



Your Personal Exams Guide



NDA



CDS



SSC CGL



CBSE UGC NET



IAS



SSC CHSL



CTET



MPSC



AFCAT



CSIR UDC NET



IBPS PO



UP POLICE



SSC MTS



SBI PO



BPSC



UP TET



IBPS RRB



IBPS CLERK



IES



UPSC CAPF



SSC Stenogr..



RRB NTPC



SSC GD



RBI GRADE B



RBI Assistant



DSSSB

UGC NET 2022 Paper 1 Previous Year Paper (30-Sep-2022) (Shift 1)

Total Time: 1 Hour

Total Marks: 100

Instructions

1. Test will auto submit when the Time is up.
2. The Test comprises of multiple choice questions (MCQ) with one or more correct answers.
3. The clock in the top right corner will display the remaining time available for you to complete the examination.

Navigating & Answering a Question

1. The answer will be saved automatically upon clicking on an option amongst the given choices of answer.
2. To deselect your chosen answer, click on the clear response button.
3. The marking scheme will be displayed for each question on the top right corner of the test window.

Prepp

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Paper 1

1. The following table presents data about the number of men, women and children and percentage (%) of overweight men, overweight women and overweight children in a city during the last six years from 2016 to 2021. (+2)

Year-wise Distribution of Population in a city.

Year	Number of			Percentage (%) of Overweight		
	Men	Women	Children	Men	Women	Children
2016	27000	19000	7500	15%	36%	30%
2017	37500	32000	10500	7%	35%	28%
2018	31500	30000	6000	30%	25%	35%
2019	33000	27000	8000	16%	30%	30%
2020	35000	34000	10000	12%	27%	32%
2021	39000	37500	22500	37.50%	22%	36%

What was the total number of children who were not overweight in the year 2016 and 2017 together?

- a. 4530
b. 4350
c. 12810
d. 14820
-
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What was the difference between the number of overweight women and overweight children together in the year 2018 and the number of overweight men in the same year?

- a. 150
- b. 450
- c. 345
- d. 865

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What was the average of the number of men, women and children who were overweight in the year 2019?

- a. 4812
- b. 5016
- c. 5395
- d. 5260

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4. The following table presents data about the number of men, women and children and percentage (%) of overweight men, overweight women and overweight children in a city during the last six years from 2016 to 2021. (+2)

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2021	39000	37500	22500	37.50%	22%	36%

What was the ratio of the number of overweight women in the year 2018 to the number of overweight men in the year 2020?

- a. 6 : 7
- b. 21 : 65
- c. 15 : 73
- d. 25 : 14

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5. The following table presents data about the number of men, women and children and percentage (%) of overweight men, overweight women and overweight children in a city during the last six years from 2016 to 2021. (+2)

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2020	35000	34000	10000	12%	27%	32%
2021	39000	37500	22500	37.50%	22%	36%

The number of overweight men in the year 2021 was what percent of the number of men who were not overweight in the same year?

- a. 55%
- b. 60 %
- c. 50.5 %
- d. 65.5 %

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6. Which among the following pesticides would have the least chance of bioaccumulation in food chains? (+2)

- a. Chlordane
- b. Aldrin
- c. Carbaryl
- d. Endrin

7. Communication compatibility between individuals is rooted in (+2)

- a. Stewardship

- b. Interest in media
- c. Empathy
- d. External influence

8. Which of the following is NOT characteristic of a good question paper? (+2)

- a. Objectivity
- b. Subjectivity
- c. Reliability
- d. Validation

9. According to the revised Bloom's taxonomy, which of the following categories is considered to be highest for the learner? (+2)

- a. Understand
- b. Apply
- c. Analyse
- d. Create

10. SWAYAM tries to take the best teaching-learning resources to all students through (+2)

- a. Seminars
- b. Video lectures
- c. Classroom teaching
- d. Conferences

11. Following are the characteristics of Non-Conventional learning: (+2)

- A. It is teacher oriented.
- B. It is for improvement of quality.
- C. It is cost effective.
- D. It is linked to employment.
- E. It is on campus.

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

12. The term 'Hermeneutics' is drawn from

(+2)

- a. Sociology
- b. Theology
- c. Anthropology
- d. Economics

13. Given below are two statements

(+2)

Statement I: The new system of communication has facilitated the emergence of an interactive society.

Statement II: The new system of communication is digital and has integrated multiple modes of communication through networks.

In 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

14. If the statement, 'Some plants are not carnivorous' is given as false, then which of the following could be immediately inferred from it?

(+2)

- A. 'Some plants are carnivorous' is true
- B. 'Some plants are carnivorous' is false
- C. 'No plants are carnivorous' is false
- D. 'All plants are carnivorous' is true

Choose the **correct** answer from the options given below:

- a. B, C and D only
- b. A and D only
- c. A and C only
- d. A, C and D only

15. Consider the following spreadsheet:

(+2)

	A	B	C
1	4	3	
2	5	2	
3	7		
4	8		9
5	9		
6			

If the formula = A3 + B2 in cell C4 is copied to cell C5, then what is the value in cell C5?

- a. 9
- b. 8
- c. 7
- d. 17

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16. Given below are two statements, one is labelled as **Assertion A** and the other is labelled as **Reason R**

(+2)

Assertion A: MOOCs on the SWAYAM portal can be used for earning upto 40% credits per semester by students.

Reason R: All MOOCs on the SWAYAM portal are credit-based MOOCs.

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

- a. Both A and R are true and R is the correct explanation of A
- b. Both A and R are true but R is NOT the correct explanation of A
- c. A is true but R is false
- d. A is false but R is true

17. Certain number of birds are sitting on two trees A and B. Birds sitting on tree A, tell to the birds sitting on tree B, that if 2 birds from tree B shift to the tree A, then we are equal in number. However, the birds sitting on tree B, tell those sitting on A, that if two birds from your side (tree A) shift to our side (tree B), then we become double than you (tree A). How many birds are sitting on the two trees A and B, respectively? (+2)

- a. 8, 12
- b. 10, 14
- c. 14, 10
- d. 5, 7

18. Dynamic approach to teaching means (+2)

- a. Teaching should be lecture based.
- b. Teachers should be energetic.
- c. Teachers should be student friendly.
- d. Students should learn through activities.

19. Which of the following is NOT correct regarding Digilocker, a key initiative under 'Digital India' programme of Government of India? (+2)

- a. The slogan of Digilocker is "My documents, Anytime, Anywhere."
- b. It aims to eliminate the use of physical documents and provide access to their digital documents anytime, anywhere and share it online.
- c. Citizens can self-upload documents and digitally sign them using the e-sign facility.
- d. Indian citizens who sign up for a Digilocker account get a dedicated cloud storage space that is limited to their Aadhar number.

20. Historical research has the limitation of (+2)

- a. Problem identification
- b. Analytical synthesis
- c. Universal generalisation
- d. Probable conclusions

21. Which among the following hazards can occur due to anthropogenic causes?

(+2)

- A. Cyclones
- B. Nuclear Disaster
- C. Floods
- D. Volcanoes
- E. Forest Fires

Choose the **correct** answer from the options given below:

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

22. Given below are two statements

(+2)

Statement I: An ethical framework of sustainable development provides normative guidance regarding our relationship with environment.

Statement II: Anthropocentric model is misleading as evident from its environmental consequences.

In 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

23. "We should value the Moon more than the Sun because the Moon shines when it is dark whereas the Sun shines when there is light anyway." This statement commits the fallacy of:

(+2)

- a. Appeal to Emotion
- b. Fallacy of False Cause
- c. False Dilemma
- d. Equivocation

24. Number of bacteria in a container doubles in every one minute. If the container gets completely filled with bacteria in 30 minutes, then in how many minutes $\frac{1}{4}^{\text{th}}$ of the container shall be filled with bacteria? (+2)

- a. 15 minutes
- b. 16 minutes
- c. 28 minutes
- d. 25 minutes

25. The average age of students in a class was 15 years. When 5 new boys whose average age was 12 years 6 months were admitted in the class, the average age was reduced by 6 months. How many students were there in the class originally? (+2)

- a. 15
- b. 20
- c. 18
- d. 16

26. Given below are two statements, one is labelled as **Assertion A** and the other is labelled as **Reason R** (+2)

Assertion A: Most cyclones cause widespread damage in coastal areas.

Reason R: Energy of most cyclones increases after landfall.

In light of the above statements, choose the **most appropriate** answer from the options given below

- a. Both A and R are correct and R is the correct explanation of A
- b. Both A and R are correct but R is NOT the correct explanation of A
- c. A is correct but R is not correct
- d. A is not correct but R is correct

27. Which of the following is envisaged in the Sustainable Development Goals? (+2)

- a. By 2020, conserve at least 50% of coastal and marine areas.
- b. By 2030, reduce by one-third of the per capita global food waste at the retail and consumer levels.
- c. By 2030, double the global rate of improvement in energy efficiency.
- d. By 2030, reduce by one-fifth the premature mortality from non-communicable diseases.

28. Which of the following have been considered as threat to internal validity in research? (+2)

- A. Randomisation
- B. Generalisability
- C. Maturation
- D. History
- E. Instrumentation

Choose the **correct** answer from the options given below.

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

29. Which of the following statements are true regarding Nyaya (Classical Indian School of Logic) view of hetrābhāsa (fallacy) (+2)

- A. It means that middle term appears to be a reason but is not a valid reason.
- B. All fallacies are material fallacies.
- C. When an inference is based not on causation but on uniformity of co-existence, it leads to a fallacy.
- D. Fallacies occur when any of the five characteristics of a middle term are violated.

Choose the **correct** answer from the options given below:

- a. A, B and C only
- b. A, B and D only
- c. B, C and D only
- d. A, B, C and D

30. Which of the following are the advantages of grapevine communication? (+2)

- A. Smooth float of adverse comments
- B. Knowing the morale in the organisation
- C. Spread of propagandist views
- D. To know the important issues faced by the employees

E. Assessment of employee anxieties

Choose the **correct** answer from the options given below.

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

31. In a certain code, '467' means 'leaves are green', '485' means 'green is good' and '639' means 'they are playing'. Which digit stands for 'leaves' in that code? (+2)

- a. 6
- b. 7
- c. 4
- d. 9

32. In face-to-face communication, the non-verbal cues provided by the receiver, can be considered as (+2)

- a. Feedback
- b. Decoding
- c. Physical noise
- d. Symbolic representation

33. Suggestions for communication with people from different cultures can be: (+2)

- A. Emphasise your interpretation
- B. Forget your own cultural identity
- C. Promote an eco-system of mutual respect
- D. Know the cultural context of other people
- E. Always state facts

Choose the **correct** answer from the options given below.

- a. A, B and C only
- b. C, D and E only

- c. B, C and E only
- d. A, D and E only

34. In pursuance of the National Council of Teacher Education Act, 1993, NCTE was established in the year: (+2)

- a. 1995
- b. 1993
- c. 1994
- d. 1996

35. Some of the most notable universities that evolved during ancient period in India were situated at: (+2)

- A. Takshashila
- B. Vikramshila
- C. Jagaddala
- D. Odantapuri
- E. Nalanda

Choose the **correct** answer from the options given below:

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

36. Arrange the following water bodies in increasing order of the quantity of freshwater they hold: (+2)

- A. Ice and snow
- B. Freshwater lakes and reservoirs
- C. Groundwater
- D. Rivers and streams

Choose the **correct** answer from the options given below

- a. D, B, C, A
- b. B, C, D, A

c. B, D, A, C

d. D, B, A, C

37. Given below are two statements, one is labelled as Assertion A and the other is labelled as Reason R (+2)

Assertion A: According to classical Indian Logicians (Naiyayikas), all fallacies are material fallacies.

Reason R: According to Nyaya, Syllogism is deductive-inductive and formal-material.

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

a. Both A and R are true and R is the correct explanation of A

b. Both A and R are true but R is NOT the correct explanation of A

c. A is true but R is false

d. A is false but R is true

38. Match List I with List II (+2)

List I		List II	
Concepts		Main Proponent	
A.	Self-education through development of individuality	I.	Sri Aurobindo
B.	Integral education	II.	Mahatma Gandhi
C.	Education to transform human mind	III.	Maria Montessori
D.	Basic education (Wardha Education System)	IV.	J. Krishnamurti

Choose the **correct** answer from the options given below:

a. A - I, B - III, C - IV, D - II

b. A - III, B - I, C - II, D - IV

c. A - III, B - I, C - IV, D - II

d. A - I, B - IV, C - II, D - III

39. Find the missing number in the series: (+2)

2, 10, 30, 68, 130, 222, ?

a. 350

b. 352

c. 194

d. 104

40. A wise sage has said, "The hunger for knowledge is more difficult to remove than the hunger for food. Therefore, one should stick to the food." Which fallacy is committed in this argument? (+2)

a. Begging the Question

b. False Dilemma

c. Ignoratio elenchi (irrelevant conclusion)

d. Appeal to Emotion

41. Match List I with List II

(+2)

List I		List II	
Research Perspective		Discipline	
A.	Phenomenology	I.	Anthropology
B.	Ethnography	II.	Sociology
C.	Ethnomethodology	III.	Social psychology
D.	Symbolic interactionism	IV.	Philosophy

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 - III, B - IV, C - I, D - II

d. A - IV, B - I, C - II, D - III

42. Many computer users are worried about malware. Which of the following are two examples of malware?

(+2)

A. Firewall

B. Worm

C. Router

D. Virus

Choose the **correct** answer from the options given below:

- a. A and C only
- b. A and B only
- c. B and D only
- d. C and D only

43. Which of the following is not an essential component required for video-conferencing system? (+2)

- a. Video Camera
- b. Display Device
- c. Telephone
- d. Microphone

44. Given below are two statements (+2)

Statement I: The qualitative data are powerful because they are collected from very sensitive social, historical and temporal context.

Statement II: Context sensitivity cannot be completely removed from the qualitative data.

In 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

45. Which of the following are the principal components of the CPU of a computer system? (+2)

- A. ALU (Arithmetic-Logic Unit)
- B. CU (Control Unit)
- C. Processor Registers
- D. SSD (Solid-State Drive)
- E. VRAM (Video RAM)

Choose the **correct** answer from the options given below:

- a. A, B and D only

- b. A, B and C only
- c. C, D and E only
- d. B, C and D only

46. Read the given passage and answer the questions that follow

(+2)

Marie Curie was a Polish-born physicist and chemist and one of the most famous scientists of her time. Together with her husband, Pierre, she discovered radium, an element widely used for treating cancer, and studied uranium and other radioactive substances. Pierre and Marie's amicable collaboration later helped to unlock the secrets of the atom. Together with her husband Pierre, she was awarded the Noble Prize for Physics in 1903.

Marie was born in Warsaw, Poland on 7 November 1867, the daughter of a Physics teacher. At an early age, she displayed a brilliant mind and a blithe personality. Her great exuberance for learning prompted her to continue with her studies after high school. She became disgruntled, however, when she learned that the university in Warsaw was closed to women. Determined to receive a higher education, she defiantly left Poland and in 1891 entered the Sorbonne, a French University, where she earned her master's degree and doctorate in Physics.

Marie was fortunate to have studied at the Sorbonne with some of the greatest scientists of her day, one of whom was Pierre Curie. Marie and Pierre were married in 1895 and spent many productive years working together in the physics laboratory. A short time after they discovered radium, Pierre was killed by a horse-drawn wagon in 1906. Marie was stunned by the horrible misfortune and endured heartbreaking anguish. Despondently, she recalled their close relationship and the joy that they had shared in scientific research. The fact that that she had two young daughters to raise by herself greatly increased her distress.

Curie's feeling of desolation finally began to fade when she was asked to succeed her husband as a Physics professor at the Sorbonne. She was the first woman to be given a professorship at the world-famous university. She received her second Noble Prize in Chemistry for isolating radium, in 1911. Curie's eldest daughter, Irene, was herself a scientist and winner of the Noble Prize for Chemistry.

Although Marie Curie eventually suffered a fatal illness from her long-term exposure to radium, she never became disillusioned about her work. Regardless of the consequences, she had dedicated herself to science and to revealing the mysteries of the physical world.

Which of the following elements is widely used in treatment of Cancer?

- a. Uranium
- b. Radium
- c. Thorium
- d. Plutonium

47. Read the given passage and answer the questions that follow

(+2)

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Although Marie Curie eventually suffered a fatal illness from her long-term exposure to radium, she never became disillusioned about her work. Regardless of the consequences, she had dedicated herself to science and to revealing the mysteries of the physical world.

After how many years of her marriage did Marie Curie lose her husband?

- a. 11 years
- b. 39 years
- c. 28 years
- d. 6 years

48. Read the given passage and answer the questions that follow

(+2)

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Although Marie Curie eventually suffered a fatal illness from her long term exposure to radium, she never became disillusioned about her work. Regardless of the consequences, she had dedicated herself to science and to revealing the mysteries of the physical world.

At what age did Marie Curie receive her first Nobel prize?

- a. 36 years
- b. 46 years
- c. 56 years
- d. 44 years

49. Read the given passage and answer the questions that follow

(+2)

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Although Marie Curie eventually suffered a fatal illness from her long term exposure to radium, she never became disillusioned about her work. Regardless of the consequences, she had dedicated herself to science and to revealing the mysteries of the physical world.

What made Marie Curie study at Sorbonne University?

- a. University in Warsaw did not allow her admission.
- b. She wanted to work with Pierre Curie.
- c. She wanted to work on Radium.
- d. She did not enjoy learning at an early age in Warsaw.

50. Read the given passage and answer the questions that follow

(+2)

Marie Curie was a Polish-born physicist and chemist and one of the most famous scientists of her time. Together with her husband, Pierre, she discovered radium, an element widely used for treating cancer, and studied uranium and other radioactive substances. Pierre and Marie's amicable collaboration later helped to unlock the secrets of the atom. Together with her husband Pierre, she was awarded the Noble Prize for Physics in 1903.

Marie was born in Warsaw, Poland on 7 November 1867, the daughter of a Physics teacher. At an early age, she displayed a brilliant mind and a blithe personality. Her great exuberance for learning prompted her to continue with her studies after high school. She became disgruntled, however, when she learned that the university in Warsaw was closed to women. Determined to receive a higher education, she defiantly left Poland and in 1891 entered the Sorbonne, a French University, where she earned her master's degree and doctorate in Physics.

Marie was fortunate to have studied at the Sorbonne with some of the greatest scientists of her day, one of whom was Pierre Curie. Marie and Pierre were married in 1895 and spent many productive years working together in the physics laboratory. A short time after they discovered radium, Pierre was killed by a horse-drawn wagon in 1906. Marie was stunned by the horrible misfortune and endured heartbreaking anguish. Despondently, she recalled their close relationship and the joy that they had shared in scientific research. The fact that that she had two young daughters to raise by herself greatly increased her distress.

Curie's feeling of desolation finally began to fade when she was asked to succeed her husband as a Physics professor at the Sorbonne. She was the first woman to be given a professorship at the world-famous university. She received her second Noble Prize in Chemistry for isolating radium, in 1911. Curie's eldest daughter, Irene, was herself a scientist and winner of the Noble Prize for Chemistry.

Although Marie Curie eventually suffered a fatal illness from her long term exposure to radium, she never became disillusioned about her work. Regardless of the consequences, she had dedicated herself to science and to revealing the mysteries of the physical world.

The passage shows Marie Curie to be a great scientist who

- a. was amiable in nature.
- b. had indomitable spirit and dedication to science.
- c. was emotionally vulnerable.
- d. became disillusioned after her husband's death.

Answers

1. Answer: c

Explanation:

Given

The total number of children in 2016 = 7500

The total number of children in 2017 = 10500

The Percentage (%) of Overweight children in 2016 = 30%

The Percentage (%) of Overweight children in 2017 = 28%

Solution

The number of children who were not overweight in the year 2016:

$$\Rightarrow 70\% \text{ of } 7500 = 5250$$

The number of children who were not overweight in the year 2017:

$$\Rightarrow 72\% \text{ of } 10500 = 7560$$

The total number of children who were not overweight in the year 2016 and 2017 together:

$$\Rightarrow 5250 + 7560 = 12810$$

2. Answer: a

Explanation:

Given

The number of overweight women in 2018 = 25% Of 30000

The number of overweight children in 2018 = 35% Of 6000

The number of overweight men in 2018 = 30 % Of 315 00 = 9450

Solution

The number of overweight women and overweight children together in the year 2018:

$$\Rightarrow 25\% \text{ Of } 30000 + 35\% \text{ Of } 6000$$

$$\Rightarrow 7500 + 2100 = 9600$$

The difference between the number of overweight women and overweight children together in the year 2018 and the number of overweight men in the same year:

$$\Rightarrow 9600 - 9450 = 150$$

3. Answer: d

Explanation:

Given

The number of overweight women in 2019 = 30% of 27000

The number of overweight children in 2019 = 30% of 8000

The number of overweight men in 2019 = 16% of 33000

Formula

Average = Total sum of all values/No. of all values

Solution

The average of the number of men, women and children who were overweight in the year 2019

$$\Rightarrow (8100 + 2400 + 5280)/3$$

$$\Rightarrow 5260$$

4. Answer: d

Explanation:

Given

The number of overweight women in 2018 = 25% of 30000

The number of overweight men in 2020 = 12% of 35000

Solution

The ratio of the number of overweight women in the year 2018 to the number of overweight men in the year 2020:

$$\Rightarrow 7500 : 4200 = \mathbf{25 : 14}$$

5. Answer: b

Explanation:

Given

The number of overweight men in the year 2021 = 37.5% of 39000

The number of non-overweight men in the year 2021 = 62.5% of 39000

Formula

$$A \% B = A/B \times 100$$

Solution

$$\Rightarrow (37.5\% \text{ of } 39000) / (62.5\% \text{ of } 39000) \times 100$$

$$\Rightarrow 60\%$$

The number of overweight men in the year 2021 was 60% of the number of men who were not overweight in the same year.

6. Answer: c

Explanation:

A food chain explains which organism in the ecosystem consumes another.

★ Key Points

Food Chain:

- The food chain is a succession of living things that transmit nutrients and energy from one organism to the next.
- Bioaccumulation is a process started when an organism absorbs a material more quickly than it is eliminated by catabolism and excretion.
- Pesticides are chemicals that can be used to kill fungi, bacteria, insects, plant diseases, etc.
- A substance from the carbamate family called carbaryl is mostly employed as an insecticide.
- **Carbaryl is not anticipated to bioconcentrate appreciably.**

Thus, Carbaryl pesticides would have the least chance of bioaccumulation in food chains.

Hence, the correct answer is Carbaryl

★ Additional Information

- Bioaccumulation is the build-up of something in the body of an organism.
- In biology, bioaccumulation is typically associated with the build-up of damaging or harmful chemicals in a living thing. These chemicals will not break down in the body or are not able to be excreted. This will cause the chemical to accumulate over time.
- In India, pesticides must be registered with the Ministry of Agriculture & Farmers Welfare's affiliated Directorate of Plant Protection, Quarantine & Storage.

7. Answer: c

Explanation:

Communication is a process of achieving a shift in understanding between two or more individuals.

★ Key Points

- Interpersonal communication is conversations between people that take place face-to-face.
- Compatibility refers to having the ability to coexist peacefully with someone or something.
- Communication compatibility between **individuals is rooted in empathy**.
- **Empathy involves two things: perception and communication**.
- Communicating without the proper, correct perception of the meaning of the message, leads to a decrease in the empathic character of the relationship or conversation.
- Empathic communication requires embracing and tolerating different viewpoints and feelings in them as well as sharing them with them.

Thus, Communication compatibility **between individuals is rooted in empathy**.

Hence, the correct answer is Empathy

★ Additional Information

- An effective communication system has five essential components:
 - Speaker or sender.
 - Transmission
 - Form of the communication
 - Recipient
 - Desired

8. Answer: b

Explanation:

A question paper is a basic instrument used in a test or examination.

★ Key Points

- It is typical for a teacher to put together questions for a test on the spot without taking into account the qualities of an effective test.
- The characteristic of a good question paper:
 - The question paper should have **Validity** which it is intended to measure.
 - It must have **Reliability** to measure accuracy.
 - It is written in **precise, unambiguous** language.
 - The question paper should also be **objective**, practical, and candidate-friendly.

Thus, Subjectivity is **NOT** characteristic of a good question paper.

★ Additional Information

- Evaluation is the methodical evaluation and explanation of the anticipated or actual effects of ideas or outcomes.

9. Answer: d

Explanation:

Bloom's taxonomy is used to categorised educational learning objectives into levels of complexity and specificity.

★ Key Points

Bloom's taxonomy:

- Bloom's taxonomy of learning Outcomes is divided into three parts:
 - **Cognitive Domain**
 - **Affective Domain**
 - **Psychomotor Domain**
- Bloom's taxonomy's greatest level of learning.
- The cognitive domain deals with the acquisition of knowledge and the growth of intellectual abilities.
- There are **six major types of cognitive domains** : Knowledge, Comprehension, Application, Analysis, Evaluation and **Synthesis**.
- The synthesis level is the highest level where learners try to categorize, combine, compile, compose, **Create** , devise, design, explain, and generate.

Thus, according to the revised Bloom's taxonomy **Create** is considered to be the highest for the learner.

★ Additional Information

- The affective Domain has sub-major types: Reservice, Value, Organize, Respond and Characterization.
- Psychomotor Domain has five different levels Imitation, Manipulation, Precision, articulation, and Naturalization.

10. Answer: b

Explanation:

SWAYAM stands for Study Webs of Active-Learning for Young Aspiring Minds.

★ Key Points

- It is guided by the three guiding principles of education policy: access, equity, and quality.
- The goal of this initiative is to make the best teaching and learning tools available to everyone, even the most disadvantaged.
- Course hosted on SWAYAM is in 4 quadrants
 - **V**ideo **l**ecture
 - **S**tudy **M**aterial
 - **A**ssessment
 - **D**iscussion
- SWAYAM aims to close the digital divide for students.
- The Ministry of Education handle SWAYAM Platform.

Thus, SWAYAM tries to take the best teaching-learning resources to all students through Video lectures.

★ Additional Information

- **Seminar** may be defined as a gathering of people for the purpose of discussing a stated topic. Such gatherings are usually interactive sessions where the participants engage in discussions about the delineated topic.
- **Classroom teaching and learning** is a complex, multilayered, and social experience. Many things happen at the same time, and the students and teacher must interpret and process these events with considerable rapidity.

- **Conference** is an event, sometimes lasting a few days, at which there is a group of talks on a particular subject, or a meeting which especially business matters are discussed formally:

11. Answer: b

Explanation:

The educational system provides teaching-learning opportunities outside of on-campus, scheduled classes.

★ Key Points

Non-Conventional learning:

- Non-traditional learning programmes include teaching-learning activities outside of on-campus, scheduled classes.
- It is developed by P.H. Coombs and Ahmed.
- The characteristics of non-Conventional learning:
 - **Centered** on **students**
 - **Cost -effective**
 - **Continual Link** to **Employment**
 - For **quality enhancement**
- The classroom time is predetermined in this type of programme.

Thus, the correct answer from the options are B, C and D only.

★ Additional Information

- Learning these affordable hobbies helps someone find work.

12. Answer: b

Explanation:

Hermeneutics is the study and application of interpretation, which entails a rationally supported understanding.

★ Key Points

Hermeneutics:

- It describes a theory of understanding as well as a corpus of historically varied strategies for interpreting texts, objects, and concepts.
- It deals with making the **incomprehensible, understandable and communicative**.
- The practice of interpretation particularly the interpretation of biblical texts, wisdom literature, and philosophical texts.
- Hermeneutics was initially used to interpret or exegete the Bible.

Thus, the term 'Hermeneutics' is drawn from theology.

★ Additional Information

- The history of hermeneutics spans eras, methodologies, and all of the humanities, social sciences, and even natural sciences disciplines.
- It has now been expanded to include concerns of general interpretation.

13. Answer: a

Explanation:

The Internet is a vast network of communication networks.



Key Points Statement I: The new system of communication has facilitated the emergence of an interactive society.

- The Internet has transformed how people live, study, work, earn, and communicate globally.
- The new media are technologically oriented communication channels that enable **user-to-user interaction in modern culture**.
- It has facilitated the **emergence of an interactive society**.

Thus, Statement I is true.

Statement II: The new system of communication is digital and has integrated multiple modes of communication through networks.

- The social network was created **through digital technology**.
- The network is **separated into various domains, with a domain manager and several agents in each domain**.
- It has markets, data networks, and communication networks, which give the network a platform to adapt to business needs.

Thus, Statement II is true.

Therefore, the correct answer is Both Statement I and Statement II are true.

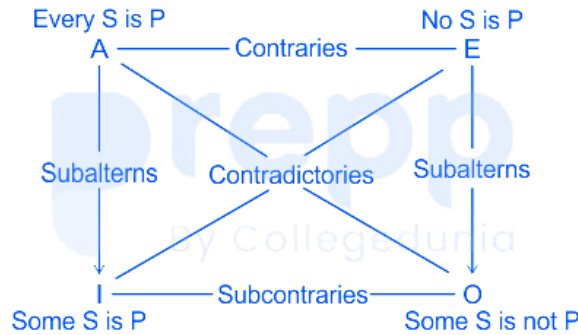
14. Answer: d

Explanation:

The square of opposition is a diagram used in categorical logic to depict the logical relationship.



Key Points



Relationships between Propositions:

Types	Characteristics
<u>Contradictory</u>	- A and O, E, and I proposition are contradictory. - The truth of an assertion of the form All S are P implies the falsity of the corresponding proposition of the type. Some S are not P.
<u>Contrary</u>	- A and E propositions are contrary. - Propositions are contrary when they cannot both be true.
<u>Sub-contrary</u>	- I and E propositions are sub-contrary. - Propositions are sub-contrary when it is impossible for both to be false.
<u>Sub-alternation</u>	- A and I, E and O propositions are Sub-alternation. - The sub-alternation relation exists between a proposition and the equivalent I proposition. - the falsity of an I or O assertion implies, respectively, the falsity of the corresponding A or E proposition.

- Now, "Some plants are No Carnivorous" is given as false, A is True (Sub-alternation). E is False (Contradictory) and I is (Sub-contrary) True.
- So, "Some plants are carnivorous" is **true**, "No plants are carnivorous" is **false**, and "All plants are carnivorous" is **true** is true.

Therefore, the correct answer from the options are A, C and D only.

15. Answer: c

Explanation:

The correct option is 7.

★ Key Points

- The symbol creates an absolute cell reference that won't change before the row and column coordinates. It can be written in different ways A1, A\$1, A1\$, and A\$1\$
- + sign symbolized Plus.
- So, $A3 = 7$

16. Answer: c

Explanation:

MOOC is the most common method for providing online courses.



Key Points Assertion A: MOOCs on the SWAYAM portal can be used for earning upto 40% credits per semester by students.

- The Government of India launched the SWAYAM as MOOC.
- The UGC is regulator of SWAYAM regarding the credits.
- UGC Credit Framework laid down that university will assign the credits earned through SWAYAM an equivalent **credit weight of up to 40%**.

Thus, A is true.

Reason R: All MOOCs on the SWAYAM portal are credit-based MOOCs.

- It is designed to achieve the three cardinal principles of Education Policy viz., access, equity and quality.
- The Courses on the SWAYAM divided **Credit-based MOOCs** and **SWAYAM certificate**.
- It also offers students certification courses after the completion of a small fee.

So, R is false.

Therefore, A is true but R is false.

17. Answer: b

Explanation:

As per the given information,

Certain number of birds are sitting on two trees A and B.

Let,

Number of birds on tree A = a

Number of birds on tree B = b

- Birds sitting on tree A, tell to the birds sitting on tree B, that if 2 birds from tree B shift to tree A, then we are equal in number.

$$\rightarrow (a + 2) = (b - 2)$$

$$\rightarrow a = b - 4 \text{ -----(i)}$$

- However, the birds sitting on tree B, tell those sitting on A, that if two birds from your side (tree A) shift to our side (tree B), then we become double than you (tree A).

$$\rightarrow (b + 2) = 2(a - 2)$$

$$\rightarrow b + 2 = 2a - 4$$

$$\rightarrow b = 2a - 4 - 2$$

$$\rightarrow b = 2a - 6 \text{ -----(ii)}$$

Putting the value of equation (i) in (ii) we get:

$$\rightarrow b = 2(b - 4) - 6$$

$$\rightarrow b = 2b - 8 - 6$$

$$\rightarrow b = 2b - 14$$

$$\rightarrow b = 14$$

now, putting $b = 14$ in equation (i) we get:

$$\rightarrow a = 14 - 4$$

$$\rightarrow a = 10$$

Thus, the number of birds on tree A = 10 and the number of birds on tree B = 10.

Hence, the correct answer is "10, 14".

18. Answer: d

Your Personal Exams Guide

Explanation:

A dynamic approach to learning is that the students are engaged and active participants in their education.

★ Key Points

- The best way to teach by doing this is to get actively involved in the activities.
- They must engage in activities that make them think, such as reading, writing, talking, and discussions.
- It must take an **active role** in many ways.
- Teachers place a strong emphasis on student **participation** in learning activities.
- Students to be actively involved in their **learning, roleplaying, and simulations**.

Thus, Dynamic approach to teaching means students should learn through activities.

★ Additional Information

- They must engage in activities that make them think, such reading, writing, talking, and discussions.

- This implies adopting an entirely new approach to a lesson so that they are not just waiting and listening but they must actively participate in various ways.

19. Answer: d

Explanation:

Statement (A):

"Indian citizens who sign up for a Digilocker account get a dedicated cloud storage space that is limited to their Aadhaar number."

While **Aadhaar number is used for verification**, it is **not mandatory** to have an Aadhaar to create a Digilocker account. Citizens can sign up using other identity proofs like driving license, voter ID, etc.

The account is linked to the user but **not strictly limited or restricted only to Aadhaar holders**.

Therefore, this statement is **NOT entirely correct**.

Statement (B):

"It aims to eliminate the use of physical documents and provide access to their digital documents anytime, anywhere and share it online."

This is the core objective of Digilocker.

It promotes **paperless governance** and digital empowerment.

Hence, this statement is **correct**.

Statement (C):

"Citizens can self-upload documents and digitally sign them using the e-sign facility."

Digilocker allows users to **upload their own documents**.

It also provides an **e-sign facility** for digital signing of documents.

This statement is **correct**.

Statement (D):

"The slogan of Digilocker is 'My documents, Anytime, Anywhere.'"

This is the **official slogan** used to emphasize convenience and accessibility.

This statement is **correct**.

Conclusion:

The **incorrect statement is (A)** because it incorrectly implies that having an Aadhaar number is mandatory and limits the account to Aadhaar holders only.

In reality, Digilocker registration is more flexible, and Aadhaar is one of the verification methods, not a strict prerequisite

20. Answer: c

Explanation:

Historical research involves gathering and analysing data on past events or ideas.

★ Key Points

Historical Research:

- In addition to assisting scholars in making links between past and present occurrences
- In order to understand how particular events affected the ones that followed, it investigates potential causes for those events.
- Some of Limitation of Historical research are mentioned below:
 - The content analysis imposes restrictions.
 - **P**rejudice in the analysis of historical materials.
 - **S**ample representation cannot be guaranteed by researchers.
 - **U**niversal **g**eneralisation of class of facts
 - **L**ack of ability to regulate outside factors

Thus, Historical research has the limitation of Universal generalization.

★ Additional Information

- The primary sources used in historical research include documents from the time period being studied, including historical records, books, pictures, letters, and other documentary evidence.

21. Answer: d

Explanation:

Hazards that are anthropogenic are those brought on by human behavior or inaction.

★ Key Points

- Environmental hazards are described as extraordinary occurrences or chemicals in the Earth's ecological system that could have a negative impact on people and their valuable possessions.
- It can be further divided into two parts
 - **M**an-made hazards or Anthropogenic hazards
 - **E**nvironmental hazards
- An **environmental hazard** is anything that has the potential to endanger the environment around it or have a negative impact on people's health.
- **Anthropogenic hazards** are certain negative conditions created with the participation of man, which affect the environment and public health.

The statistics of incidents due to human fault are as follows:

1. Emergency situations at nuclear power plants and plants – 45%;
2. Objects with increased risk (places of storage, transportation, manufacture, or use of substances that may cause an emergency) – 60%;

3. Plane crashes and maritime transport accidents – 80%; car accidents – 90%.

- This includes pollution and natural disasters like storms and earthquakes.
- For example, earthquakes, **nuclear disasters**, **volcanic eruptions**, landslides, **floods**, **drought**, subsidence, **tropical storms**, and **wildfires**.

Thus, the correct answer from the options is B, C, and E only.

★ Additional Information

- Hazards caused by humans, other living things, biomes, and ecosystems could be detrimental.
- Environmental risks are frequently defined as the product of a hazard and the likelihood of its occurring.

22. Answer: a

Explanation:

Sustainable development is a development that meets the existing demands without risking the capacity of future generations to satisfy their own needs.



Key Points Statement I: An ethical framework of sustainable development provides normative guidance regarding our relationship with the environment.

- An ethical framework for **sustainable development** offers normative direction.
- The model presented below illustrates the **relationship** between **natural wealth** and **human happiness**.
- Protect, restore, and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, halt and reverse land degradation, and halt biodiversity loss
- It is well-being in a hierarchy of human institutions, including technology, economy, politics, and ethics.

Thus, Statement I is true.

Statement II: Anthropocentric model is misleading as evident from its environmental consequences.

- The environmental effects of the **anthropocentric approach** have made it clear that it is a **deceptive and harmful** framework.
- The sustainability hypothesis is based on the idea that both natural and human-made evolution have intrinsic worth.
- Anthropocentric models are misleading as evident from their environmental consequences.

So, Statement II is true.

Therefore, Both Statement I and Statement II are true.

23. Answer: b

Explanation:

A logical fallacy is a mistake in reasoning that reduces the strength and persuasiveness of an argument.

★ Key Points

- There are two main types of fallacies: Formal fallacy and informal fallacy.
- An informal fallacy is an error in the argument's form, content, or context.
- The **false cause** is a fallacy when an argument makes the **incorrect claim that one condition of affairs causes another state of affairs to occur**.
- The error is drawing a conclusion based on a purported causal relationship that is either not true.
- In the above argument, the claim "Sun shines when there is light anyway" is a **factual wrong claim**. This is one of the reasons for the convenience that we should value the moon.

Thus, the Fallacy of False Cause is committed in this argument.

★ Additional Information

- False Dilemma is an informal fallacy based on a presumption that incorrectly restricts the options that are accessible.
- The fallacy of equivocation is a formal fallacy that happens when a crucial term or phrase is employed in an unclear manner
- Appeal to Emotion is the manipulation of the recipient's emotions in order to win an argument in the absence of factual evidence.

24. Answer: c

Explanation:

Given

The container gets completely filled with bacteria = 30 minutes

Concept

Every 1 minute = Number of bacteria in a container doubles

Solution

No. of bacteria initially in the cup = 1

After 1 min no. of cells will be $2 \times 1 = 2^1$

After 2 min = $2 \times 2 = 2^2$

After 3 min = $2 \times 2 \times 2 = 2^3$

So, after 30 min no. of cells will be 2^{30}

Quantity of whole cup = 2^{30} cells

Quantity of 1/4th a cup = $2^{30} / 2^2 = 2^{28}$

Thus, time taken to fill half of the cup = 28 min

Hence, it will be 1/4th in **28 minutes**.

25. Answer: b

Explanation:

Given:

The average age of students in a class = 15 years

The average age of 5 new students in a class = 12.5 years

Formula used:

Average = Sum of all values / No. of values.

Calculation:

Let the number of students in the class be x.

The new average = $15 - 0.5(6 \text{ months}) = 14.5$ years.

$$\Rightarrow (x \times 15) + (5 \times 12.5) = (x + 5) \times 14.5$$

$$\Rightarrow 15x + 62.5 = 14.5x + 72.5$$

$$\Rightarrow 0.5x = 10$$

$$\Rightarrow x = 20$$

$\therefore$ The correct answer is 20.

26. Answer: c

Explanation:



Key Points

Assertion A: Most cyclones cause widespread damage in coastal areas.

- Cyclones are a phenomenon that happens due to a **low-pressure** area surrounded by swift inward air circulation.
- There are two types of cyclones: **Tropical cyclones** and **Extra-Tropical cyclones**.
- **Coastal areas** are more susceptible to **destruction** from tropical cyclones.

Thus, Assertion is correct but R is not correct

Reason R: Energy of most cyclones increases after landfall.

- Tropical cyclones originated in the region between the Tropics of Capricorn and Cancer.
- Extratropical cyclones are known to originate in polar regions, but they also occur in temperate zones and high-latitude regions.

- Tropical cyclones usually **lose strength quickly over land** because they are **cut off from their main supply of energy**.

So, Reason is not correct.

Therefore, A is correct but R is not correct.

27. Answer: c

Explanation:

The United Nations General Assembly adopted the Sustainable Development Goals in 2015 as part of the Post-2015 Development Agenda.

★ Key Points

- The UNGA suggested a set of 17 goals to be accomplished by 2030, together with 169 targets and 304 indicators.
- Some of the targets are mentioned below:
 - By 2020, conserve at least **10 per cent** of coastal and marine areas, consistent with national and international law and based on the best available scientific information
 - Prevent and significantly reduce marine pollution of all kinds by 2025.
 - By 2030, reduce by **half** the per capita global food waste at the retail and consumer levels.
 - **By 2030, double the global rate of improvement in energy efficiency.**
 - By 2030, reduce by **one-third** premature **mortality** from noncommunicable diseases through prevention and treatment.

Thus, by 2030, double the global rate of improvement in energy efficiency is envisaged in the Sustainable Development Goals.

★ Additional Information

- It aimed to design a new global development framework to replace the Millennium Development Goals.

28. Answer: c

Explanation:

Validity refers to test measures which we are supposed to measure.

★ Key Points

- **Validity in research basically indicates the accuracy of methods to measure something. If specific devices or tools measure accurate things and outcomes are closely related to real values then it is considered being as valid.**
- It means that they accurately reflect the genuine features, traits, and variations in the physical or social reality.
- On the basis of cause-and-effect relationships, the Validity is divided into **Internal validity** and External validity.
- **Internal Validity** is the level of assurance that the causal relationship under test is reliable and unaffected by other variables or factors.

- There are eight threats to internal validity in research: **history ,maturation ,instrumentation ,t esting , s election bias, regression to the mean, social interaction and attrition.**
- A method is probably invalid if it is not trustworthy.

Thus, Maturation, History and Instrumentation are threats to internal validity in research.

★ Additional Information

- External validity is the degree to which research findings can be generalised to different contexts, populations, or events.

29. Answer: b

Explanation:

A fallacy is known as Hetvabhasa in Indian logic.

★ Key Points

- A fallacy occurs when the **middle term appears to be the reason** but it is not a valid reason.
- According to Nyaya School, there are **five different types of fallacies considered to be material fallacies.**
- The Nyaya syllogism recognizes the fact that verbal form is not the essence of inference and is required only to convince others.
- Material fallacies occur when the **reasoning is unsound** because of an error concerning the subject matter of the argument.

Thus, the correct answer from the options are A, B and D only.

★ Additional Information

- They address errors in the formulation of arguments, the content of expressions, etc.
- Presumption fallacies are another name for material fallacies.

30. Answer: d

Explanation:

Communication is transferring information or messages from one person or group to another.

★ Key Points

Grapevine communication:

- Grapevine communication is informal communication that takes place within an organization without adhering to a recommended framework.
- It can be characterized as an informal and unofficial communication mechanism.
- The **advantages of grapevine communication** are mentioned below:
 - **Rapid message** delivery is possible within the company.
 - It can enhance staff **members' grasp** of the company's **culture.**
 - It can foster a sense of **belonging among workers.**

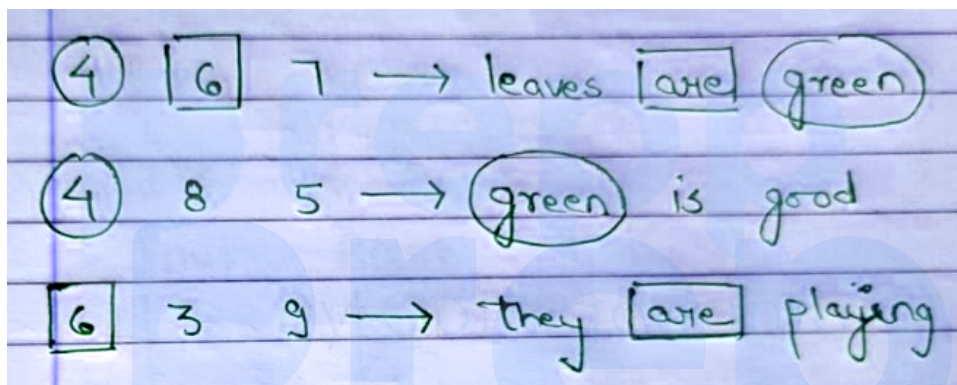
- It provides an **emotional outlet for staff members**.
- Quick **feedback** can be obtained
- The grapevine method helps a lot in resolving several **issues and boosting up the relationship**

Thus, the advantage of grapevine communication is Knowing the morale in the organization, knowing the important issues faced by the employees and Assessment of employee anxieties .

31. Answer: b

Explanation:

According to the given information:



The codes in tabular form :

Words	Codes
leaves	7
are	6
green	4
is	8 or 5
good	5 or 8
they	3 or 9
playing	9 or 3

Thus, the code for 'leaves' is '7'.

Hence, the correct answer is "7".

32. Answer: a

Explanation:

Communication is transferring information or messages from one person or group to another.

★ Key Points

Non-verbal cues:

- On the basis of channels, Communication can be divided into two types Verbal and Nonverbal communication.
- **Nonverbal** communication is a means of communication without using words.
- It can be inferred from someone's physical appearance such as **sounds, gestures and facial expressions**.
- Interpersonal communication is an informational exchange between two or more people.
- It can be Verbal or **Non-verbal**, Informal or Formal.
- It is effective because it provides **immediate feedback**.

Thus, In face-to-face communication, the non-verbal cues provided by the receiver can be considered feedback.

★ Additional Information

- Face-to-face communication has been demonstrated to promote mental health.

33. Answer: b

Explanation:

Communication across cultural barriers is challenging and difficult.

★ Key Points

- Every culture has established norms that its people abide by.
- Suggestions for communication with people from different cultures can be:
 - Study the culture before you arrive
 - Expect variations
 - Recognize hierarchies
 - Promote mutual respect
 - Be honest when expressing communication problems.
 - Be tolerant and respectful
 - Always state facts

Thus, The correct answer is C, D and E only

★ Additional Information

- A cultural barrier is a problem that results from miscommunication between sender and recipient due to cultural differences.

34. Answer: a

Explanation:

The National Council for Teacher Education (NCTE) is a statutory body.

★ Key Points

National Council of Teacher Education Act, 1993:

- It was established under the National Council for Teacher Education Act, of 1993.
- It was **established** in **1995** to formally regulate standards, practices, and processes in the Indian educational system.
- It serves as a resource for both the centre and state governments on matters pertaining to teacher education.
- It is located in the **Department of Teacher Education and the National Council of Educational Research and Training (NCERT)**.

Thus, in pursuance of the National Council of Teacher Education Act, of 1993, NCTE was established in the year 1995.

★ Additional Information

- Its objective is to ensure the planned and coordinated development of the nation's teacher preparation system.
- Its role is to control and correctly maintain the norms and standards in the system of teacher preparation.

35. Answer: a

Explanation:

Indian philosophical and epistemological traditions served as the sole foundation for the development of ancient Indian education.

★ Key Points

- The ancient Indian educational system was created to meet both individual and societal demands, making its development natural.
- The enduring and unending sources of Indian civilization and culture were the ancient educational institutions.

Universities	Situation
Takshashila	Takshashila was a renowned centre of learning that included Buddhist religious teachings.
Vikramshila	Vikramshila was built in the eighth century in Northern Magadh by the renowned Emperor Dharampala of the Pal dynasty.
Jagaddala	It was a Buddhist monastery and centre of study. It is in Varendra now part of Bangladesh..
Odantapuri	This was founded in Magadha by Dharmapala of the Pala dynasty in the latter half of the eighth century.
Nalanda	Nalanda was a renowned cultural and intellectual hub of Northern India.

Thus, some of the most notable universities that evolved during the ancient period in India were situated at Takshashila, Vikramshila, Jagaddala, Odantapuri and Nalanda.

★ Additional Information

- There were three different sorts of institutions at that time Gurukulas, Parishads (Academies), and Sammelans (Conferences).

36. Answer: a

Explanation:

Water bodies are collections of water on the surface of the Earth.

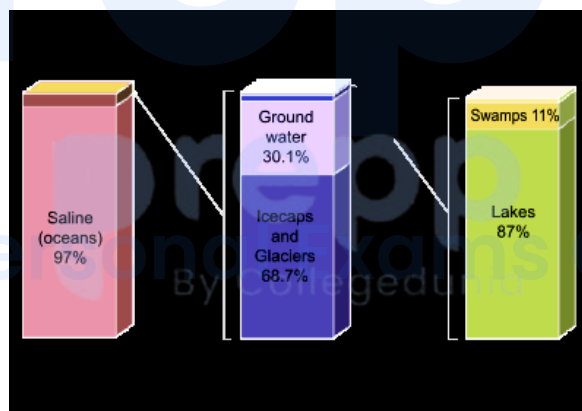
★ Key Points

Fresh Water:

Freshwater on the land surface is a vital part of the water cycle for everyday human life. On the landscape, freshwater is stored in rivers, lakes, reservoirs, creeks, and streams. Most of the water people use everyday comes from these sources of water on the land surface.

- The term is most frequently used in reference to oceans, seas, and lakes.
- It can also refer to smaller water bodies like ponds, marshes, or less frequently, puddles.
- Water bodies in increasing order of the quantity of freshwater:
 1. Rivers and streams
 2. Freshwater lakes and reservoirs
 3. Groundwater
 4. Ice and snow
- The Earth is covered with 70% water.

★ Important Points



The World's Water – Distribution of Earth's Water

- About 71 percent of the Earth's surface is water-covered, and the **oceans** hold about 96.5 percent of all Earth's water. Water also exists in the air as water vapor, in rivers and lakes, in icecaps and glaciers, in the ground as soil moisture and in aquifers, and even in you.
- In the first bar, **notice how only 2.5 percent of Earth's water is freshwater.**
- The middle bar shows the breakdown of freshwater. Almost all of it is locked up in ice and in the ground.
- Only a little more **than 1.2 percent of all freshwater is surface water.**
- **The right bar shows the breakdown of surface freshwater. Most of this water is locked up in ice, and another 20.9 percent is found in lakes.**
- **Rivers make up 0.49 percent of surface freshwater.**
- Although rivers account for only a small amount of freshwater, this is where humans get a large portion of their water from.

Thus, the correct answer is D, B, C, A.

37. Answer: a

Explanation:

Nyaya philosophy is a system of logical realism.



Key Points Assertion A: According to classical Indian Logicians (Naiyayikas), all fallacies are material fallacies.

- The fallacy is known as **Hetvabhasa** in Indian logic.
- According to Nyaya School, there are **five different** types of fallacies considered to be **material fallacies**.
- **Material fallacies** occur when the reasoning is flawed due to a mistake about the topic under discussion.

So, Assertion is true

Reason R: According to Nyaya, Syllogism is deductive-inductive and formal-material.

- The Nyaya syllogism is **formal-material and deductive-inductive**.
- The Nyaya syllogism acknowledges that verbal form is simply necessary to assure others.
- It does not constitute the substance of a conclusion.

Thus, Reason is true.

Therefore, Both A and R are true and R is the correct explanation of A.

38. Answer: c

Explanation:

Education nourishes personality by improving all aspects of life as physical, mental, spiritual, vital, emotional, social, and cultural.

★ **Key Points**

Concepts	Main Proponent
Self-education through the development of individuality	• Maria Montessori was the first Italian woman to earn a medical degree. • She became interested in children's illnesses and the needs of those deemed to be ineducable. • She gives the concept of Self-education through the development of individuality • Self-education is one of the most important conditions of lifelong learning and has become a real need of each person
Integral education	• Integral education is a full-fledged educational system. • It fosters the growth of physical, psychological, spiritual, and vital components of personality. • The integral education concept was given by Sri Aurobindo.
Education to transform the human mind	• J. Krishnamurti was an Indian philosopher. • He said that Education transforms the human mind. • He argues that efforts should be made to awaken a child's intelligence so that he is able to deal with difficulties in life.
Basic education (Wardha Education System)	• In 1937, Mahatma Gandhi developed a special schooling programme. • The Wardha Education Plan was the name given to it. • It is also known as Nai Talim. • Wardha can be designated as the pioneer center of skill education in India. • The following schemes are implemented under the Directorate of Vocational Education and Training Department. Craftsman Training Scheme.

Therefore, A - III, B - I, C - IV, D - II is the correct matching.

39. Answer: a

Explanation:

Given: 2, 10, 30, 68, 130, 222, ?

The logic follows here is:

Calculation:

$$1^3 + 1 = 2$$

$$2^3 + 2 = 10$$

$$3^3 + 3 = 30$$

$$4^3 + 4 = 68$$

$$5 \times 3 + 5 = 130$$

$$6 \times 3 + 6 = 222$$

$$7 \times 3 + 7 = 350$$

Hence, the correct answer is "350".

40. Answer: c

Explanation:

A logical fallacy is a mistake in reasoning that reduces the strength and persuasiveness of your argument.

★ Key Points

- There are two main types of fallacies: Formal fallacy and informal fallacy.
- An informal fallacy is an error in the form, content, or context of the argument.
- Ignoratio elenchi also known as the **irrelevant conclusion**, is an informal fallacy.
- Irrelevant conclusion in which an argument may or may not be logically acceptable and sound but **fails to address the subject in question**.
- The above argument removes the hunger for knowledge we have to find **solutions** but the arguer draws the conclusion "one should stick to the food" is **not a logical conclusion** at all.

Thus, the Ignoratio elenchi (irrelevant conclusion) fallacy is committed in this argument.

★ Additional Information

- False Dilemma is an informal fallacy based on a presumption that incorrectly restricts the options that are accessible.
- Begging the Question is an error in logic where the premises of an argument are predicated on the validity of the conclusion.
- Appeal to Emotion is the manipulation of the recipient's emotions in order to win an argument in the absence of factual evidence.

41. Answer: d

Explanation:

Approaches are frameworks to study phenomena.

★ Key Points

Research Perspective	Discipline
Phenomenology	- Phenomenology is the study of structures of consciousness as they are encountered in the first-person perspective. - It is a major approach in philosophy.
Ethnography	- A subfield of anthropology called ethnography is the systematic study of particular civilizations. - Ethnography investigates cultural phenomena from the viewpoint of the research subject.
Ethnomethodology	- Ethnomethodology is the study of how social interaction and social processes result in social order. - It is a major approach in Sociology.
Symbolic interactionism	- Symbolic interaction assumes that humans exist in both the physical environment and the symbolic environment. - Symbolic interactionism is a major theoretical perspective in social psychology.

Therefore, A-IV, B - I, C - II, D - III is correct matching.

42. Answer: c

Explanation:

Malware is any programme that purposefully attacks a computer, network, or server.

★ Key Points

Malware :

- Malware** is able to infect networks and devices and is designed with the intention of negatively affecting such devices, networks, and/or their users.
- Examples of Malware are **Computer viruses, worms**, Trojan horse ransomware, and spyware.
- These harmful applications steal, encrypt, and erase private information.
- They also change or hijack fundamental computer operations and track end users' online behaviours.

Thus, Worms and Viruses are two examples of malware.

★ Additional Information

- Malware can have terrible effects in some situations while having very minor and innocuous ones in others.
- This harm may manifest itself to the user or endpoint in many ways depending on the type of malware and its objective.

43. Answer: c

Explanation:

Visual communication allows for real-time voice and video material transfer between two or more people.

★ Key Points

Video-conferencing system:

- There are two types of video conferencing that have emerged: point-to-point conferencing and multipoint conferencing.
- The essential component required for a video-conferencing system are:
 - Desktop or laptop computer
 - Web camera
 - Microphone
 - Speakers or Headphones
 - High-speed internet access
 - Account with a video conferencing service.

Thus, the Telephone is not an essential component required for the video-conferencing system.

★ Additional Information

- VoIP technology is mainly used in video conferencing software to transport audio and video signals.

44. Answer: a

Explanation:

Data collection is the act of acquiring and measuring information.



Key Points Statement I: The qualitative data are powerful because they are collected from very sensitive social, historical and temporal context.

- Qualitative data is descriptive and conceptual information gathered through **surveys, interviews, or observation**.
- It is collected from text, audio and images and shared through data visualization tools.
- These data are **very sensitive in a social, historical and temporal context**.

Thus, Statement I is true.

Statement II: Context sensitivity cannot be completely removed from the qualitative data.

- The context-sensitivity of data-gathering processes, and the method's alignment with the application context.
- Context-sensitive research puts findings in a social, historical, and temporal context.
- It **cannot be completely** removed from qualitative data.

So, Statement II is true.

Therefore, Both Statement I and Statement II are true.

45. Answer: b

Explanation:

Digital computers are able to solve issues by processing data in discrete forms.

★ Key Points

- The four fundamental functional components of a digital computer system are the Input device, Output device, Main memory and Central Processing Unit.
- Central Processing Unit is the brain of the computer.
- The Central Processing Unit have **Six** main Components:
 - **C**ontrol unit (CU)
 - **A**rithmetic logic unit (ALU)
 - **R**egisters
 - **C**ache
 - **B**uses
 - **C**lock
- All processing for any attached peripheral devices was likewise finished by the central processing unit.

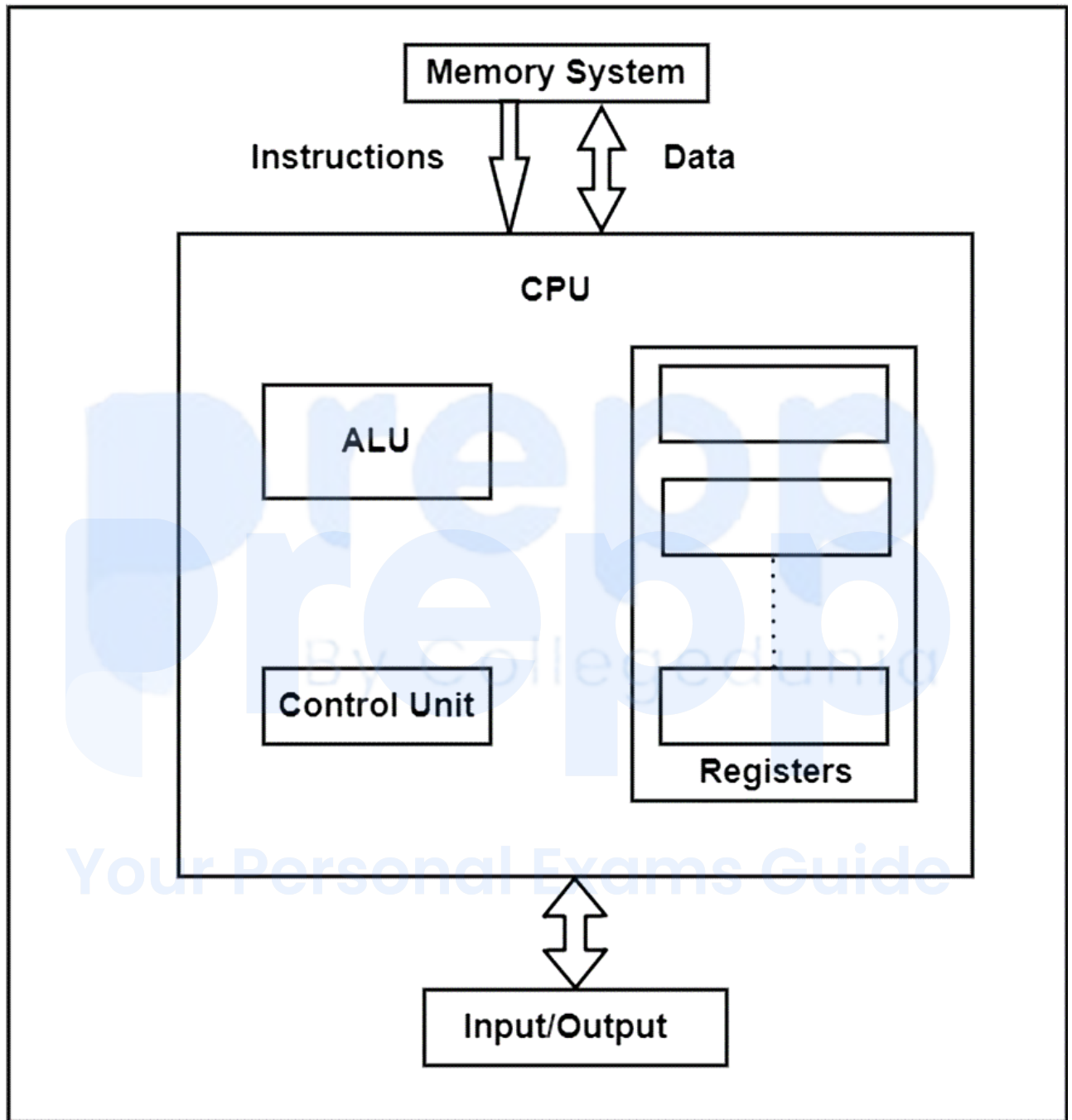
Thus, ALU (Arithmetic-Logic Unit), CU (Control Unit) and Processor Registers are the principal components of the CPU of a computer system.

★ Additional Information

- Solid-State Drive is a non-volatile storage media that stores constant data on solid-state flash memory.
- VRAM (Video RAM) is RAM that is used to store image data for a computer display.

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Components of CPU



46. Answer: b

Explanation:

The correct answer is "Radium"

★ [Key Points](#)

- Let's consider the following statement from the passage.
 - Together with her husband, Pierre, **she discovered radium, an element widely used for treating cancer**, and studied uranium and other radioactive substances.
- From the highlighted part of the above statement it is clear that, Radium is widely used in treatment of Cancer.

Therefore, the correct answer is **Option 2**.

47. Answer: a

Explanation:

The correct answer is **"11 years"**

★ Key Points

- Let's consider the following statement from the above passage.
 - Marie and Pierre were married in **1895** and spent many productive years working together in the physics laboratory. A short time after they discovered radium, Pierre was killed by a horse-drawn wagon in **1906**.
- They were **married in 1895**, and her husband Pierre was **killed in 1906**. It means After **11** her husband was killed.

Thus, the correct answer is **Option 1**.

48. Answer: a

Explanation:

The correct answer is **"36 years"**

★ Key Points

- Let's consider the following points from the passage.
 - Marie was born in Warsaw, Poland on 7 November **1867**, the daughter of a Physics teacher.
 - Together with her husband Pierre, she was awarded the Noble Prize for Physics in **1903**.
- From the above statement it is clear that she was **born in 1867**. And, she was awarded **her first Nobel prize in 1903**. It means she was **36 years old** when she received her first Nobel prize.

Thus, the correct answer is **Option 1**.

49. Answer: a

Explanation:

The correct answer is **" University in Warsaw did not allow her admission."**

★ Key Points

- Let's consider the following points from the passage.

- She became disgruntled, however, when she learned that **the university in Warsaw was closed to women**. Determined to receive a higher education, **she defiantly left Poland and in 1891 entered the Sorbonne, a French University**, where she earned her master's degree and doctorate in Physics.
- From the highlighted part of the above statement it is clear that the university in Warsaw was closed to women and so she was not allowed to study in Warsaw. This made her study at Sorbonne university.

Therefore, the correct answer is **Option 1**.

50. Answer: b

Explanation:

The correct answer is " **had indomitable spirit and dedication to science.**"

★ Key Points

- The passage shows that Marrie Curie to be a great scientist **who had indomitable spirit and dedication to science**.
- The passage states that Marie Curie displayed a brilliant mind and a determined personality from an early age. She was determined to receive a higher education and defiantly left Poland to attend the Sorbonne. She and her husband Pierre worked together in the physics laboratory and made important discoveries. Despite her husband's death and her own later illness, she continued to work as a professor and never became disillusioned about her work. She dedicated herself to science and to revealing the mysteries of the physical world.
- *Therefore, the passage portrays Marie Curie as having an indomitable spirit and dedication to science.*

Thus, the correct answer is **Option 2**

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