Channel Viewers	subscribed for the Channel
Α	12%	440
В	15%	500
С	28%	880
D	25%	700
E	20%	360



Note: For each town, the number of channel viewers is the sum of the number of viewers who subscribed to the channel and the number of viewers who did not subscribe to the channel.

(a) 65 (b) 80 (c) 60 (d) 70 **Ans.(d) Sol.** Given: Percentage distribution of viewers: Town B: 15% of 6000 Town C: 28% of 6000





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Subscribed viewers:
Town B: 500
Town C: 880
Town E: 360
Total viewers = 6000 (derived from Town E's 1200 being 20% of total viewers)
Formula Used:
Total viewers from a town =Percentage100×6000100Percentage×6000
Unsubscribed viewers = Total viewers - Subscribed viewers
% Less =P-QP×100PP-Q×100
Solution:
Town B:
Total viewers =15100×6000=90010015×6000=900
Unsubscribed viewers = 900 - 500 = 400
Town C:
Total viewers =28100×6000=168010028×6000=1680
Unsubscribed viewers = 1680 - 880 = 800
Total Unsubscribed viewers (P):
P = 400 + 800 = 1200
Subscribed viewers in Town E (Q):
Q = 360
Percentage less:
P-QP×100=1200-3601200×100=8401200×100=70%PP-Q×100=12001200-360×100=1200840
×100=70%
Q is 70% less than P
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Q13. If the number of male unsubscribed viewers in Town-D is % more than that of female unsubscribed viewers, then what is the ratio of the number of male unsubscribed viewers in Town-D to the number of unsubscribed viewers in Town-A and Town-C together?Read the given passage and answer the following questions

The following table shows the percentage (%) distribution of viewers of JIO TV channel in five different towns (A, B, C, D, and E) along with the number of viewers who subscribed to the channel among them in the year 2023. The number of viewers in town E is 1200. Based on the data in the table, answer the questions that follow.

Town-wise Details of Channel Viewers			
Town	Percentage Distribution	Number of Viewers who	
	of Channel Viewers	subscribed for the Channel	
Α	12%	440	
В	15%	500	
С	28%	880	
D	25%	700	
E	20%	360	

Note: For each town, the number of channel viewers is the sum of the number of viewers who subscribed to the channel and the number of viewers who did not subscribe to the channel.

(a) 25:53

(b) 25:54

(c) 7:9

(d) 2:3

8





Ans.(b)

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Sol. Given:
The number of male unsubscribed viewers in Town D is 2003%3200% more than the number of female
unsubscribed viewers in Town D.
Formula Used:
Unsubscribed viewers = Total viewers - Subscribed viewers
Male unsubscribed viewers =Female unsubscribed viewers×(1+2003×100)Female unsubscribed
viewers×(1+3×100200)
Solution:
Town D:
Total viewers in Town D =25100×6000=150010025×6000=1500
Subscribed viewers in Town D = 700
Unsubscribed viewers in Town D = 1500 - 700 = 800
Let the number of female unsubscribed viewers in Town D be F.
The number of male unsubscribed viewers in Town D =
Male unsubscribed viewers =F \times (1+200300) =F \times (1+23) =F \times 53F \times (1+300200) =F \times (1+32) =F \times 35
Since the total number of unsubscribed viewers in Town D is 800:
F + Male unsubscribed viewers = 800
Substituting for male unsubscribed viewers:
F+F×53=800F+F×35=800
F \times (1+53) = 800F \times (1+35) = 800
F×83=800F×38=800
F=800×38=300F=800×83=300
Thus, the number of female unsubscribed viewers in Town D is 300.
Male unsubscribed viewers in Town D:
Male unsubscribed viewers =53×300=50035×300=500
Unsubscribed viewers in Town A and Town C combined:
Town A:
Total viewers in Town A =12100×6000=72010012×6000=720
Subscribed viewers in Town A = 440
Unsubscribed viewers in Town A = 720 - 440 = 280
Town C:
Total viewers in Town C = 28100 × 6000 = 168010028 × 6000 = 1680
Subscribed viewers in Town C = 880
Unsubscribed viewers in Town C = 1680 - 880 = 800
Total unsubscribed viewers in Town A and Town C combined = 280 + 800 = 1080
Ratio of Male Unsubscribed Viewers in Town D to Unsubscribed Viewers in Town A and C combined:
Ratio =5001080=5001080=25541080500=1080500=5425 = 25 : 54
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Q14. What is the difference between the number of unsubscribed viewers and subscribed viewers, taking all the towns together?Read the given passage and answer the following questions The following table shows the percentage (%) distribution of viewers of JIO TV channel in five different towns (A, B, C, D, and E) along with the number of viewers who subscribed to the channel among them in the year 2023. The number of viewers in town E is 1200. Based on the data in the table, answer the questions that follow.





Town-wise Details of Channel Viewers			
Town	Percentage Distribution	Number of Viewers who	
	of Channel Viewers	subscribed for the Channel	
Α	12%	440	
В	15%	500	
C	28%	880	
D	25%	700	
E	20%	360	

Note: For each town, the number of channel viewers is the sum of the number of viewers who subscribed to the channel and the number of viewers who did not subscribe to the channel.

(a) 320 (b) 240 (c) 340 (d) 300 Ans.(b) Sol. Formula Used: Unsubscribed viewers = Total viewers - Subscribed viewers Difference = Total unsubscribed viewers – Total subscribed viewers Solution: **Town-wise Calculations:** Town A: Total viewers in Town A =12100×600010012×6000 = 720 Subscribed viewers in Town A = 440 Unsubscribed viewers in Town A = 720 - 440 = 280Town B: Total viewers in Town B =15100×600010015×6000 = 900 Subscribed viewers in Town B = 500Unsubscribed viewers in Town B = 900 - 500 = 400Town C: Total viewers in Town C = 28100×600010028×6000= 1680 Subscribed viewers in Town C = 880Unsubscribed viewers in Town C = 1680 - 880 = 800 Town D: Total viewers in Town D = 25100 × 600010025 × 6000 = 1500 Subscribed viewers in Town D = 700 Unsubscribed viewers in Town D = 1500 - 700 = 800 Town E: Total viewers in Town E =20100×600010020×6000 = 1200 Subscribed viewers in Town E = 360Unsubscribed viewers in Town E = 1200 - 360 = 840 Total Subscribed Viewers= 440 + 500 + 880 + 700 + 360 = 2880 Total Unsubscribed Viewers = 280 + 400 + 800 + 800 + 840 = 3120 Difference Between Unsubscribed and Subscribed Viewers: Difference = 3120 - 2880 = 240





Q15. If P is the total number of unsubscribed viewers in Town-B and Town-C together, and Q is the number of unsubscribed viewers in Town-E, then Q is ______% of P.Read the given passage and answer the following questions

The following table shows the percentage (%) distribution of viewers of JIO TV channel in five different towns (A, B, C, D, and E) along with the number of viewers who subscribed to the channel among them in the year 2023. The number of viewers in town E is 1200. Based on the data in the table, answer the questions that follow.

Town-wise Details of Channel Viewers			
Town	Percentage Distribution Number of Viewers who		
	of Channel Viewers	subscribed for the Channel	
Α	12%	440	
В	15%	500	
С	28%	880	
D	25%	700	
E	20%	360	

Note: For each town, the number of channel viewers is the sum of the number of viewers who subscribed to the channel and the number of viewers who did not subscribe to the channel.

(a) 60 (b) 70 (c) 80 (d) 75 Ans.(b) Sol. Given: P is the total number of unsubscribed viewers in Town-B and Town-C together. Q is the number of unsubscribed viewers in Town-E. Concept Used: We use the formula for percentage: Percentage =(QP)×100(PQ)×100 Solution: Finding P (Total number of unsubscribed viewers in Town-B and Town-C together). Town-B: Total viewers in Town B =15100×600010015×6000= 900 Subscribed viewers in Town B = 500 Unsubscribed viewers in Town B = 900 - 500 = 400Town-C: Total viewers in Town C =28100×600010028×6000 = 1680 Subscribed viewers in Town C = 880Unsubscribed viewers in Town C = 1680 - 880 = 800 So, P = 400 + 800 = 1200Now, Finding Q (Number of unsubscribed viewers in Town-E) Total viewers in Town E =20100×600010020×6000= 1200 Subscribed viewers in Town E = 360Unsubscribed viewers in Town E = 1200 - 360 = 840So, Q = 840 Percentage of Q with respect to P Percentage =(8401200)×100=70%(1200840)×100=70%





Q16. Arrange the following list of events A-D in the history of computers in chronological order (that is, from the earliest event to the latest event).

(a) Transistor technology invented

(b) Analytical engine developed

(c) Altair released

(d) Macintosh released

Choose the correct answer from the options given below:

(a) A, D, B, C

(b) B, A, C, D

(c) C, B, D, A

(d) D, C, A, B

Ans.(b)

Sol. The correct chronological order of events in computer history is as follows:

- B. Analytical engine developed: The Analytical Engine was conceived by Charles Babbage in the 1830s, considered the first mechanical computer.
- A. Transistor technology invented: The transistor was invented in 1947 by John Bardeen, Walter Brattain, and William Shockley, marking a significant advancement in electronics and computing.
- C. Altair released: The Altair 8800, introduced in 1975, is widely regarded as the first personal computer that ignited the home computer revolution.
- D. Macintosh released: The first Macintosh computer was released in 1984 by Apple Inc., revolutionizing personal computing with its graphical user interface.

Information Booster:

1. Analytical Engine was a conceptual design for a mechanical computer and is considered a precursor to modern computing.

2. The invention of the transistor was a milestone in electronics, as it replaced vacuum tubes and became the fundamental building block of modern electronic devices.

3. The Altair 8800 sparked the personal computer revolution and was instrumental in the development of early home computers, often credited as the catalyst for the personal computing era.

4. The Macintosh introduced by Apple was a pioneering product, famous for its user-friendly interface, graphical display, and compact design.

5. These milestones marked critical developments in the field of computing, each building on the technology of its predecessor.

Q17. An example of a cyber exacerbated crime is _____

- (a) Cyber vandalism
- (b) Cyber piracy
- (c) Cyber stalking

(d) Cyber trespass

Ans.(b)

Sol. Cyber piracy refers to the illegal act of distributing, downloading, or copying digital content like software, movies, or music without permission. It is considered an exacerbated crime because it exploits digital networks for unauthorized distribution, which is more widespread and harder to control than physical piracy.







Information Booster

1. Cyber Piracy: Cyber piracy involves the illegal distribution of copyrighted content such as software, music, and movies over the internet. This often leads to significant financial losses for the creators and distributors of digital content.

2. How it Happens: Cyber piracy is typically done through peer-to-peer networks, illegal file-sharing websites, or by using cracked versions of software. It also includes practices like downloading pirated copies of games or movies from the internet.

3. Consequences: This crime can have severe economic consequences for the creative industries and can lead to legal actions against individuals or organizations involved in piracy. Additional Knowledge

- Cyber Vandalism: This involves defacing websites or deleting or altering data on websites without authorization. It is a crime but doesn't specifically involve piracy or unauthorized copying of content.
- Cyber Stalking: This refers to the use of the internet to harass or stalk an individual. It is more of a personal crime rather than an economic one.
- Cyber Trespass: This involves unauthorized access to someone else's computer system or network. Though illegal, it doesn't involve the unauthorized copying or distribution of content like piracy does.

Q18. Which of the following is a malware?

- (A) Virus
- (B) Worms
- (C) Ransomware
- (D) Trojan

Choose the correct answer from the options given below:

- (a) (A) Only
- (b) (A) and (D) Only
- (c) (A), (B), (C) and (D)
- (d) (B) and (C) Only

Ans.(c)

Sol. Malware (malicious software) is any software intentionally designed to cause damage to a computer, server, client, or computer network. The following are common types of malware:

- Virus (A): A virus is a malicious program that attaches itself to legitimate software and spreads to other programs and files.
- Worms (B): A worm is a self-replicating malware that spreads across networks without the need for human intervention.
- Ransomware (C): Ransomware encrypts the victim's data and demands a ransom payment to unlock it.
- Trojan (D): A Trojan is a type of malware that tricks the user into installing it, often appearing as a legitimate file, but then causes damage or steals information.

Hence, all the listed options (A), (B), (C) and (D) are types of malware. Therefore, the correct answer is (c): (A), (B), (C) and (D).





Information Booster:

1. Virus: Requires a host program to replicate and spread. Can corrupt files and disrupt computer operations.

2. Worm: Spreads through networks by exploiting vulnerabilities, often without requiring any user interaction.

3. Ransomware: Encrypts files and demands ransom payment, usually in cryptocurrency, to unlock the data.

4. Trojan: Disguises itself as legitimate software to trick users into installing it, allowing attackers to gain unauthorized access.

Additional Knowledge:

- Antivirus software: To protect against these types of malware, antivirus software can detect and remove viruses, worms, Trojans and ransomware.
- Phishing: One of the common methods to deliver Trojans and ransomware is through phishing emails.

Q19. On the basis of the coverage area, identify the correct ascending order of the following four types of computer networks A–D:

(A) WAN

(B) LAN

(C) MAN

(D) PAN

Choose the correct answer from the options given below:

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

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

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

Ans.(a)

Sol. The ascending order of these networks, based on their coverage area, is:

(D) PAN (Personal Area Network): Covers the smallest area, typically a few meters (e.g., Bluetooth connections, wearable devices).

(B) LAN (Local Area Network): Covers a small area like a home, office, or campus (usually up to a few kilometers).

(C) MAN (Metropolitan Area Network):

Covers a larger area than LAN, such as a city or metropolitan region.

(A) WAN (Wide Area Network): Covers the largest area, often spanning countries or continents (e.g., the internet).

Information Booster

1. PAN (Personal Area Network):

- Examples: Bluetooth connections, USB peripherals.
- Devices: Smartphones, smartwatches, headphones.
- 2. LAN (Local Area Network):
- Examples: Office or home Wi-Fi networks.
- Common technologies: Ethernet, Wi-Fi.





3. MAN (Metropolitan Area Network):

- Examples: City-wide Wi-Fi or a university campus network across multiple buildings.
- Technologies: Fiber optics, microwave links.
- 4. WAN (Wide Area Network):
- Examples: The internet, multinational corporate networks.
- Technologies: Satellite communication, undersea cables.

Q20. Alisha has agreed to send Khushi a 20- megabyte file. They both have a broadband internet connection. Alisha has to upload her file to a server and then Khushi needs to download it from the same server. The broadband data transfer rates (speeds) are 1 megabit per second to upload a file and 8 megabits per second to download a file. If P and Q represent the time taken in seconds to upload and download Alisha's file respectively then (P, Q) =?

- (a) (20, 160)
- (b) (144, 18)
- (c) (18, 144)
- (d) (160, 20)

Ans.(d)

Sol. Let's break down the problem:

- 1. File Size Conversion:
- The file size is given in megabytes (MB), but the transfer rates are in megabits per second (Mbps).
- 1 byte = 8 bits, so:
- 20 MB = 20 × 8 = 160 megabits (Mb).
- 2. Time to Upload (P):
- Alisha's upload speed is 1 megabit per second.
- To find the time taken to upload, use the formula:
- Time=File SizeSpeedTime=SpeedFile Size
- Therefore:
- P=160megabits1Mbps=160secondsP=1Mbps160megabits=160seconds
- 3. Time to Download (Q):
- Khushi's download speed is 8 megabits per second.
- Using the same formula for time:
- Q=160megabits8Mbps=20secondsQ=8Mbps160megabits=20seconds

Thus, the time taken to upload the file is 160 seconds, and the time taken to download the file is 20 seconds.

Information Booster:

- File Size Conversion: Since internet speeds are typically measured in megabits, we need to convert the file size from megabytes to megabits. This is important for accurately calculating the time taken for upload and download.
- Upload and Download Time Formula: The time to transfer a file can be calculated by dividing the file size (in megabits) by the transfer speed (in megabits per second).

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Q21. It is expected that by the end of 21st century, CO2, concentration, if the present trend continues, can reach up to the level of

(a) 450 ppm

- (b) 600 ppm
- (c) 500 ppm
- (d) 1000 ppm

Ans.(b)

Sol. 600 ppm: If the current trend of greenhouse gas emissions continues, carbon dioxide (CO2) concentrations are projected to increase significantly by the end of the 21st century. Various



climate models estimate that CO2 levels could rise to around 600 ppm or even higher under highemission scenarios. This level would lead to substantial global warming and significant impacts on climate patterns, ecosystems, and sea levels.

Q22. In waste water treatment, biological processes are employed to remove mainly

- (a) Bacteria
- (b) Suspended solids
- (c) Fungi
- (d) Colloidal
- E. Soluble organic compound
- Choose the correct answer from the options given below:
- (a) A, B and C only
- (b) D and E only
- (c) B and D only
- (d) C, D and E only

Ans.(b)

Sol. Biological processes in wastewater treatment primarily target the removal of colloidal and soluble organic compounds. These processes involve the use of microorganisms to break down organic matter and other contaminants.

- D. Colloidal: Biological treatment helps in the reduction of colloidal particles as microorganisms consume the organic colloids.
- E. Soluble organic compounds: These are effectively removed by biological treatment as microorganisms break down these compounds into simpler substances.

Information Booster:

- A. Bacteria: Biological processes involve bacteria to treat wastewater but do not primarily aim to remove bacteria.
- B. Suspended solids: These are typically removed through physical processes like sedimentation and filtration rather than biological processes.
- C. Fungi: Similar to bacteria, fungi can be part of the biological process but are not the primary target for removal.





Q23. Through enrichment process, concentration of which uranium isotope is increased in the natural uranium?

(a) U-234

(b) U-235

(c) U-238

(d) U-239

Ans.(b)

Sol. Enrichment can increase the concentration of U-235 from 0.7% to 94%. The concentration of U-235 in natural uranium is too low for use in nuclear reactors. The fuel used in nuclear reactors needs to have a higher concentration of U-235.

Q24. Evaluate the following statements and choose the correct option:

1. The MDGs had 8 goals and 21 targets, while the SDGs have 17 goals and 169 targets.

2. MDG 8 ("Global Partnership") was criticized for vague targets, prompting SDGs to specify responsibilities for developed nations.

3. The SDGs replaced the MDGs in 2020 after a five-year overlap period.

(a) 1 and 2 are correct.

(b) 1, 2, and 3 are correct.

(c) Only 3 is correct.

(d) All are correct.

Ans.(a)

Sol. Statement 1: Correct

The Millennium Development Goals (MDGs), adopted in 2000, focused on issues like poverty, education, and health, and included 8 goals and 21 measurable targets. The Sustainable Development Goals (SDGs), launched in 2015, expanded the global development agenda with 17 goals and 169 targets, covering areas such as climate action, economic growth, peace, and justice.

Statement 2: Correct

MDG 8 – "Develop a Global Partnership for Development" faced criticism for:

Having ambiguous and non-quantifiable targets.

Not defining clear obligations or timelines for developed countries.

In response, the SDGs, particularly SDG 17 – "Partnerships for the Goals", were crafted with more specific indicators, addressing global finance, trade, and technology transfer, while clearly delineating the roles of developed nations.

Statement 3: Incorrect

The SDGs replaced the MDGs in 2015, not 2020.

The MDGs concluded in December 2015.

The SDGs were adopted in September 2015 and came into effect on January 1, 2016.

There was no five-year overlap between the two frameworks.

Final Answer: (a) 1 and 2 are correct

Information Booster:

MDGs (2000–2015): 8 goals, 21 targets.

SDGs (2015–2030): 17 goals, 169 targets.

SDG 17 includes clear implementation mechanisms unlike MDG 8.

MDG 8 was criticized for its broad, unenforceable language.

SDGs are integrated and universal, applying to all nations, unlike MDGs which focused on developing countries.

The SDGs emphasize accountability and measurable indicators.

No overlap occurred between MDGs and SDGs; transition was immediate.





Q25. Which of the following universities were permitted to offer honorary LLD degrees in 1884?

- (A) Calcutta
- (B) Bombay
- (C) Madras
- (D) Allahabad
- (E) PanjabChoose the correct answer from the options given below:
- (a) (C), (D) and (E) Only
- (b) (B), (C) and (D) Only
- (c) (A), (B) and (C) Only
- (d) (A), (D) and (E) Only

Ans.(c)

Sol. In 1884, the British colonial government granted Calcutta, Bombay, and Madras universities the right to confer honorary LLD (Doctor of Laws) degrees. These degrees were often awarded to prominent figures, such as distinguished judges, statesmen, or other individuals who made significant contributions to society or law.

- Allahabad (D) and Panjab (E) were not included in the list of universities authorized to confer honorary LLD degrees at that time.
- Information Booster:
- The honorary LLD was a prestigious academic recognition often granted by universities to individuals who contributed significantly to law or public service.
- Universities in colonial India had a prominent role in shaping the educational and intellectual landscape under British rule.
- The recognition of honorary degrees reflects the colonial administration's approach to reward loyal public figures.

Additional Knowledge:

- Calcutta University was the first to establish the degree-awarding rights in India.
- Later, other universities like Allahabad and Panjab were granted such rights, but they were not among the initial institutions allowed in 1884.

Q26. Which of the following are the National coordinators for the production of best quality content in SWAYAM?

(a) NCTE
(b) AICTE
(c) IGNOU
(d) UGC
E. CEC
Choose the correct answer from the options given below:
(a) A, B, D and E only
(b) B, C, D and E only
(c) B and C only
(d) A and D only





Ans.(b)

Sol. The correct answer is (b); B, C, D, and E only

SWAYAM (Study Webs of Active-Learning for Young Aspiring Minds) is an Indian program designed to provide high-quality, accessible education online. The national coordinators for the production of best quality content in SWAYAM include various educational and professional bodies responsible for different types of educational content. These coordinators are:

(b) AICTE (All India Council for Technical Education): Responsible for self-paced and international courses.

(c) IGNOU (Indira Gandhi National Open University): Tasked with developing courses for high school students to post-graduation levels and also responsible for certification and diploma courses.

(d) UGC (University Grants Commission): Oversees non-technical post-graduation education.

E. CEC (Consortium for Educational Communication): Responsible for undergraduate courses.

The NCTE (National Council for Teacher Education) is not a coordinator for content production in SWAYAM. Hence, the correct answer includes AICTE, IGNOU, UGC, and CEC.

Q27. Arrange the following ancient Indian institutions from east to west:

(a) Taxila

(b) Nalanda

(c) Vikramshila

(d) Sharada Peeth

Select the correct answer from the options below:

(a) A, D, C, B

(b) B, C, A, D

(c) D, A, B, C

(d) C, B, D, A

Ans.(d)

Sol. The correct answer is (d) C, B, D, A. Arranging from east to west:

1. C. Vikramshila: Located in present-day Bihar, eastern India, near the Bhagalpur district, it is the easternmost of these institutions.

2. B. Nalanda: Also situated in Bihar, but slightly west of Vikramshila, Nalanda was a renowned Buddhist center of learning in ancient Magadha.

3. D. Sharada Peeth: Located in present-day Pakistan-administered Kashmir (near Neelum Valley), it was a prominent site for Hindu and Buddhist scholarship.

4. A. Taxila: Situated in modern-day Pakistan, near Islamabad, it was the westernmost institution among these and known for its teachings in various subjects.

Information Booster: 1. Vikramshila (C): Established by the Pala dynasty, known for its specialization in Tantric Buddhism.

2. Nalanda (B): Famous for its extensive library and Buddhist teachings, attracting students from across Asia.

3. Sharada Peeth (D): An ancient center for Hindu and Buddhist studies, dedicated to goddess Saraswati.4. Taxila (A): One of the earliest known universities, with diverse disciplines, including philosophy, medicine, and politics.





- Q28. What is the primary objective of the Rashtriya Uchchatar Shiksha Abhiyan (RUSA)?
- (a) Digitalizing higher education
- (b) Providing vocational training
- (c) Improving the quality of higher education in state institutions
- (d) Promoting distance learning programs

Ans.(c)

Sol. The primary objective of the Rashtriya Uchchatar Shiksha Abhiyan (RUSA) is to improve the quality of higher education in state institutions. RUSA aims to provide strategic funding to eligible state higher educational institutions and create new institutions through the upgradation of existing ones.

Q29. UGC was established on the recommendation of-

- (a) University Education Commission
- (b) Higher Education Commission
- (c) Ministry of Education
- (d) Planning Commission

Ans.(a)

Sol. The University Grants Commission (UGC) of India was established on the recommendation of the University Education Commission. The University Education Commission, also known as the Radhakrishnan Commission (1948-1949), was appointed by the Government of India to report on Indian university education and suggest improvements and extensions that may be desirable to suit present and future requirements of the country. The establishment of the UGC was one of its key recommendations, aimed at overseeing and maintaining the standards of university education in India.

Q30. Arrange the following chronologically:

- (a) Secondary Education Commission
- (b) Kothari Education Commission
- (c) Establishment of UGC
- (d) Chattopadhyay Commission
- E. University Education Commission

Choose the correct answer from the options given below:

- (a) A, E, B, D, C
- (b) A, D, C, B, E
- (c) E, A, C, B, D
- (d) E, B, D, C, A

Ans.(c)

Sol. The chronological order of these educational commissions is as follows:

1. University Education Commission (E): Established in 1948-49 under Dr. S. Radhakrishnan to study and improve university education in India.

2. Secondary Education Commission (A): Formed in 1952 under Dr. A.L. Mudaliar to look into secondary education and suggest improvements.

3. Establishment of UGC (C): The University Grants Commission (UGC) was established in 1956 to coordinate and promote university education in India.







4. Kothari Education Commission (B): Formed between 1964-66, it recommended a comprehensive national policy on education, which included the 10+2+3 system.

5. Chattopadhyay Commission (D): The Chattopadhyay Commission was established in 1983 to review the condition and needs of teachers in India. It provided recommendations for improving the quality of teaching and the integration of vocational education.

Information Booster:

- 1. University Education Commission (E):
 - o Chairman: Dr. S. Radhakrishnan.
 - o This commission focused on the state of higher education in India post-independence.
 - o Recommended reforms in university governance, curricula, and research.
- 2. Secondary Education Commission (A):
 - o Formed under Dr. A.L. Mudaliar in 1952 to assess secondary education.
 - o Proposed a unified structure for education in India.
 - o Focused on the importance of teacher training and the need for an efficient examination system.
- 3. Establishment of UGC (C):
 - o UGC was formed in 1956 as a statutory body to regulate and promote university education in India. o It coordinates funding and sets academic standards for Indian universities.
 - o Funding and research grants are provided to improve the quality of education and infrastructure in universities.
- 4. Kothari Education Commission (B):
 - o Set up in 1964-66, the Kothari Commission redefined education at all levels.
 - o Introduced the 10+2+3 system for schooling and higher education.
 - o Suggested uniform educational standards across India and recommended bilingual education.
- 5. Chattopadhyay Commission (D):
 - o Established in 1983, also known as the National Commission on Teachers.
 - o Focused on t<mark>he status, training, and welfare</mark> of t<mark>ea</mark>chers in India.
 - o Recommended comprehensive reforms in teacher education and the enhancement of their professional standards.

Q31. Given below are two statements:

Statement I: Choice Based Credit System (CBCS) has been adopted only in the central universities of India.

Statement II: Choice Based Credit System (CBCS) assigns credits based on the learning outcomes of a course.

In the light of the above statements, 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 is false, but Statement II is true.

The Choice Based Credit System (CBCS) has not been exclusively adopted in central universities; it is implemented across a broad spectrum of universities and educational institutions in India. CBCS is a flexible system that allows students to choose courses from a wide range of options, and it considers the learning outcomes when assigning credits. The allocation of credits in CBCS is based on the notional learning hours, encompassing various educational activities such as lectures, tutorials, practicals, and self-study. This ensures that credits reflect the overall effort and time commitment required for a student to achieve the learning objectives of a course. Therefore, while Statement I is inaccurate regarding CBCS implementation, Statement II accurately captures the credit assignment methodology based on learning outcomes.

Q32. Match the List I with List II

List I (Institutions) List I (Domains)		I (Domains)	
A.	NIEPA	I.	To promote quality in technical education
B.	ICSSR	II.	To accredit higher education institutions
C.	NAAC	III.	Education planning and management
D.	AICTE	IV.	To promote social scie <mark>nce</mark> research

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

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

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

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

Ans.(c) Sol.

- NIEPA (National Institute of Educational Planning and Administration) is involved in education planning and management, which corresponds to III.
- ICSSR (Indian Council of Social Science Research) is responsible for promoting social science research, which corresponds to IV.
- NAAC (National Assessment and Accreditation Council) is responsible for accrediting higher education institutions, which corresponds to II.
- AICTE (All India Council for Technical Education) is responsible for promoting quality in technical education, which corresponds to I.

Information Booster:

- 1. NIEPA (National Institute of Educational Planning and Administration):
 - NIEPA is involved in education planning and management.
 - Its primary objective is to enhance the quality of education by providing training in educational administration.
 - It works to develop policies related to education and contributes to improving the management and planning of educational systems.
- 2. ICSSR (Indian Council of Social Science Research):
 - ICSSR promotes social science research in India.
 - It supports research projects, publications, and other activities in fields such as sociology, political science, and economics.
 - The council also coordinates social science research and provides grants to institutions and scholars in the field.





- 3. NAAC (National Assessment and Accreditation Council):
 - NAAC is responsible for accrediting higher education institutions across India.
 - It evaluates and assesses the quality of education in universities and colleges through a wellestablished process of peer review.
 - NAAC helps in ensuring that institutions maintain high standards and make continuous improvements in the quality of education.
- 4. AICTE (All India Council for Technical Education):
 - AICTE focuses on the promotion of quality in technical education.
 - It is responsible for regulating and accrediting technical institutions such as engineering colleges, management institutes, and polytechnics in India.
 - AICTE formulates policies and provides guidance to institutions in ensuring a high standard of education and infrastructure.

Q33. Arrange the following Doordarshan TV series in chronological order of their first telecast.

- (a) Mahabharat
- (b) Ramayan
- (c) Hum Log
- (d) Buniyad

Choose the correct answer from the options given below:

- (a) C, D, B, A
- (b) D, C, A, B
- (c) C, B, A, D
- (d) C, B, D, A

Ans.(a)

Sol. Correct Option: (a) C, D, B, A

Introduction: Doordarshan, India's public service broadcaster, launched several iconic serials in the 1980s and 1990s that played a pivotal role in Indian television history.

Information Booster:

- Hum Log (1984): India's first Hindi soap opera; focused on a middle-class family's struggles.
- Buniyad (1986): Created by Ramesh Sippy, it depicted the post-Partition trauma.
- Ramayan (1987): Mythological series directed by Ramanand Sagar, broke viewership records.
- Mahabharat (1988): Another epic series, directed by B.R. Chopra, followed Ramayan's massive success.

Additional Knowledge:

- Ramayan and Mahabharat are often confused in order due to their cultural closeness, but Ramayan aired before Mahabharat.
- Buniyad often appears later in public memory but it preceded both mythological shows.

Q34. Which of the following movies were directed by Satyajit Ray?

- (a) Charulata
- (b) Pather Panchali
- (c) Meghe Dhaka Tara
- (d) Nayak



Choose the correct combination:
(a) A, B, D only
(b) A, C, D only
(c) B, C, D only
(d) All of the above
Ans.(a)

Sol. Correct Option: (a) A, B, D only Introduction: Satyajit Ray is one of India's most celebrated filmmakers known for his Apu Trilogy and socially reflective cinema.

Information Booster:

- Pather Panchali: His debut film, part of the Apu Trilogy.
- Charulata: A nuanced story of a lonely housewife's emotional awakening.
- Nayak: Examines the life of a film star during a train journey.
- Meghe Dhaka Tara: Directed by Ritwik Ghatak, not Ray, often misattributed.
- Additional Knowledge:
- Ghatak's style was more intense and metaphorical, while Ray's was humanistic and detailed.
- Ray also composed music, wrote screenplays, and illustrated his own books.

Q35. Arrange the following directors in the order of their debut film's release:

- (a) Satyajit Ray
- (b) Ritwik Ghatak
- (c) Mrinal Sen
- (d) Guru Dutt

Choose the correct chronological sequence:

- (a) D, A, C, B
- (b) A, D, B, C
- (c) D, A, B, C
- (d) A, C, D, B

Ans.(c)

Sol. Correct Option: (c) D, A, B, C

Introduction: The 1950s saw the emergence of visionary Indian filmmakers who redefined cinema beyond entertainment—moving toward social and artistic narratives.

Information Booster:

- Guru Dutt Baazi (1951): Marked the rise of noir and tragic romance in Hindi cinema.
- Ritwik Ghatak Nagarik (1952): His debut was shelved and released posthumously in 1977.
- Satyajit Ray Pather Panchali (1955): Debuted globally with high acclaim.
- Mrinal Sen Raat Bhore (1955): Explored Marxist and realist themes.

Additional Knowledge:

- Although Ghatak's debut was made earlier, it was not released till decades later.
- Ray, Sen and Ghatak are collectively credited with creating the parallel cinema movement in India.







Q36. Who was the director of the following firsts in Indian cinema? Match the following:

List I (Film)	List II (Director)
A. Raja Harishchandra	I. Dadasaheb Phalke
B. Alam Ara	II. Ardeshir Irani
C. Pather Panchali	III. Satyajit Ray
D. Mother India	IV. Mehboob Khan

Choose the correct matching:

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

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

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

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

Ans.(a)

Sol. Correct Option: (a) A-I, B-II, C-III, D-IV

Introduction: These directors played a transformative role in Indian cinema's evolution from mythological tales to social realism and global recognition.

Information Booster: • Dadasaheb Phalke: Father of Indian cinema; introduced cinematic storytelling in India.

- Ardeshir Irani: Introduced sound to Indian cinema.
- Satyajit Ray: Pioneer of parallel cinema, known for his realism.
- Mehboob Khan: Known for grand sets and social themes; *Mother India* was India's first Oscarnominated film.

Additional Knowledge: • Mother India (1957) is a remake of Mehboob's own film *Aurat* (1940), highlighting continuity in vision.

• Alam Ara's transition to sound influenced future filmmaking techniques.

List I (Film)	List II (Attribute)
A. Alam Ara	I. First talkie film of India
B. Raja Harishchandra	II. First full-length Indian silent feature
C. Keechaka Vadham	III. First South Indian film
D. Pather Panchali	IV. Internationally acclaimed debut film

Q37. Match the following early Indian films with their respective attributes:

Choose the correct matching:

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

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

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

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

Ans.(a)

Sol. Correct Option: (a) A-I, B-II, C-III, D-IV

Introduction: Indian cinema began with silent films and transitioned into sound, regional, and art-house films that gained global attention.





Information Booster:

- Alam Ara (1931): First Indian sound film; marked the talkie era.
- Raja Harishchandra (1913): Directed by Dadasaheb Phalke, India's first full-length silent feature.
- Keechaka Vadham (1916): First South Indian silent film, directed by R. Nataraja Mudaliar.
- Pather Panchali (1955): Directed by Satyajit Ray; India's first internationally acclaimed art film. Additional Knowledge:
- Pather Panchali wasn't India's first film, but it placed Indian cinema on the global map.
- Keechaka Vadham is often lesser known in the North Indian narrative of film history.

Q38. Given below are two statement:

Statement I: The non-directive model of teaching nurtures students rather than controlling the sequence of learning.

Statement II: In the non-directive model of teaching the teacher's role is that of a facilitator who has counselling relationship with students and who guides their growth and development.

In light of the above statement, 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.(a)

Sol. The non-directive model of teaching, often associated with Carl Rogers' ideas on education and counseling, emphasizes the importance of creating a learning environment where students feel free to explore, inquire, and engage in the learning process in a way that is meaningful to them. This model contrasts with more traditional, directive approaches where the teacher controls the learning process, the content, and the pace.

Statement I is correct. The non-directive model of teaching indeed focuses on nurturing students rather than dictating the sequence of learning. It supports the idea that learning is more meaningful and effective when students take an active role in their educational journey, discovering and constructing knowledge through their own experiences.

Statement II is also correct. In the non-directive model, the teacher's role shifts from being the primary source of knowledge to that of a facilitator or guide. This approach emphasizes the development of a supportive, counseling-like relationship between the teacher and students. The teacher assists students in their growth and development by providing resources, guidance, and support as needed, rather than prescribing a specific path for learning.

Given that both statements accurately describe key aspects of the non-directive model of teaching, the most appropriate answer is (a) Both Statement I and Statement II are correct.

Q39. Which of the following levels of Bloom's taxonomy is achieved by rote learning?

- (a) Remembering
- (b) Applying
- (c) Analysing
- (d) Understanding





Ans.(a)

Sol. Remembering is the level of Bloom's taxonomy achieved by rote learning. Rote learning refers to the memorization of information based on repetition. It enables students to recall facts or basic concepts without necessarily understanding or applying them. The remembering level is the foundation of Bloom's taxonomy, and it involves recognizing and recalling information, which is the typical outcome of rote learning.

Information Booster

- Bloom's taxonomy consists of six levels: Remembering, Understanding, Applying, Analyzing, Evaluating, and Creating.
- Remembering involves recalling facts, concepts, and basic knowledge, often achieved through repetition.
- Rote learning primarily focuses on memorization without promoting higher cognitive skills such as critical thinking or problem-solving.

Additional Knowledge

Applying: This level requires students to use their knowledge in real-world situations. Rote learning does not typically lead to the application of knowledge, as it doesn't foster understanding or problemsolving.

Analysing: At this level, students break down information into components to understand structures or relationships. Rote learning is insufficient to reach this level, as it does not involve critical thinking.

Understanding: This involves grasping the meaning of the information, which goes beyond simple memorization. Understanding requires comprehension and the ability to interpret or explain information, which is not achieved by rote memorization.

Q40. Which of the following statements about 'Swayam Prabha' is incorrect?

(a) It was initiated by Shri Abul Kalam Azad.

(b) Satellite is used to broadcast educational content through DTH channels.

(c) The web portal of 'Swayam Prabha' is maintained by INFLIBNET, Gujarat.

(d) The content of 'Swayam Prabha' is provided by NPTEL, IITs, UGC, CEC, and IGNOU.

Ans.(a)

Sol. The correct answer is (a) It was initiated by Shri Abul Kalam Azad. This statement is incorrect because 'Swayam Prabha' was launched by the Ministry of Human Resource Development (now Ministry of Education), not by Shri Abul Kalam Azad. It is a modern initiative for educational content dissemination through digital means, initiated in the 21st century.

Information Booster: · 'Swayam Prabha' is a group of 40 DTH channels that broadcast high-quality educational programs.

- The channels cover a wide range of topics, including engineering, science, arts, social sciences, and more.
- It is available 24x7 and aims to make education accessible to everyone, especially in remote areas.
- The initiative is a part of the 'Digital India' campaign.





- **Q41.** Identify the measures of dispersion:
- (a) Mean deviation
- (b) Median
- (c) Standard deviation
- (d) Range
- E. Quartile

Choose the correct answer from the options given below:

- (a) A, B and C only
- (b) A and E only
- (c) A, C and D only
- (d) C, D and E only

Ans.(c)

Sol. Measures of dispersion describe the spread, variability, or distribution of data around a central value. They quantify how much the values in a dataset deviate from the average.

The measures of dispersion include:

- A. Mean deviation: Indicates the average distance of each data point from the mean.
- C. Standard deviation: Measures the spread of data points around the mean, reflecting data variability.
- D. Range: Represents the difference between the maximum and minimum values in a dataset.

The following are not measures of dispersion:

- B. Median: A measure of central tendency, indicating the middle value of a dataset when sorted.
- E. Quartile: Quartiles split data into four parts but are used in dispersion metrics like the interquartile range (IQR). Quartiles themselves are not dispersion measures.

Thus, the correct answer includes A (Mean deviation), C (Standard deviation), and D (Range). Information Booster:

1. Range: Simplest measure of dispersion, but sensitive to outliers.

2. Mean Deviation (Average Deviation): Uses absolute values to assess variability; less commonly used than standard deviation.

3. Standard Deviation: A robust measure providing insight into the degree of data clustering around the mean.

4. Variance: Square of the standard deviation, useful for understanding variability but harder to interpret directly due to squared units.

5. Interquartile Range (IQR): The spre

Q42. In a certain code NOIDA is written as OPJEB , INDIA as JOEJB . How HELLO will be coded in the same code?

(a) IFMMQ

(b) IFMMP

(c) IDMMN

(d) IEMMP

28



Ans.(b)

Sol. Sol. Let's analyze the pattern: NOIDA \rightarrow OPJEB $N \rightarrow 0 (+1)$ $0 \rightarrow P(+1)$ $I \rightarrow J(+1)$ $D \rightarrow E (+1)$ $A \rightarrow B (+1)$ INDIA \rightarrow JOEJB $I \rightarrow J(+1)$ $N \rightarrow 0 (+1)$ $D \rightarrow E (+1)$ $I \rightarrow J(+1)$ $A \rightarrow B (+1)$ Apply the same rule to HELLO: $H \rightarrow I$



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Rule: Each letter is shifted one step forward in the alphabet (Caesar cipher +1).

 $E \rightarrow F$ $L \rightarrow M$ $L \rightarrow M$ $0 \rightarrow P$ So, HELLO \rightarrow IFMMP

Q43. Determine the next term in the following number series

- 3, 15, 35, 63,?....
- (a) 89
- (b) 91
- (c) 99
- (d) 106

Ans.(c)

Sol. The pattern followed here is, +12, +20, +28, +36 Hence, the correct answer is "99".

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