

DSSSB PRT MBT Date 19-02-2026

Q.1 Choose which one is NOT true for base?

- A. Turns blue litmus red
- B. Turns red litmus blue
- C. Furnishes OH^- in aqueous medium/molten state
- D. Bitter in taste

Answer: A

Sol: The correct answer is (A) Turns blue litmus red

Explanation:

- Bases do **not** turn blue litmus red; this is the property of acids.
- Bases turn **red litmus blue**.
- They release **OH^- ions** in aqueous or molten state.

Information Booster:

- Bases feel **soapy** to touch.
- Strong bases include NaOH, KOH.
- pH of a base is **greater than 7**.
- Bases react with acids to form **salt and water** (neutralization).
- Many bases taste **bitter**, but tasting is unsafe in labs.

Additional Knowledge:

- Furnishes OH^- in water – Definition of Arrhenius base.
- Bitter taste – General characteristic of bases.

Q.2 When was the Sadharan Brahmo Samaj of Calcutta founded?

- A. 1866
- B. 1884
- C. 1878
- D. 1892

Answer: C

Sol: Correct Answer: (c)

Explanation:

- The **Sadharan Brahmo Samaj** was founded on **May 15, 1878**, in Calcutta.
- It was established by a faction of the Brahmo Samaj led by prominent leaders like **Ananda Mohan Bose, Shibnath Shastri**, and **Dwarkanath Ganguly**.
- This group broke away from Keshab Chandra Sen's "Brahmo Samaj of India" due to ideological differences and dissatisfaction with his leadership style.

Information Booster:

- The immediate trigger for the split was the **Cooch Behar Marriage Controversy**. Keshab Chandra Sen married his underage daughter (below 14 years) to the Maharaja of Cooch Behar, violating the very act (Native Marriage Act of 1872) he had campaigned for.
- The word "Sadharan" (General) emphasized that this new Samaj was to be a democratic organization, governed by the general body of members rather than a single charismatic leader.

Additional Knowledge:

- **1866:** This year marks the **first split** in the Brahmo Samaj. Keshab Chandra Sen left the original body (led by Debendranath Tagore) to form the **Brahmo Samaj of India**, while Tagore's group became known as the **Adi Brahmo Samaj**.
- **1884:** This year marks the death of Keshab Chandra Sen. Following his death, his specific faction evolved into the Navavidhan (New Dispensation).
- **1828:** For context, the original Brahmo Sabha was founded by Raja Ram Mohan Roy in this year.

Q.3 Who won the BBC Indian Sportswoman of the Year (ISWOTY) 2025 award?

- A. Divya Deshmukh
- B. Preethi Pal
- C. Anjali Bhagwat
- D. Smriti Mandhana

Answer: D

Sol: Correct Answer: (d) Smriti Mandhana

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Explanation:

- Smriti Mandhana won the **BBC Indian Sportswoman of the Year (ISWOTY) 2025** for her exceptional cricketing performance.
- She scored **434 runs in the ICC Women's World Cup 2025** as vice-captain and also captained **RCB to their second WPL title**, making her the standout performer.

Information Booster:

- Event: 6th edition of BBC ISWOTY Awards
- Held in: New Delhi, February 2026
- Purpose: To recognize achievements of Indian sportswomen
- Other awardees:
 - Emerging Player: Divya Deshmukh
 - Para-Sportswoman: Preethi Pal
 - Lifetime Achievement: Anjali Bhagwat
- BBC details:
 - Director-General: Timothy Douglas Davie
 - HQ: London, UK
 - Established: 1922

Additional Knowledge:

- Divya Deshmukh → Emerging Player of the Year 2025
- Preethi Pal → Para-Sportswoman of the Year 2025
- Anjali Bhagwat → Lifetime Achievement Awardee

Q.4 Centralised planning influenced India's industrial strategy for decades. Under which five-year plan were small-scale industries given specific protection and incentives?

- A. Fourth Plan
- B. Fifth Plan
- C. Third Plan
- D. Second Plan

Answer: D

Sol:

The correct answer is (d). **Second Plan**

Explanation:

- The **Second Five-Year Plan (1956–1961)**, guided by the Mahalanobis model, emphasized heavy industries but also provided specific **protections for small-scale industries**.
- It recognized that small-scale and cottage industries were vital for increasing employment and ensuring a more equitable distribution of national income.
- Specific incentives and reservations for products were introduced to shield them from competition with large-scale manufacturers.

Information Booster:

- The Karve Committee (1955) was instrumental in recommending the use of small-scale industries for promoting rural development.
- Small industries are labor-intensive, making them crucial for a populous nation like India.

Additional Knowledge:

- The Second Plan is often called the "Industrial and Transport Plan" due to its focus on rapid industrialization.
- It led to the establishment of major steel plants in Bhilai, Durgapur, and Rourkela.

Q.5 Which sector of the economy is mainly concerned with converting raw materials into finished goods?

- A. Primary sector
- B. Secondary sector
- C. Tertiary sector
- D. Quaternary sector

Answer: B

Sol: The correct answer is **(B) Secondary sector**

Explanation:

- The secondary sector includes industries where finished products are made from natural materials produced in the primary sector.
- It is also called the industrial or manufacturing sector.

Information Booster:

- Examples include steel factories, car manufacturing, and textile mills.

Additional Knowledge:

- Primary sector (Option A): Direct use of natural resources (Agriculture, Mining).
- Tertiary sector (Option C): Service sector (Banking, Tourism).

Q.6 What is the literacy rate of Scheduled Tribes people of India as per Census 2011?

- A. 76.23%
- B. 59.00%
- C. 84.90%
- D. 51.23%

Answer: B

Sol: The correct answer is **(B) 59.00%**.

Explanation:

According to the **Census 2011**, the literacy rate among **Scheduled Tribes (STs)** in India was **59.00%**. This rate is lower than the national average, reflecting the challenges faced by tribal communities in accessing education.

Information Booster:

- The literacy rate for Scheduled Tribes in **2011** showed a steady improvement from previous decades, but disparities remain due to factors like **geographical isolation, economic constraints, and lack of educational infrastructure**.
- The **Scheduled Tribes** population primarily resides in **rural and remote** areas, which often face challenges in education access.

Scheduled Castes (SCs):

- The literacy rate of **Scheduled Castes** in India was reported as **66.1%** in **Census 2011**, reflecting different challenges compared to Scheduled Tribes.

General Literacy Rate:

- The overall literacy rate of India, according to **Census 2011**, was **74.04%**, with higher rates for urban areas and among the general population compared to marginalized communities like Scheduled Tribes.

Q.7 The 'Handball at School' initiative launched in 2025 to promote handball at the grassroots level in India is a collaboration between which organisations?

- A. Ministry of Youth Affairs and Sports and National Handball Federation
- B. Indian Olympic Association and Sports Authority of India
- C. All India School Sports Federation and Handball Association of India
- D. International Handball Federation and Asian Handball Federation

Answer: D

Sol:

The correct answer is (d) International Handball Federation and Asian Handball Federation

Explanation:

• The 'Handball at School' initiative is a collaborative effort between the **International Handball Federation (IHF)** and the **Asian Handball Federation (AHF)**.

• The program aims to integrate handball into school curriculums across India to identify talent at a young age.

• It focuses on providing training for physical education teachers and distributing specialized equipment to schools.

Information Booster:

• Grassroots development is key to improving India's global ranking in team sports like handball.

• The IHF provides the technical expertise and curriculum standards for the initiative.

Additional Knowledge:

• Handball is one of the fastest Olympic sports, combining elements of basketball, soccer, and netball.

• India has seen a rise in the popularity of handball following the launch of professional leagues in recent years.

Q.8 Which AI-driven anti-drone system was deployed at India's largest naval port in Karnataka in May 2025 to protect critical infrastructure?

- A. Indrajal Infra
- B. DroneShield
- C. AeroGuard
- D. SkyNet

Answer: A

Sol: The correct answer is **(A) Indrajal Infra**

Explanation:

- Indrajal is India's first indigenous autonomous wide-area anti-drone system, developed by Grene Robotics.
- In May 2025, an 'Infra' version was deployed at the Karwar Naval Base (Project Seabird) to counter aerial threats from rogue drones.

Information Booster:

- It can protect areas up to 4000 sq. km against all classifications of drones (micro, mini, small, etc.).

Additional Knowledge:

- Project Seabird: Located in Karwar, Karnataka, it is the largest naval infrastructure project in India.

Q.9 Which Article of the Indian Constitution deals with the special address by the President to the parliament?

- A. 87
- B. 81
- C. 79
- D. 85

Answer: A

Sol: The correct answer is: **A) 87**

Explanation:

- **Article 87** of the Indian Constitution provides for the **special address by the President to the Parliament**.
- At the commencement of the **first session after each general election** to the Lok Sabha and at the beginning of the **first session of each year**, the President addresses both Houses of Parliament assembled together.
- This address outlines the policies and programmes of the government.

Information Booster:

- The first Presidential address was given by **Dr. Rajendra Prasad** in **1952**.
- This address is similar to the **Speech from the Throne** in the UK.
- It sets the legislative agenda of the government for the year.
- A **motion of thanks** is discussed in both Houses after the address.
- If defeated, it is considered a **test of confidence** in the government.

Additional Knowledge:

- **Option B (81):** Deals with **representation of states in Lok Sabha**.
- **Option C (79):** States that Parliament consists of the **President, Lok Sabha, and Rajya Sabha**.
- **Option D (85):** Relates to **sessions of Parliament, prorogation, and dissolution**.

Q.10 Match the following:

- A Citric Acid 1 Basic
- B Quicklime 2 NaCl
- C Common Salt 3 Found in lemons, limes, and oranges
- D Bleaching Powder 4 CaOCl_2

A. A-1, B-3, C-2, D-4

- B. A-3, B-1, C-2, D-4
C. A-3, B-1, C-4, D-2
D. A-2, B-4, C-3, D-1

Answer: B

Sol: The Correct Answer is: **(B) A-3, B-1, C-2, D-4**

Explanation:

Citric Acid (A-3): Citric acid is an organic acid commonly found in **lemons, limes, and oranges**.

Quicklime (B-1): Quicklime (CaO) is a **basic compound** and reacts with water to form slaked lime.

Common Salt (C-2): Common salt is **sodium chloride (NaCl)**, an essential compound used in food and chemical industries.

Bleaching Powder (D-4): Bleaching powder is chemically known as **calcium oxychloride (CaOCl₂)** and is used as a disinfectant and bleaching agent.

Information Booster:

- **Citric Acid** is used in food preservation and soft drinks due to its acidity.
- **Quicklime (CaO)** is widely used in cement, mortar, and as a neutralizing agent in industries.
- **Common Salt (NaCl)** plays a crucial role in maintaining osmotic balance in living organisms.
- **Bleaching Powder (CaOCl₂)** is used for water purification.



Q.1 Pointing to a man in the picture, Abha said, "The husband of the daughter of the only son of his father is my son-in-law". How is that man's father related to Abha?

- A. Husband
- B. Father's brother
- C. Brother
- D. Father-in-Law

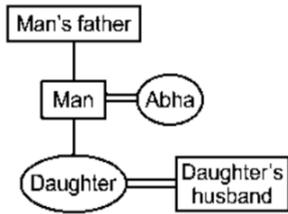
Answer: D

Sol: Given:

Pointing to a man in the picture, Abha said, "The husband of the daughter of the only son of his father is my son-in-law".

Symbol in Diagram	Meaning
- / O	Female
+ / □	Male
=	Married Couple
—	Siblings
	Difference Of Generation

From the given information family diagram will be



man's father related to Abha as Father-in-Law.

Q.2 Find the next term of the following number series:
2, 3, 10, 15, 26, ?

- A. 33
- B. 34
- C. 35
- D. 36

Answer: C

Sol: Given: 2, 3, 10, 15, 26, ?

Logic: The series follows an alternating pattern using squares with **+1** and **-1**.

$$1^2 + 1 = 2$$

$$2^2 - 1 = 3$$

$$3^2 + 1 = 10$$

$$4^2 - 1 = 15$$

$$5^2 + 1 = 26$$

$$6^2 - 1 = 35$$

Solution: The next term is obtained by

$$6^2 - 1 = 35$$

The correct answer is (c) 35.

Q.3 What should come in place of the question mark (?) in the given series?

MW144, KT121, IQ100, ?

- A. FM81
- B. GN81

- C. GN72
- D. FN99

Answer: B

Sol: Given:

Series: MW144, KT121, IQ100, ?

1	2	3	4	5	6	7	8	9	10	11	12	13
A	B	C	D	E	F	G	H	I	J	K	L	M
Z	Y	X	W	V	U	T	S	R	Q	P	O	N
26	25	24	23	22	21	20	19	18	17	16	15	14

Logic:

Observe two patterns separately: Letter – 1st - 2 and 2nd - 3

Letter Pattern

First letters: M → K → I

Each step moves **2 letters backward** in the alphabet:

M(13) → K(11) → I(9) → **G(7)**

Second letters: W → T → Q

Each step moves **3 letters backward:**

W(23) → T(20) → Q(17) → **N(14)**

So next pair of letters = **GN**

Number Pattern

144 = 12²

121 = 11²

100 = 10²

Next number = 9² = **81**

next turn will be - GN81

The correct answer is **(B)**.

Q.4 Select the set in which the numbers are related in the same way as are the numbers of the following sets.

(NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into their constituent digits. E.g. 13 – Operations on 13 such as adding to/subtracting from/multiplying with 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.)

(36, 27, 41)

(45, 36, 50)

A. (74, 65, 89)

B. (61, 52, 56)

C. (28, 19, 43)

D. (53, 44, 58)

Answer: D

Sol: Given:

(36, 27, 41)

(45, 36, 50)

Logic: 1st number - 9 = 2nd number, 2nd number + 14 = 3rd number

For, (36, 27, 41)

36 - 9 = 27, 27 + 14 = 41

For, (45, 36, 50)

45 - 9 = 36, 36 + 14 = 50

Now, we check each options.

Option (a): (74, 65, 89) **(Not Follow)**

74 - 9 = 65, 65 + 14 ≠ 89

Option (b): (61, 52, 56) **(Not Follow)**

61 - 9 = 52, 52 + 14 ≠ 56

Option (c): (28, 19, 43) **(Not Follow)**

28 - 9 = 19, 19 + 14 ≠ 43

Option (d): (53, 44, 58) **(Follow)**

53 - 9 = 44, 44 + 14 = 58

Thus, correct option is (d).

Q.5 Choose the correct alternative that will continue the same pattern and replace the question mark (?) in the given letter - cluster series.

HMS, MTB, SBL, ZKW, ?

- A. HVX
- B. HUI
- C. KVL
- D. HMW

Answer: B

Sol: Given:

HMS, MTB, SBL, ZKW, ?

Logic:

Alphabetical jumps increase step-by-step for each letter position.

1	2	3	4	5	6	7	8	9	10	11	12	13
A	B	C	D	E	F	G	H	I	J	K	L	M
Z	Y	X	W	V	U	T	S	R	Q	P	O	N
26	25	24	23	22	21	20	19	18	17	16	15	14

Explanation:

1st letters:

H + 5 → M

M + 6 → S

S + 7 → Z

Z + 8 → H

2nd letters:

M + 7 → T

T + 8 → B

B + 9 → K

K + 10 → U

3rd letters:

S + 9 → B

B + 10 → L

L + 11 → W

W + 12 → I

So, the missing letter cluster is **HUI**.

Thus, correct option is (a).

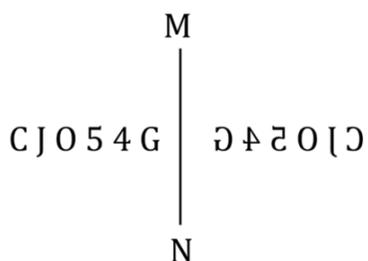
Q.6 Select the correct mirror image of the given figure when the mirror is placed at MN as shown below.



- A. C 4 2 0 | C
- B. C 4 2 0 | C
- C. C 4 5 0 | C
- D. C 4 5 0 | C

Answer: B

Sol: The mirror image of the given letter/ number as shown below.



Letters	Mirror Images						
a	ɹ	h	ɹ	o	o	v	v
b	d	i	i	p	q	w	w
c	ɔ	j	j	q	p	x	x
d	b	k	ɹ	r	ɹ	y	ɹ
e	ɹ	l	l	s	z	z	z
f	ɹ	m	m	t	ɹ		
g	ɹ	n	n	u	u		

Letters	Mirror Images						
A	ɹ	H	ɹ	O	O	V	V
B	d	I	I	P	q	W	W
C	ɔ	J	j	Q	p	X	X
D	b	K	ɹ	R	ɹ	Y	ɹ
E	ɹ	L	l	S	z	Z	z
F	ɹ	M	m	T	ɹ		
G	ɹ	N	n	U	u		

Numbers	Mirror Images	Numbers	Mirror Images	Numbers	Mirror Images
1	1	4	4	7	7
2	5	5	2	8	8
3	ɹ	6	ɹ	9	6

Thus, correct option is (b).

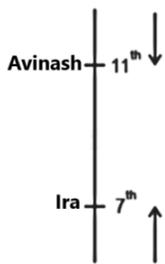
Q.7 Avinash is ranked 11th from the top in the class and Ira is ranked 7th from the bottom. If their positions get interchanged, Avinash will rank 15th from the top and Ira is ranked 11th from the bottom. How many total students appeared for the exams?

- A. 23
- B. 20
- C. 21
- D. 22

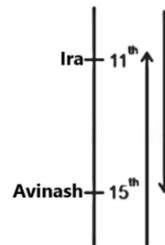
Answer: C

Sol: Given:

Avinash is ranked 11th from the top in the class and Ira is ranked 7th from the bottom.



If their positions get interchanged, Avinash will rank 15th from the top and Ira is ranked 11th from the bottom.



Total students appeared for the exams:

$$= \text{Ira's rank from the bottom} + \text{after interchanged position of Avinash's rank from the top} - 1$$

$$= 7 + 15 - 1$$

$$= 21$$

So, **21** total students appeared for the exams.

Thus, correct option is (c).

Q.8 If NOTE is written as PQVG, how is BOOK written?

- A. DQQM
- B. CPPK
- C. EQQN
- D. CRRL

Answer: A

Sol: Given: If NOTE is written as PQVG.

1	2	3	4	5	6	7	8	9	10	11	12	13
A	B	C	D	E	F	G	H	I	J	K	L	M
Z	Y	X	W	V	U	T	S	R	Q	P	O	N
26	25	24	23	22	21	20	19	18	17	16	15	14

Logic: Letters are increasing + 2 place.

For, NOTE - PQVG

$$N + 2 = P, O + 2 = Q, T + 2 = V, E + 2 = G$$

Similarly,
BOOK - ?
 $B + 2 = D, O + 2 = Q, O + 2 = Q, K + 2 = M$
So, BOOK is written as **DQQM**.
Thus, correct option is (a).

Q.9 The given question is based on the following information:

A @ B means 'A is husband of B'

A # B means 'A is sister of B'

A * B means 'A is mother of B'

A © B means 'A is son of B'

Which of the following indicates the relationship 'T is daughter of V'?

- A. V*D#T©H
- B. V*D#H©T
- C. T#H©D*V
- D. T#H©D@V

Answer: D

Sol: Given:

A @ B means 'A is husband of B'

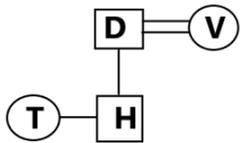
A # B means 'A is sister of B'

A * B means 'A is mother of B'

A © B means 'A is son of B'

Symbol in Diagram	Meaning
- / ○	Female
+ / □	Male
=	Married Couple
—	Siblings
	Difference Of Generation

Option (d) T#H©D@V



'T is **daughter** of V'.
Thus, correct option is (d).



Q.10 Five houses A, B, C, D and E are in a line. House A is to the right of B, E is to the left of C and right of A, and B is to the right of D. Which house is in the middle?

- A. D
- B. C
- C. B
- D. A

Answer: D

Sol: Given:

Five houses A, B, C, D and E are in a line.

House A is to the right of B,

E is to the left of C and right of A,

and B is to the right of D.



House A is in the middle.
Thus, correct option is (d).

Q.1 A cylindrical vessel of radius 8 cm is partly filled with water. A sphere of radius 6 cm is completely immersed in the water. By how much will the water level rise?

- A. 4.5 cm
- B. 3.5 cm
- C. 3.8 cm
- D. 4.8 cm

Answer: A

Sol: Given:

Radius of cylinder (R) = 8 cm

Radius of sphere (r) = 6 cm

Formula Used:

Volume of cylinder rise = $\pi R^2 h$

Volume of sphere = $\frac{4}{3}\pi r^3$

Volume of water displaced = Volume of sphere

Solution:

$$\pi R^2 h = \frac{4}{3}\pi r^3$$

Canceling π from both sides:

$$R^2 h = \frac{4}{3}r^3$$

$$(8)^2 \times h = \frac{4}{3} \times (6)^3$$

$$64 \times h = \frac{4}{3} \times 216$$

$$64h = 4 \times 72$$

$$64h = 288$$

$$h = \frac{288}{64}$$

$$h = 4.5 \text{ cm}$$

Final Answer

4.5 cm

Q.2 Find the simple interest on Rs. 18,000 at 8.5% per annum for a period of 3 years.

- A. Rs. 4650
- B. Rs.4950
- C. Rs.4509
- D. Rs. 4590

Answer: D

Sol: Given :

Principal = Rs. 18000

Rate of interest = 8.5% per annum

Time = 3 years

Formula Used :

$$\text{Simple Interest} = \frac{P \times R \times T}{100}$$

Solution :

$$\text{Simple Interest} = \frac{18000 \times 8.5 \times 3}{100}$$

$$= 180 \times 8.5 \times 3$$

$$= 4590$$

Final Answer :

Rs. 4590

Q.3 In how much time will Rs. 1600 increase to Rs. 1852.20 at 5% compound interest rate?

- A. 2 Year
- B. 3 Year
- C. 4 Year
- D. None of these

Answer: B

Sol: Given:

$$P = ₹1600,$$

$$A = ₹1852.20,$$

$$r = 5\% = 0.05,$$

$$t = ?$$

Formula used:

$$A = P \left(1 + \frac{r}{100}\right)^t$$

$$\Rightarrow \left(1 + \frac{r}{100}\right)^t = \frac{A}{P}$$

Solution:

$$\left(1 + \frac{5}{100}\right)^t = \frac{1852.20}{1600} = 1.157625$$

$$(1.05)^t = 1.157625 \Rightarrow t = 3$$

Correct answer is (b) **3**.

Q.4 Two pipes, P and Q, can together fill a cistern in 4 hours. If pipe P alone can fill the cistern in 8 hours, then how long (in hours) would pipe Q alone take to fill the cistern?

- A. 9
- B. 8
- C. 7
- D. 10

Answer: B

Sol: Given:

$$\text{Time}(P + Q) = 4 \text{ hrs}$$

$$\text{Time}(P) = 8 \text{ hrs}$$

Concept Used:

$$\text{Rate} = \frac{1}{\text{Time}}$$

Solution:

$$\text{Rate}(P + Q) = \frac{1}{4}$$

$$\text{Rate}(P) = \frac{1}{8}$$

$$\text{Rate}(Q) = \text{Rate}(P + Q) - \text{Rate}(P)$$

$$\text{Rate}(Q) = \frac{1}{4} - \frac{1}{8} = \frac{2-1}{8} = \frac{1}{8}$$

$$\text{Time for Q alone} = 8 \text{ hrs}$$

Exam-Hall Method:

$$T_Q = \frac{xy}{y-x} = \frac{4 \times 8}{8-4} = \frac{32}{4} = 8.$$

So the correct answer is (b)

Q.5 If P:Q = 3:4 and Q:R = 5:7 then (P+Q)² : (Q+R)² is:

- A. 2312:2581
- B. 2512:2304
- C. 1225:2304
- D. 1225:2204

Answer: C

Sol: Given:

$$P:Q = 3:4$$

$$Q:R = 5:7$$

Solution:

Equalize the value of Q in both ratios.

Multiply first ratio by 5: P:Q = 15:20

Multiply second ratio by 4: Q:R = 20:28

So, P:Q:R = 15 : 20 : 28.

Substitute values into (P+Q)² : (Q+R)²:

$$(15 + 20)^2 : (20 + 28)^2$$

$$(35)^2 : (48)^2$$

$$1225 : 2304$$

So the correct answer is c

Q.6 The average of first 10 multiples of 11 is _____.

- A. 60.5
- B. 55.5
- C. 60
- D. 55

Answer: A

Sol: Given :

First 10 multiples of 11 are 11, 22, 33, 44, 55, 66, 77, 88, 99, 110

Formula Used :

$$\text{Average} = \frac{\text{Sum of observations}}{\text{Number of observations}}$$

Solution :

$$\text{Sum of first 10 multiples of 11} = 11 \times (1 + 2 + \dots + 10)$$

$$= 11 \times \frac{10 \times 11}{2}$$

$$= 11 \times 55 = 605$$

$$\text{Average} = \frac{605}{10} = 60.5$$

Final Answer :

60.5

Q.7 A train overtakes two persons who are walking in the same direction in which the train is going, at the rate of 4 kmph and 6 kmph and passes them completely in 12 seconds and 15 seconds respectively. The length of the train in metres is _____.

- A. 50 meter
- B. 100/3 meter
- C. 40 meter
- D. 100 meter

Answer: B

Sol: Given:

Relative speed with first person = 4km/h

Relative speed with second person = 6km/h

$t_1 = 12s$

$t_2 = 15s$

Concept Used:

Relative speed

Formula Used:

Length = Relative speed \times Time

Solution:

$$4\text{km/h} = \frac{10}{9}\text{m/s}$$

$$6\text{km/h} = \frac{5}{3}\text{m/s}$$

Let train speed = v , length = L

$$v - \frac{10}{9} = \frac{L}{12}$$

$$v - \frac{5}{3} = \frac{L}{15}$$

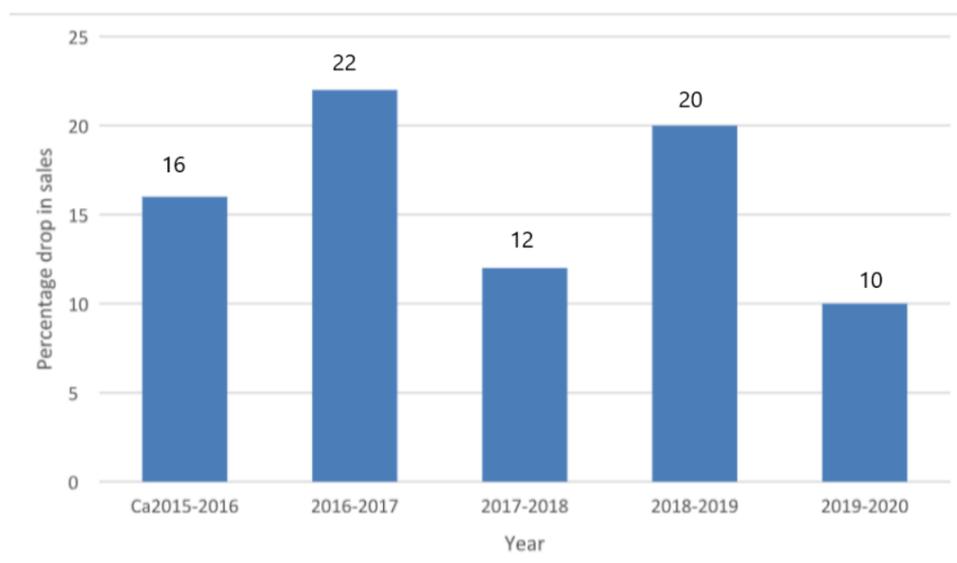
$$\frac{L}{12} + \frac{10}{9} = \frac{L}{15} + \frac{5}{3}$$

$$15L + 200 = 12L + 300$$

$$3L = 100$$

$$L = \frac{100}{3}$$

Q.8 A scooty manufacturing company's sale drops every year as shown by the graph. The company sold 250000 scooties in year 2015-16. Now the company sets a target to increase their sale by 20% in the year 2020-2021. How many scooties it has to sell in that year?



A. 148463

- B. 148663
- C. 148763
- D. 148263

Answer: D

Sol: Given:

Sales in 2015–16 = 250000

Percentage drop after 2015–16:

2016–17 = 22%

2017–18 = 12%

2018–19 = 20%

2019–20 = 10%

Target increase in 2020–21 = 20%

Concept Used:

Successive percentage decrease followed by percentage increase

Formula Used:

$$\text{New value} = \text{Old value} \times \left(1 - \frac{\text{decrease}}{100}\right)$$

$$\text{Increase} = \text{Value} \times \left(1 + \frac{\text{increase}}{100}\right)$$

Solution:

$$\text{Sales in 2016–17} = 250000 \times 0.78 = 195000$$

$$\text{Sales in 2017–18} = 195000 \times 0.88 = 171600$$

$$\text{Sales in 2018–19} = 171600 \times 0.80 = 137280$$

$$\text{Sales in 2019–20} = 137280 \times 0.90 = 123552$$

$$\text{Target for 2020–21} = 123552 \times 1.20 = 148262.4$$

Final Answer:

148263

Q.9 In an examination, 44% of students failed in quants and 38% of students failed in verbal while 32% failed in both the topics. If 350 students passed in both the topics, how many students appeared to write the examination?

- A. 600
- B. 800
- C. 900
- D. 700

Answer: D

Sol: Given:

Failed in Quants = 44%

Failed in Verbal = 38%

Failed in both = 32%

Passed in both = 350

Concept Used:

Principle of Inclusion and Exclusion

Formula Used:

$$\text{Failed in at least one} = a + b - c$$

$$\text{Passed in both} = 100\% - \text{Failed in at least one}$$

Solution:

$$\begin{aligned} \text{Failed in at least one} &= 44 + 38 - 32 \\ &= 50\% \end{aligned}$$

$$\text{Passed in both} = 100\% - 50\%$$

$$= 50\%$$

$$50\% \equiv 350$$

$$100\% \equiv \frac{350 \times 100}{50}$$

$$= 700$$

Final Answer:

700

Q.10 Three number are in the ratio of 3 : 4 : 9 and their L.C.M. is 1800. Find the greatest number.

- A. 150
- B. 450
- C. 200
- D. 550

Answer: B

Sol: Given:

Ratio of three numbers = 3 : 4 : 9

L.C.M. of the numbers = 1800

Concept Used:

L.C.M. of numbers in ratio $a : b : c$ is $\text{LCM}(a, b, c) \times x$.

Solution:

Let the numbers be $3x$, $4x$, and $9x$.

First, find the LCM of the coefficients 3, 4, and 9.

$$3 = 3^1$$

$$4 = 2^2$$

$$9 = 3^2$$

$$\text{LCM}(3, 4, 9) = 2^2 \times 3^2 = 4 \times 9 = 36$$

So, the LCM of $3x$, $4x$, $9x$ is $36x$.

Given LCM = 1800

$$36x = 1800$$

$$x = \frac{1800}{36} = 50$$

The greatest number corresponds to the largest ratio term ($9x$).

$$\text{Greatest number} = 9x = 9 \times 50 = 450$$

Final Answer

450

Q.1 'लक्ष्मण' का एक अन्य पर्यायवाची शब्द है।

- A. सुमित्रापुत्र
- B. लोकेश
- C. नरेन्द्र
- D. लंकेश

Answer: A

Sol:

सही उत्तर: विकल्प (A)

व्याख्या: लक्ष्मण को सुमित्रा के पुत्र होने के कारण 'सुमित्रापुत्र' या 'सौमित्र' कहा जाता है।

सभी विकल्पों का विश्लेषण:

विकल्प शब्द पर्यायवाची शब्द

(A) सुमित्रापुत्रलक्ष्मण (शेषशायी, अनंत)

(B) लोकेश ब्रह्मा

(C) नरेन्द्र राजा (नृप, भूप)

(D) लंकेश रावण (दशानन)

Q.2 'आविर्भाव' का सही विलोम शब्द कौन-सा है?

- A. अविर्भाव
- B. प्रादुर्भाव
- C. तिरोभाव
- D. अभाव

Answer: C

Sol:

सही उत्तर: विकल्प (C)

व्याख्या:

'आविर्भाव' का अर्थ होता है प्रकट होना, उदय होना या जन्म लेना। इसका सटीक विलोम 'तिरोभाव' है, जिसका अर्थ होता है अदृश्य हो जाना, अंत होना या ओझल होना। ये दोनों शब्द प्रायः आध्यात्मिक या साहित्यिक ग्रंथों में प्रयुक्त होते हैं।

सभी विकल्पों का विस्तृत विश्लेषण:

विकल्प विश्लेषण

(A) अविर्भाव: यह शब्द अशुद्ध वर्तनी है, 'आ' के स्थान पर 'अ' का प्रयोग गलत है।

(B) प्रादुर्भाव: यह आविर्भाव का समानार्थी शब्द है, जिसका अर्थ भी 'प्रकट होना' होता है।

(C) तिरोभाव: यह सही उत्तर है। उदय या प्रकट होने के विपरीत अदृश्य होने की क्रिया को तिरोभाव कहते हैं।

(D) अभाव: अभाव का विलोम 'प्रचुरता' या 'सद्भाव' होता है। इसका अर्थ कमी से है।

Q.3 निर्देश: नीचे दिये गये वाक्य के कुछ भाग में त्रुटि है। जिस भाग में त्रुटि हो, उस भाग का अक्षरांक (1), (2), (3) अथवा (4) ही आपका उत्तर है। आज जो नारी अपने काम-काज को (1)/ अपने बच्चों से अधिक महत्वाकांक्षी (2) / मानती है, (3)/ उसे विवाह नहीं करना चाहिए। (4)

- A. (1)
- B. (2)
- C. (3)
- D. (4)

Answer: B

Sol:

इस वाक्य के भाग (2) में एक बहुत ही स्पष्ट तार्किक अशुद्धि है।

त्रुटि का मुख्य कारण: गलत विशेषण का चुनाव

वाक्य के इस भाग में शब्द 'महत्वाकांक्षी' का प्रयोग गलत है। आइए समझते हैं क्यों:

· महत्वाकांक्षी (Ambitious): यह शब्द किसी व्यक्ति (सजीव) के स्वभाव या उसकी इच्छाशक्ति को दर्शाता है। उदाहरण के लिए— "वह एक महत्वाकांक्षी नारी है।"

· महत्त्वपूर्ण (Important): यह शब्द किसी वस्तु, कार्य या प्राथमिकता के मूल्य को दर्शाता है। यहाँ नारी अपने 'काम-काज' (Work) की तुलना अपने 'बच्चों' से कर रही है।

चूँकि 'काम-काज' कोई जीवित प्राणी नहीं है जो 'महत्वाकांक्षा' रख सके, इसलिए इसे 'महत्वाकांक्षी' कहना गलत है। यहाँ बात महत्त्व या प्राथमिकता की हो रही है।

शब्दों का सही मेल

शब्द	सही संदर्भ	उदाहरण
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महत्वाकांक्षी व्यक्तियों के लिए रानी एक महत्वाकांक्षी उद्यमी है।

महत्त्वपूर्ण कार्यो/चीजों के लिए/उसके लिए करियर बच्चों से ज्यादा महत्त्वपूर्ण है।

शुद्ध वाक्य-

"आज जो नारी अपने काम-काज को अपने बच्चों से अधिक महत्त्वपूर्ण (2) मानती है, उसे विवाह नहीं करना चाहिए।"

Q.4 दिए गए वाक्य में उचित विशेषण का चयन करके रिक्त स्थान की पूर्ति करें।
इमली स्वाद में _____ होती है।

- A. समझदार
- B. खट्टी
- C. चतुर
- D. सुन्दर

Answer: B

Sol: सही उत्तर: विकल्प (B) - खट्टी

व्याख्या:

इमली का स्वाद खट्टी होती है, इसलिए वाक्य में 'खट्टी' विशेषण उपयुक्त है। यह इमली के स्वाद को व्यक्त करता है जो सामान्यतः खट्टा होता है।

सभी विकल्पों का विश्लेषण:

विकल्प	विश्लेषण
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(A) समझदार 'समझदार' का अर्थ होता है जो समझ रखता हो, जो इस वाक्य के संदर्भ में उपयुक्त नहीं है।

(B) खट्टी 'खट्टी' का अर्थ होता है तीखा या खट्टा, जो इमली के स्वाद के संदर्भ में सही है।

(C) चतुर 'चतुर' का अर्थ होता है जो चालाक या बुद्धिमान हो, जो यहाँ उपयुक्त नहीं है।

(D) सुन्दर 'सुन्दर' का अर्थ होता है आकर्षक या खूबसूरत, जो इस संदर्भ में सही नहीं है।

Q.5 निम्नलिखित प्रश्न में, दिए गए चार विकल्पों में से, उस विकल्प का चयन करें जो दिए गए मुहावरे के अर्थ को सर्वश्रेष्ठ रूप से व्यक्त करता है।
झाँसा देना

- A. धोखा होना
- B. भड़काना
- C. धोखा देना
- D. धोखा मिलना

Answer: C

Sol: सही उत्तर: C धोखा देना

स्पष्टीकरण:

मुहावरा "झाँसा देना" का अर्थ होता है किसी को भ्रमित कर धोखा देना या किसी को गलत जानकारी देकर लाभ उठाना। इसका उपयोग उस स्थिति में किया जाता है, जब कोई व्यक्ति जानबूझकर किसी को छलता है।

अन्य विकल्पों का विश्लेषण:

विकल्प	अर्थ	संबंध
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A. धोखा होना किसी के साथ धोखा हो जाना यह झाँसा देने का उलटा अर्थ है।

B. भड़काना किसी को उकसाना या गुस्सा दिलाना यह मुहावरे से संबंधित नहीं है।

C. धोखा देना किसी को छल करना यह "झाँसा देना" का सही अर्थ है।

D. धोखा मिलना धोखे का शिकार होना यह "झाँसा देना" का विपरीत भाव है।

वाक्य में प्रयोग:

- उस दुकानदार ने झाँसा देकर मुझे नकली सामान बेच दिया।
- राजनीतिज्ञ जनता को झाँसा देकर अपने स्वार्थ सिद्ध करते हैं।

Q.6 गद्यांश के अनुसार, एक समृद्ध जैव विविधता का निर्माण कब होता है?

नीचे दिए गए गद्यांश को ध्यानपूर्वक पढ़िए और उस पर आधारित प्रश्नों के उत्तर दीजिए। गद्यांश के अनुसार, दिए गए विकल्पों में से सबसे उपयुक्त विकल्प का चयन कीजिए।

जैव विविधता मुख्य रूप से एक मापदंड है जिसमें अलग-अलग तरह के पेड़-पौधे और पशु-पक्षी एक साथ रहते हैं। हर किस्म की वनस्पति और पशुवर्ग पृथ्वी के वातावरण को बेहतर बनाने में अपना अमूल्य योगदान देते हैं जिससे आखिरकार पृथ्वी पर जीवन समृद्धशाली बनता है। ये सभी प्रजातियाँ एक दूसरे की मूलभूत जरूरतों को पूरा करती हैं जिससे एक समृद्धशाली जैव विविधता का निर्माण होता है।

हालाँकि पिछले कई सालों से जैव विविधता को समृद्ध बनाये रखने पर जोर दिया जा रहा है परंतु फिर भी कुछ समय से इसकी गरिमा में गिरावट देखी गयी है जिसकी आने वाले समय में और भी ज्यादा गिरने की आशंका जताई जा रही है। इसके पीछे मुख्य कारण है औद्योगिक फैक्टरियों से लगातार निकलता प्रदूषण। इस प्रदूषण के कारण ही कई वनस्पतियों की और जानवरों की प्रजातियाँ विलुप्त हो गयी हैं और कई होने की कगार पर हैं। इस बदलाव का एक संकेत तो साफ़ है की आने वाले समय में हमारे गृह पृथ्वी पर बहुत ही भयंकर संकट खड़ा हो जायेगा। इससे जैव विविधता का संतुलन तो निश्चित रूप से बिगड़ेगा ही तथा मनुष्य के साथ साथ जीवजंतुओं के जीवन पर भी प्रश्नचिन्ह खड़ा हो जायेगा। सबसे पहले यह जरूरी है की हम वातावरण संबंधी मुसीबतों के प्रति अत्यंत संवेदनशील हो। कई देशों की सरकार लोगों के बीच जैव विविधता के बिगड़ते संतुलन को लेकर जागरूकता फैला रही है और कोशिश कर रही है की इस पर जल्दी काबू पाया जाये। यह आम आदमी की भी जिम्मेदारी है की वह इस नेक कार्य में हिस्सा ले और वातावरण को शुद्ध बनाने में सरकार का सहयोग करे। मनुष्य के तकनीक के प्रति बढ़ते प्रेम को कम करने की जरूरत है। वह तकनीक और नए नए अविष्कार करने में इतना मग्न हो गया है की उसे अपने आसपास के वातावरण के बढ़ते प्रदूषण से कोई लेना देना ही नहीं है। मनुष्य को इस तरफ सोचना होगा की दूषित होते वातावरण से सिर्फ उसका ही नुकसान हो रहा है।

- जब सभी प्रजातियाँ एक-दूसरे की मूलभूत जरूरतों का दोहन करती हैं
- जब सभी प्रजातियाँ एक दूसरे की मूलभूत जरूरतों को पूरा करती हैं
- जब सभी प्रजातियाँ एक दूसरे की मूलभूत जरूरतों के लिए चिंतित होती हैं
- जब सभी प्रजातियाँ अपनी मूलभूत जरूरतों को पूरा करती हैं

Answer: B

Sol: प्रस्तुत गद्यांश के अनुसार, जब सभी प्रजातियाँ एक दूसरे की मूलभूत जरूरतों को पूरा करती हैं, तो एक समृद्ध जैव विविधता का निर्माण होता है।

Q.7 गद्यांश के अनुसार, जैव विविधता के गौरव में गिरावट का मुख्य कारण क्या है?

नीचे दिए गए गद्यांश को ध्यानपूर्वक पढ़िए और उस पर आधारित प्रश्नों के उत्तर दीजिए। गद्यांश के अनुसार, दिए गए विकल्पों में से सबसे उपयुक्त विकल्प का चयन कीजिए।

जैव विविधता मुख्य रूप से एक मापदंड है जिसमें अलग-अलग तरह के पेड़-पौधे और पशु-पक्षी एक साथ रहते हैं। हर किस्म की वनस्पति और पशुवर्ग पृथ्वी के वातावरण को बेहतर बनाने में अपना अमूल्य योगदान देते हैं जिससे आखिरकार पृथ्वी पर जीवन समृद्धशाली बनता है। ये सभी प्रजातियाँ एक दूसरे की मूलभूत जरूरतों को पूरा करती हैं जिससे एक समृद्धशाली जैव विविधता का निर्माण होता है।

हालाँकि पिछले कई सालों से जैव विविधता को समृद्ध बनाये रखने पर जोर दिया जा रहा है परंतु फिर भी कुछ समय से इसकी गरिमा में गिरावट देखी गयी है जिसकी आने वाले समय में और भी ज्यादा गिरने की आशंका जताई जा रही है। इसके पीछे मुख्य कारण है औद्योगिक फैक्टरियों से लगातार निकलता प्रदूषण। इस प्रदूषण के कारण ही कई वनस्पतियों की और जानवरों की प्रजातियाँ विलुप्त हो गयी हैं और कई होने की कगार पर हैं। इस बदलाव का एक संकेत तो साफ़ है की आने वाले समय में हमारे गृह पृथ्वी पर बहुत ही भयंकर संकट खड़ा हो जायेगा। इससे जैव विविधता का संतुलन तो निश्चित रूप से बिगड़ेगा ही तथा मनुष्य के साथ साथ जीवजंतुओं के जीवन पर भी प्रश्नचिन्ह खड़ा हो जायेगा।

सबसे पहले यह जरूरी है की हम वातावरण संबंधी मुसीबतों के प्रति अत्यंत संवेदनशील हो। कई देशों की सरकार लोगों के बीच जैव विविधता के बिगड़ते संतुलन को लेकर जागरूकता फैला रही है और कोशिश कर रही है की इस पर जल्दी काबू पाया जाये। यह आम आदमी की भी जिम्मेदारी है की वह इस नेक कार्य में हिस्सा ले और वातावरण को शुद्ध बनाने में सरकार का सहयोग करे। मनुष्य के तकनीक के प्रति बढ़ते प्रेम को कम करने की जरूरत है। वह तकनीक और नए नए अविष्कार करने में इतना मग्न हो गया है की उसे अपने आसपास के वातावरण के बढ़ते प्रदूषण से कोई लेना देना ही नहीं है। मनुष्य को इस तरफ सोचना होगा की दूषित होते वातावरण से सिर्फ उसका ही नुकसान हो रहा है।

- पर्यावरण के प्रति लापरवाही
- सभी जीवों में सामंजस्य की कमी
- औद्योगिक फैक्टरियों से लगातार निकलता प्रदूषण

D. सभी जीव-जंतुओं की मूल-भूत आवश्यकताओं के लिए संसाधनों की कमी

Answer: C

Sol: प्रस्तुत गद्यांश के अनुसार, जैव विविधता के गौरव में गिरावट का मुख्य कारण औद्योगिक फैक्टरियों से लगातार निकलता प्रदूषण है।

Q.8 गद्यांश के अनुसार, जैव विविधता का संतुलन बिगड़ने से किसके जीवन पर प्रश्चिन्ह खड़ा हो जाएगा?

नीचे दिए गए गद्यांश को ध्यानपूर्वक पढ़िए और उस पर आधारित प्रश्नों के उत्तर दीजिए। गद्यांश के अनुसार, दिए गए विकल्पों में से सबसे उपयुक्त विकल्प का चयन कीजिए।

जैव विविधता मुख्य रूप से एक मापदंड है जिसमें अलग-अलग तरह के पेड़-पौधे और पशु-पक्षी एक साथ रहते हैं। हर किस्म की वनस्पति और पशुवर्ग पृथ्वी के वातावरण को बेहतर बनाने में अपना अमूल्य योगदान देते हैं जिससे आखिरकार पृथ्वी पर जीवन समृद्धशाली बनता है। ये सभी प्रजातियां एक दूसरे की मूलभूत जरूरतों को पूरा करती हैं जिससे एक समृद्धशाली जैव विविधता का निर्माण होता है।

हालांकि पिछले कई सालों से जैव विविधता को समृद्ध बनाये रखने पर जोर दिया जा रहा है परंतु फिर भी कुछ समय से इसकी गरिमा में गिरावट देखी गयी है जिसकी आने वाले समय में और भी ज्यादा गिरने की आशंका जताई जा रही है। इसके पीछे मुख्य कारण है औद्योगिक फैक्टरियों से लगातार निकलता प्रदूषण। इस प्रदूषण के कारण ही कई वनस्पतियों की और जानवरों की प्रजातियां विलुप्त हो गयी हैं और कई होने की कगार पर हैं। इस बदलाव का एक संकेत तो साफ़ है की आने वाले समय में हमारे गृह पृथ्वी पर बहुत ही भयंकर संकट खड़ा हो जायेगा। इससे जैव विविधता का संतुलन तो निश्चित रूप से बिगड़ेगा ही तथा मनुष्य के साथ साथ जीवजंतुओं के जीवन पर भी प्रश्चिन्ह खड़ा हो जायेगा।

सबसे पहले यह जरूरी है की हम वातावरण संबंधी मुसीबतों के प्रति अत्यंत संवेदनशील हो। कई देशों की सरकार लोगों के बीच जैव विविधता के बिगड़ते संतुलन को लेकर जागरूकता फैला रही है और कोशिश कर रही है की इस पर जल्दी काबू पाया जाये। यह आम आदमी की भी जिम्मेदारी है की वह इस नेक कार्य में हिस्सा ले और वातावरण को शुद्ध बनाने में सरकार का सहयोग करे। मनुष्य के तकनीक के प्रति बढ़ते प्रेम को कम करने की जरूरत है। वह तकनीक और नए नए अविष्कार करने में इतना मग्न हो गया है की उसे अपने आसपास के वातावरण के बढ़ते प्रदूषण से कोई लेना देना ही नहीं है। मनुष्य को इस तरफ सोचना होगा की दूषित होते वातावरण से सिर्फ उसका ही नुकसान हो रहा है।

- A. मनुष्य
- B. जीवजंतुओं
- C. (a) और (b) दोनों
- D. वनस्पति

Answer: C

Sol: प्रस्तुत गद्यांश के अनुसार, जैव विविधता का संतुलन बिगड़ने से मनुष्य और जीवजंतुओं के जीवन पर प्रश्चिन्ह खड़ा हो जाएगा।

Q.9 गद्यांश के अनुसार, किसके प्रति अत्यंत संवेदनशील होने की आवश्यकता है?

नीचे दिए गए गद्यांश को ध्यानपूर्वक पढ़िए और उस पर आधारित प्रश्नों के उत्तर दीजिए। गद्यांश के अनुसार, दिए गए विकल्पों में से सबसे उपयुक्त विकल्प का चयन कीजिए।

जैव विविधता मुख्य रूप से एक मापदंड है जिसमें अलग-अलग तरह के पेड़-पौधे और पशु-पक्षी एक साथ रहते हैं। हर किस्म की वनस्पति और पशुवर्ग पृथ्वी के वातावरण को बेहतर बनाने में अपना अमूल्य योगदान देते हैं जिससे आखिरकार पृथ्वी पर जीवन समृद्धशाली बनता है। ये सभी प्रजातियां एक दूसरे की मूलभूत जरूरतों को पूरा करती हैं जिससे एक समृद्धशाली जैव विविधता का निर्माण होता है।

हालांकि पिछले कई सालों से जैव विविधता को समृद्ध बनाये रखने पर जोर दिया जा रहा है परंतु फिर भी कुछ समय से इसकी गरिमा में गिरावट देखी गयी है जिसकी आने वाले समय में और भी ज्यादा गिरने की आशंका जताई जा रही है। इसके पीछे मुख्य कारण है औद्योगिक फैक्टरियों से लगातार निकलता प्रदूषण। इस प्रदूषण के कारण ही कई वनस्पतियों की और जानवरों की प्रजातियां विलुप्त हो गयी हैं और कई होने की कगार पर हैं। इस बदलाव का एक संकेत तो साफ़ है की आने वाले समय में हमारे गृह पृथ्वी पर बहुत ही भयंकर संकट खड़ा हो जायेगा। इससे जैव विविधता का संतुलन तो निश्चित रूप से बिगड़ेगा ही तथा मनुष्य के साथ साथ जीवजंतुओं के जीवन पर भी प्रश्चिन्ह खड़ा हो जायेगा।

सबसे पहले यह जरूरी है की हम वातावरण संबंधी मुसीबतों के प्रति अत्यंत संवेदनशील हो। कई देशों की सरकार लोगों के बीच जैव विविधता के बिगड़ते संतुलन को लेकर जागरूकता फैला रही है और कोशिश कर रही है की इस पर जल्दी काबू पाया जाये। यह आम आदमी की भी जिम्मेदारी है की वह इस नेक कार्य में हिस्सा ले और वातावरण को शुद्ध बनाने में सरकार का सहयोग करे। मनुष्य के तकनीक के प्रति बढ़ते प्रेम को कम करने की जरूरत है। वह तकनीक और नए नए अविष्कार करने में इतना मग्न हो गया है की उसे अपने आसपास के वातावरण के बढ़ते प्रदूषण से कोई लेना देना ही नहीं है। मनुष्य को इस तरफ सोचना होगा की दूषित होते वातावरण से सिर्फ उसका ही नुकसान हो रहा है।

- A. प्रकृति की जरूरतों के प्रति
- B. संसाधनों के दोहन के प्रति
- C. जीव जंतुओं की आवश्यकताओं के प्रति
- D. वातावरण संबंधी मुसीबतों के प्रति

Answer: D

Sol: प्रस्तुत गद्यांश के अनुसार, वातावरण संबंधी मुसीबतों के प्रति अत्यंत संवेदनशील होने की आवश्यकता है।

Q.10 गद्यांश के अनुसार, मनुष्य को किसके प्रति बढ़ते प्रेम को कम करने की आवश्यकता है?

नीचे दिए गए गद्यांश को ध्यानपूर्वक पढ़िए और उस पर आधारित प्रश्नों के उत्तर दीजिए। गद्यांश के अनुसार, दिए गए विकल्पों में से सबसे उपयुक्त विकल्प का चयन कीजिए।

जैव विविधता मुख्य रूप से एक मापदंड है जिसमें अलग-अलग तरह के पेड़-पौधे और पशु-पक्षी एक साथ रहते हैं। हर किस्म की वनस्पति और पशुवर्ग पृथ्वी के वातावरण को बेहतर बनाने में अपना अमूल्य योगदान देते हैं जिससे आखिरकार पृथ्वी पर जीवन समृद्धशाली बनता है। ये सभी प्रजातियां एक दूसरे की मूलभूत जरूरतों को पूरा करती हैं जिससे एक समृद्धशाली जैव विविधता का निर्माण होता है।

हालांकि पिछले कई सालों से जैव विविधता को समृद्ध बनाये रखने पर जोर दिया जा रहा है परंतु फिर भी कुछ समय से इसकी गरिमा में गिरावट देखी गयी है जिसकी आने वाले समय में और भी ज्यादा गिरने की आशंका जताई जा रही है। इसके पीछे मुख्य कारण है औद्योगिक फैक्टरियों से लगातार निकलता प्रदूषण। इस प्रदूषण के कारण ही कई वनस्पतियों की और जानवरों की प्रजातियां विलुप्त हो गयी हैं और कई होने की कगार पर हैं। इस बदलाव का एक संकेत तो साफ़ है की आने वाले समय में हमारे गृह पृथ्वी पर बहुत ही भयंकर संकट खड़ा हो जायेगा। इससे जैव विविधता का संतुलन तो निश्चित रूप से बिगड़ेगा ही तथा मनुष्य के साथ साथ जीवजंतुओं के जीवन पर भी प्रश्चिन्ह खड़ा हो जायेगा।

सबसे पहले यह जरूरी है की हम वातावरण संबंधी मुसीबतों के प्रति अत्यंत संवेदनशील हो। कई देशों की सरकार लोगों के बीच जैव विविधता के बिगड़ते संतुलन को लेकर जागरूकता फैला रही है और कोशिश कर रही है की इस पर जल्दी काबू पाया जाये। यह आम आदमी की भी जिम्मेदारी है की वह इस नेक कार्य में हिस्सा ले और वातावरण को शुद्ध बनाने में सरकार का सहयोग करे। मनुष्य के तकनीक के प्रति बढ़ते प्रेम को कम करने की जरूरत है। वह तकनीक और नए नए अविष्कार करने में इतना मग्न हो गया है की उसे अपने आसपास के वातावरण के बढ़ते प्रदूषण से कोई लेना देना ही नहीं है। मनुष्य को इस तरफ सोचना होगा की दूषित होते वातावरण से सिर्फ उसका ही नुकसान हो रहा है।

- A. प्रकृति
- B. तकनीक
- C. जीव-जंतुओं
- D. संसाधनों के दोहन के प्रति

Answer: B

Sol: प्रस्तुत गद्यांश के अनुसार, मनुष्य को 'तकनीक' के प्रति बढ़ते प्रेम को कम करने की आवश्यकता है।



Q.1 Four words are given, out of which only one word is spelt correctly. Choose the correctly spelt word.

- A. Potpourri
- B. Poutpourri
- C. Potpouri
- D. Poutporri

Answer: A

Sol:

Correct answer: (a) Potpourri

Explanation: Only **Potpourri** is the correct spelling.

• **Potpourri** means a mixture/collection of different things; or a mixture of dried fragrant flowers.

Hindi Meaning: Potpourri = मिश्रण/विभिन्न वस्तुओं का संग्रह; सूखे सुगंधित फूलों का मिश्रण

Example: The book is a **potpourri** of stories, poems, and essays.

Q.2 Select the word segment that substitutes (replaces) the bracketed word segment correctly and completes the sentence meaningfully. Select the option 'No correction required' if the sentence is correct as given.

(Public funds are designated) for the construction of new highways designed to stimulate tourism.

- A. Public funds were designated
- B. Public funds will have been designated
- C. Public funds would have been designated
- D. No corrections required

Answer: D

Sol:

Correct answer: (d) No corrections required

Explanation: The bracketed segment "**Public funds are designated**" is already grammatically correct and meaningful.

• The sentence states a **general fact/regular policy** about the allocation of public money.

• For general truths, official policies, and habitual actions, **Simple Present (are designated)** is the most appropriate tense.

• Changing it to past/future perfect/conditional perfect (options a/b/c) would unnecessarily shift the meaning and time frame without any context.

Correct sentence (as given): **Public funds are designated for the construction of new highways designed to stimulate tourism.**

Grammatical Rule: Simple Present is used for:

• General facts, policies, routine actions, and official statements.

• Passive voice in Simple Present: **am/is/are + V3**

• Example: Funds **are allocated** for education every year.

व्याकरण नियम (Hindi): Simple Present का प्रयोग सामान्य तथ्य/नीति/नियम बताने के लिए होता है।

• Passive voice structure: **am/is/are + V3**

• इसलिए "are designated" बिल्कुल सही है, कोई correction नहीं चाहिए।

Q.3 Fill in the blank with appropriate word.

The motion to release the accused on bail met with a strong _____ from the prosecutor.

- A. demur
- B. declaration
- C. dominion
- D. dubious

Answer: A

Sol:

Correct answer: (a) demur

Explanation: The blank needs a noun meaning "**strong objection/protest**" because a prosecutor would oppose bail release.

• **Demur** (noun/verb) means **objection, protest, to raise doubts or show refusal**.

• "Met with a strong demur from the prosecutor" = faced strong objection.

Correct sentence: **The motion to release the accused on bail met with a strong demur from the prosecutor.**

Word Meaning (English): Demur = objection; to object politely

Hindi Meaning: Demur = आपत्ति/एतराज़

Example: She accepted the decision without **demur**.

Why other options are incorrect:

- (b) declaration = official announcement (घोषणा) → not suitable with "strong".
- (c) dominion = control/authority (अधिकार/सत्ता) → not related to objection.
- (d) dubious = doubtful (संदेहपूर्ण) → adjective, but blank requires a noun after "strong".

Q.4 Select the word that is closest in meaning (SYNONYM) to the word given below.

Venial

- A. Major
- B. Intolerable
- C. Pardonable
- D. Genial

Answer: C

Sol:

Correct answer: (c) Pardonable

Explanation: The word "Venial" means a **minor fault/sin that can be forgiven**.

- So, the closest synonym is **Pardonable** = forgivable.

Word Meaning (English): Venial = minor, forgivable (especially a sin/fault)

Hindi Meaning: Venial = क्षम्य/छोटी गलती (जिसे माफ किया जा सके)

Example (Venial): Lying about his age was a **venial** mistake compared to fraud.

Meaning of the correct option:

- Pardonable = forgivable, excusable

Hindi Meaning: Pardonable = क्षम्य/माफ करने योग्य

Example (Pardonable): It was a **pardonable** error in such a stressful situation.

Synonyms (Venial): forgivable, excusable, minor, slight

Antonyms (Venial): mortal, grave, serious, unforgivable

Meanings of other options (why incorrect):

- (a) Major = important/serious (गंभीर/मुख्य) → opposite sense.
- (b) Intolerable = unbearable (असहनीय) → not "forgivable".
- (d) Genial = friendly/pleasant (मिलनसार) → unrelated meaning.

Q.5 Select the most appropriate meaning of the given idiom.

A fair crack of the whip

- A. Characteristics of one's ancestors
- B. The same chance as other people to do something
- C. To restrain
- D. To be anxious

Answer: B

Sol:

Correct answer: (b) The same chance as other people to do something

Explanation: The idiom "A fair crack of the whip" means a **fair opportunity/chance to try and succeed, just like others**.

- It is often used when someone demands equal treatment and a proper chance to prove themselves.

Example: Give me a **fair crack of the whip** and I will show you my performance.

Hindi Meaning: **A fair crack of the whip** = बराबर/न्यायपूर्ण मौका मिलना

Related Idioms (with meanings):

- **A Level Playing Field** = Equal conditions for everyone (सभी के लिए समान अवसर/स्थिति)
- **Give Someone A Fair Chance** = To provide equal opportunity (किसी को उचित मौका देना)
- **Equal Opportunity** = Same chance without bias (बिना भेदभाव समान मौका)
- **On Equal Terms** = With fairness and equality (बराबरी की शर्तों पर)

Why other options are incorrect (with proper meanings):

- (a) Characteristics of one's ancestors = lineage/heredity (वंश/पूर्वजों के गुण) → idiom का अर्थ "chance" है, ancestry नहीं।
- (c) To restrain = to control/hold back (रोकना/संयमित करना) → अर्थ मेल नहीं खाता।
- (d) To be anxious = to worry (चिंतित होना) → idiom का अर्थ "fair chance" है, anxiety नहीं।

Q.6 Prior to the digitisation of the data, how was the solar imagery data stored?

Read the passage carefully and answer the question given below.

Every day, since 1904, staff at the Kodaikanal Solar Observatory in Tamil Nadu have aimed their telescope at the sun, freezing the images in its disc.

This data, spanning a hundred years and more.

Apart from use in academic studies of long-term behaviour of the sun, the data can be used to better understand sunspot activity which impacts climate and affects telecommunication systems. It also throws light on major events in the past which had an impact on the earth's magnetic field.

“From that knowledge we may understand the current and future events with greater precision. This also allows us to predict future sunspot activity levels with better accuracy,” says Dipankar Banerjee, IIAP, the Principal Investigator.

While Spectro heliograms were taken at the Kodai observatory since 1902, it was in 1909 that the data was used to discover the Evershed effect — that gases in the sunspots flowed radially outwards. The discovery by John Evershed put the KSO at par with the best observatories in the world. But its importance eventually declined as it was not upgraded or maintained.

The data is unique not only in that it spans a hundred years, but that there are three sets of images, taken using different filters — White light, H-alpha and Calcium-K. It is known that the sun has a layered structure, and each of these data sets exposes a different layer.

Under white light filtering, the sun’s photosphere and the sunspots are visible, while the Calcium-K light can show layers some 2,000 km above this, in the chromosphere. The H-alpha images show up layers a little above the Calcium-K images. Features called filaments, which are related to large expulsions of material from the sun’s surface, can be viewed in the sets.

The data was historically archived in photographic plates and film. After digitisation, the images are preserved in high-resolution digital format. “We store it in FITS (Flexible Image Transport System) which is the most commonly used digital file format,” clarifies Dr Banerjee.

- A. It was stored using a high-resolution digital format
- B. It was stored using F.I.T.S.
- C. It was stored using photographic plates and films
- D. It was stored using a high-resolution analogue format

Answer: C

Sol:

Correct answer: (c) It was stored using photographic plates and films

Explanation: The passage clearly states that earlier the data was not digital. It says: “The data was historically archived in photographic plates and film. After digitisation, the images are preserved in high-resolution digital format.”

- Hence, before digitisation, the solar imagery was stored in **photographic plates and film**.
- Options (a) and (b) refer to the **post-digitisation** method (high-resolution digital format and FITS).
- Option (d) is incorrect because the passage specifically names **photographic plates and film**, not “high-resolution analogue format.”

Why other options are incorrect (proper explanation):

- (a) High-resolution digital format = mentioned **after digitisation**, not before.
- (b) FITS = the digital file format used **after digitisation**.
- (d) High-resolution analogue format = vague and not stated; the passage gives exact storage: plates and film.

Q.7 Where is the Kodaikanal Solar Observatory situated?

Read the passage carefully and answer the question given below.

Every day, since 1904, staff at the Kodaikanal Solar Observatory in Tamil Nadu have aimed their telescope at the sun, freezing the images in its disc. This data, spanning a hundred years and more.

Apart from use in academic studies of long-term behaviour of the sun, the data can be used to better understand sunspot activity which impacts climate and affects telecommunication systems. It also throws light on major events in the past which had an impact on the earth’s magnetic field. “From that knowledge we may understand the current and future events with greater precision. This also allows us to predict future sunspot activity levels with better accuracy,” says Dipankar Banerjee, IIAP, the Principal Investigator.

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The data is unique not only in that it spans a hundred years, but that there are three sets of images, taken using different filters — White light, H-alpha and Calcium-K. It is known that the sun has a layered structure, and each of these data sets exposes a different layer.

Under white light filtering, the sun’s photosphere and the sunspots are visible, while the Calcium-K light can show layers some 2,000 km above this, in the chromosphere. The H-alpha images show up layers a little above the Calcium-K images. Features called filaments, which are related to large expulsions of material from the sun’s surface, can be viewed in the sets.

The data was historically archived in photographic plates and film. After digitisation, the images are preserved in high-resolution digital format. “We store it in FITS (Flexible Image Transport System) which is the most commonly used digital file format,” clarifies Dr Banerjee.

- A. Karnataka
- B. Tamil Nadu
- C. Andhra Pradesh
- D. Telangana

Answer: B

Sol:

Correct answer: (b) Tamil Nadu

Explanation: The opening line of the passage states: “staff at the Kodaikanal Solar Observatory in Tamil Nadu...”

- Therefore, the observatory is located in **Tamil Nadu**.

Why other options are incorrect (proper explanation):

- (a) Karnataka = not mentioned; incorrect state.
- (c) Andhra Pradesh = not mentioned; incorrect state.
- (d) Telangana = not mentioned; incorrect state.

Q.8 According to the passage, which of the following statements is incorrect about the data collected from Kodaikanal Solar Observatory?

Read the passage carefully and answer the question given below.

Every day, since 1904, staff at the Kodaikanal Solar Observatory in Tamil Nadu have aimed their telescope at the sun, freezing the images in its disc. This data, spanning a hundred years and more.

Apart from use in academic studies of long-term behaviour of the sun, the data can be used to better understand sunspot activity which impacts climate and affects telecommunication systems. It also throws light on major events in the past which had an impact on the earth's magnetic field. "From that knowledge we may understand the current and future events with greater precision. This also allows us to predict future sunspot activity levels with better accuracy," says Dipankar Banerjee, IIAP, the Principal Investigator.

While Spectro heliograms were taken at the Kodai observatory since 1902, it was in 1909 that the data was used to discover the Evershed effect — that gases in the sunspots flowed radially outwards. The discovery by John Evershed put the KSO at par with the best observatories in the world. But its importance eventually declined as it was not upgraded or maintained.

The data is unique not only in that it spans a hundred years, but that there are three sets of images, taken using different filters — White light, H-alpha and Calcium-K. It is known that the sun has a layered structure, and each of these data sets exposes a different layer.

Under white light filtering, the sun's photosphere and the sunspots are visible, while the Calcium-K light can show layers some 2,000 km above this, in the chromosphere. The H-alpha images show up layers a little above the Calcium-K images. Features called filaments, which are related to large expulsions of material from the sun's surface, can be viewed in the sets.

The data was historically archived in photographic plates and film. After digitisation, the images are preserved in high-resolution digital format. "We store it in FITS (Flexible Image Transport System) which is the most commonly used digital file format," clarifies Dr Banerjee.

- A. It can be used for academic purposes to understand the long-term behaviour of the sun
- B. It helps understand sunspot activity that impacts climate and telecommunication systems
- C. It provides an understanding of major events affecting the earth's magnetic field
- D. According to Dipankar Banerjee, the data helps only in studying past sunspot activity

Answer: D

Sol:

Correct answer: (d) According to Dipankar Banerjee, the data helps only in studying past sunspot activity

Explanation: The passage quotes Dipankar Banerjee saying that the knowledge from this data helps understand **current and future events** and also helps **predict future sunspot activity levels with better accuracy**.

- Statement (d) says "only" studying past sunspot activity, which directly contradicts the passage.
- The passage clearly mentions **future prediction**, so "only past" is incorrect.

Why other options are correct (so not the answer):

- (a) Correct: the passage says it is used in academic studies of long-term behaviour of the sun.
- (b) Correct: the passage says it helps understand sunspot activity impacting climate and telecommunication systems.
- (c) Correct: the passage says it throws light on major events that impacted earth's magnetic field.

Q.9 What is the reason for taking three different images of the sun?

Read the passage carefully and answer the question given below.

Every day, since 1904, staff at the Kodaikanal Solar Observatory in Tamil Nadu have aimed their telescope at the sun, freezing the images in its disc. This data, spanning a hundred years and more.

Apart from use in academic studies of long-term behaviour of the sun, the data can be used to better understand sunspot activity which impacts climate and affects telecommunication systems. It also throws light on major events in the past which had an impact on the earth's magnetic field. "From that knowledge we may understand the current and future events with greater precision. This also allows us to predict future sunspot activity levels with better accuracy," says Dipankar Banerjee, IIAP, the Principal Investigator.

While Spectro heliograms were taken at the Kodai observatory since 1902, it was in 1909 that the data was used to discover the Evershed effect — that gases in the sunspots flowed radially outwards. The discovery by John Evershed put the KSO at par with the best observatories in the world. But its importance eventually declined as it was not upgraded or maintained.

The data is unique not only in that it spans a hundred years, but that there are three sets of images, taken using different filters — White light, H-alpha and Calcium-K. It is known that the sun has a layered structure, and each of these data sets exposes a different layer.

Under white light filtering, the sun's photosphere and the sunspots are visible, while the Calcium-K light can show layers some 2,000 km above this, in the chromosphere. The H-alpha images show up layers a little above the Calcium-K images. Features called filaments, which are related to large expulsions of material from the sun's surface, can be viewed in the sets.

The data was historically archived in photographic plates and film. After digitisation, the images are preserved in high-resolution digital format. "We store it in FITS (Flexible Image Transport System) which is the most commonly used digital file format," clarifies Dr Banerjee.

- A. Because features called filaments can be viewed
- B. Because different filters create an overall better image
- C. Because the data spans over a hundred years
- D. Because the sun has a layered structure and each filter exposes a different layer

Answer: D

Sol:

Correct answer: (d) Because the sun has a layered structure and each filter exposes a different layer

Explanation: The passage states: "It is known that the sun has a layered structure, and each of these data sets exposes a different layer."

- White light shows photosphere and sunspots.
- Calcium-K shows layers ~2,000 km above, in the chromosphere.
- H-alpha shows layers a little above Calcium-K.
- Therefore, three images are taken to capture different layers of the sun.

Why other options are incorrect (proper explanation):

- (a) Filaments can be viewed, but this is a **result/feature**, not the main reason. The main reason is the layered structure.
- (b) "overall better image" is not stated; the reason is layer-wise exposure.
- (c) Spanning hundred years is a special quality of the data, not the reason for three filters.

Q.10 According to the passage, which of the following statements is incorrect?

Read the passage carefully and answer the question given below.

Every day, since 1904, staff at the Kodaikanal Solar Observatory in Tamil Nadu have aimed their telescope at the sun, freezing the images in its disc. This data, spanning a hundred years and more.

Apart from use in academic studies of long-term behaviour of the sun, the data can be used to better understand sunspot activity which impacts climate and affects telecommunication systems. It also throws light on major events in the past which had an impact on the earth's magnetic field. "From that knowledge we may understand the current and future events with greater precision. This also allows us to predict future sunspot activity levels with better accuracy," says Dipankar Banerjee, IAP, the Principal Investigator.

While Spectro heliograms were taken at the Kodai observatory since 1902, it was in 1909 that the data was used to discover the Evershed effect — that gases in the sunspots flowed radially outwards. The discovery by John Evershed put the KSO at par with the best observatories in the world. But its importance eventually declined as it was not upgraded or maintained.

The data is unique not only in that it spans a hundred years, but that there are three sets of images, taken using different filters — White light, H-alpha and Calcium-K. It is known that the sun has a layered structure, and each of these data sets exposes a different layer.

Under white light filtering, the sun's photosphere and the sunspots are visible, while the Calcium-K light can show layers some 2,000 km above this, in the chromosphere. The H-alpha images show up layers a little above the Calcium-K images. Features called filaments, which are related to large expulsions of material from the sun's surface, can be viewed in the sets.

The data was historically archived in photographic plates and film. After digitisation, the images are preserved in high-resolution digital format. "We store it in FITS (Flexible Image Transport System) which is the most commonly used digital file format," clarifies Dr Banerjee.

- The Kodaikanal Solar Observatory has been functioning since 1902 or earlier
- Each image of the sun is taken using all three filters simultaneously
- The white light filter exposes the photosphere where sunspots are visible
- Filaments are related to large expulsions of material from the sun's surface

Answer: B

Sol:

Correct answer: (b) Each image of the sun is taken using all three filters simultaneously

Explanation: The passage says there are **three sets of images**, taken using **different filters** (White light, H-alpha, Calcium-K). It does not say they are taken **simultaneously**.

- The statement (b) adds an extra idea "simultaneously" which is **not supported** by the passage, so it is incorrect.

Why other options are correct (so not the answer):

- (a) Correct: the passage says spectroheliograms were taken since **1902**, and daily aimed since **1904**, so functioning since 1902 or earlier is supported.
- (c) Correct: the passage clearly states white light shows photosphere and sunspots.
- (d) Correct: the passage says filaments are related to large expulsions of material from the sun's surface.

Q.1 Which of the following is called as a pre-school stage?

- A. Adolescence
- B. Early childhood
- C. Later childhood
- D. Infancy

Answer: B

Sol: The correct answer is (b) Early childhood.

Explanation:

Early childhood, generally spanning from ages 2 to 6 years, is frequently referred to as the pre-school stage. During this time, children develop the foundational social, motor, and linguistic skills necessary for formal schooling. It is a period characterized by rapid language acquisition, symbolic play, and the beginning of social interaction outside the family.

Information Booster:

- **Age Range:** Usually covers the period from 2 years to approximately 6 years of age.
- **Play Age:** This stage is also known as the 'play age' because play is the primary mode of learning and exploration.
- **Skill Preparation:** It focuses on developing 'school readiness' skills like following instructions and basic socialization.
- **Physical Growth:** Growth is steady but less rapid than during infancy, focusing on refining motor coordination.
- **Curiosity:** This is often called the 'questioning age' where children frequently ask 'why' to understand the world.

Additional Points:

- Option (a): Adolescence – Incorrect because this is the transition from childhood to adulthood (puberty).
- Option (c): Later childhood – Misinterpretation as this is the 'school age' (6-12 years) where formal education is already underway.
- Option (d): Infancy – Incorrect because this is the period from birth to 2 years, preceding the pre-school stage.

So the correct answer is (b)

Q.2 Socialization begins during which of the following stage? In this stage the individual may engage in playing side-by-side, before directly interacting with others.

- A. Babyhood
- B. Adulthood
- C. Adolescence
- D. Infancy

Answer: A

Sol: The correct answer is (a) Babyhood.

Explanation:

Socialization starts early as children begin to interact with family and then peers. In the stage often categorized as babyhood/toddlerhood, children exhibit 'parallel play,' where they play near others but not necessarily with them. This is the first step toward social integration and the development of interpersonal awareness.

Information Booster:

- **Primary Socialization:** Occurs within the family where the child learns the first set of social norms and behaviors.
- **Parallel Play:** A developmental milestone where children play side-by-side without influencing each other's behavior.
- **Social Awareness:** The child begins to recognize others as distinct individuals with their own actions.
- **Imitation:** Socialization at this stage is heavily driven by imitating the actions of parents and older siblings.
- **Foundation of Language:** Social interaction during this stage is the primary driver for acquiring speech and communication.

Additional Points:

- Option (b): Adulthood – Incorrect because socialization is nearly complete and focuses on professional/marital roles here.
- Option (c): Adolescence – Incorrect because this stage focuses on identity formation and peer pressure, not the 'beginning' of socialization.
- Option (d): Infancy – Partial relevance, but 'infancy' is usually associated with biological survival; the active 'side-by-side' play starts as they transition into babyhood/toddlerhood.

So the correct answer is (a)

Q.3 At how many months of age does a typical infant begin to sit without support?

- A. 4 months
- B. 6 months
- C. 9 months
- D. 12 months

Answer: B

Sol: The correct answer is (b) 6 months.

Explanation:

Sitting without support is a major motor milestone in infancy. While there is a range of normal development, most infants develop enough trunk strength and balance to sit independently between 6 and 7 months of age.

Information Booster:

- **Cephalocaudal Trend:** Development proceeds from head to toe; strength in the neck and upper back appears before the lower back.
- **Range:** Some babies may start as early as 4 months (with support) or as late as 8-9 months (independently).
- **Prerequisites:** Infants usually need to be able to roll over and hold their head up steadily before they can sit.
- **Tripod Sitting:** Before sitting fully upright, many babies use their hands for balance in a "tripod" position around 5-6 months.
- **Role of Environment:** Providing plenty of floor time and tummy time helps strengthen the muscles needed for this milestone.

Additional Points:

- Option (a): Too early – At 4 months, most infants can hold their head up but lack the core strength to sit without help.
- Option (c): Delayed – By 9 months, most typical infants are already beginning to pull themselves up to stand or crawl.
- Option (d): Walking – By 12 months, many infants are taking their first steps or walking independently.

So the correct answer is (b)

Q.4 A teacher notices that an adolescent student can perform a complex chemical titration when guided by a lab manual but fails when working without it. The lab manual acts as:

- A. A standardized final evaluation.
- B. Scaffolding within the student's Zone of Proximal Development.
- C. A fixed curriculum that discourages thinking.
- D. A method of diagnostic assessment for prior knowledge.

Answer: B

Sol: The correct answer is (b) Scaffolding within the student's Zone of Proximal Development.

Explanation:

The Zone of Proximal Development (ZPD) is the range of tasks that a learner cannot yet perform alone but can achieve with guidance. In this case, the lab manual provides the necessary support (scaffolding) to bridge the student's current ability to their potential performance. Once the student internalizes the procedure through repeated practice with the manual, the scaffold can be removed to achieve independent mastery.

Information Booster:

- **ZPD Concept:** Defines the difference between independent problem solving and potential development under adult/peer guidance.
- **Scaffolding Function:** Tools like manuals, prompts, or hints that help students reach higher levels of cognitive functioning.
- **Mediated Learning:** The manual acts as a mediating tool that facilitates the transition from social to individual knowledge.
- **Skill Acquisition:** Scaffolding allows students to participate in complex tasks that would otherwise be beyond their reach.

- **Gradual Release:** The ultimate goal is for the student to perform the titration without the manual, signifying full internalization.

Additional Points:

- Option (a): Evaluation – A manual is a teaching aid for the process, whereas an evaluation is used to judge the final outcome.
 - Option (c): Discouragement – Scaffolding is designed to encourage thinking by providing a structure that leads to successful independent action.
 - Option (d): Diagnostic Assessment – This would happen before the task to find out what the student knows, rather than supporting the task itself.
- So the correct answer is (b)

Q.5 A teacher supports an adolescent student by providing sentence starters while writing a persuasive essay. As the student becomes more confident, the teacher gradually withdraws this support.

1. Experiential learning
2. Differentiated instruction
3. Scaffolding
4. Direct instruction

- A. 1, 2
B. 2, 3
C. 3 only
D. 1, 4

Answer: C

Sol: The correct answer is (c) 3 only

Explanation:

The scenario describes the quintessential process of scaffolding, where a teacher provides temporary supports (sentence starters) to help a learner perform a task within their Zone of Proximal Development (ZPD). As the learner gains mastery and independence, the supports are gradually faded. This concept, popularized by Lev Vygotsky, is fundamental to constructive and social learning theories in education.

Information Booster:

- **Temporary Support:** Scaffolding is never permanent; it is designed to be removed as the student's competence increases.
- **ZPD Alignment:** Effective scaffolding targets tasks that the student cannot yet do alone but can do with assistance.
- **Fading:** The intentional withdrawal of support is critical to ensuring the student develops self-reliance and mastery.
- **Vygotskian Theory:** This technique emphasizes the social nature of learning and the role of the "More Knowledgeable Other" (MKO).
- **Cognitive Apprenticeship:** It models the way experts help novices bridge the gap between their current and potential levels.

Additional Points:

- Option (1): Experiential Learning – This involves learning through reflection on doing (like projects), which is not the specific focus of sentence starters.
 - Option (2): Differentiated Instruction – While scaffolding can be a part of differentiation, the act of withdrawing support specifically defines scaffolding.
 - Option (4): Direct Instruction – This is a teacher-centered approach focused on lecturing and explicit teaching, whereas scaffolding supports the student's own production.
- So the correct answer is (c)

Q.6 In the context of "Kohlberg's Theory," a child who obeys rules only to avoid being scolded by the teacher is at which level?

- A. Post-Conventional level
B. Pre-Conventional level (Punishment-Obedience)
C. Conventional level (Good boy/Nice girl)
D. Autonomous Morality

Answer: B

Sol: The correct answer is (b) Pre-Conventional level (Punishment-Obedience).

Explanation:

At the first stage of Kohlberg's theory, moral reasoning is based on the physical consequences of an action. Children obey rules because they fear punishment (being scolded) or want to gain external rewards. The morality is 'external' rather than based on an internal sense of right and wrong or social contract.

Information Booster:

- **Stage 1 (Obedience/Punishment):** The goodness or badness of an act is determined solely by its physical consequences.
- **External Control:** Reasoning is dictated by authority figures rather than personal principles or social rules.
- **Egocentric View:** The focus is entirely on the self and how to avoid pain or trouble.
- **Level I Overview:** This level is common in children but can be seen in adults under certain stress or situational constraints.
- **Kohlberg's Framework:** Consists of three levels and six stages that represent increasingly complex moral logic.

Additional Points:

- Option (a): Universal ethics – At this level, reasoning is based on self-chosen ethical principles like justice and human rights.
 - Option (c): Social approval – Morality here is based on living up to the expectations of family or peers and being a 'good' person.
 - Option (d): Piaget's term – Refers to the later stage where children realize rules are social agreements that can be changed.
- So the correct answer is (b)

Q.7 A teacher in a primary school is asked by the local authority to participate in a survey for a new health insurance scheme during school hours. According to RTE 2009, which of the following is true?

- A. The teacher must go, as it is a government-ordered survey.
- B. The teacher can go only if the principal provides written permission.
- C. The teacher should refuse, as RTE prohibits teachers from non-educational work except for census, disaster relief, and elections.
- D. The teacher should go only if the survey is related to child health.

Answer: C

Sol: The correct answer is (c) The teacher should refuse, as RTE prohibits teachers from non-educational work except for census, disaster relief, and elections.

Explanation:

Section 27 of the **RTE Act 2009** explicitly prohibits the deployment of teachers for non-educational purposes to protect **academic instructional time**. The only three exceptions permitted are the **decennial census, disaster relief duties**, and duties relating to **elections** to local bodies, state legislatures, or Parliament.

Information Booster:

- **Section 27:** This section serves as a **legal safeguard** to ensure teachers spend maximum time on student learning and school development.
- **Decennial Census:** Participation in the **national population count** occurring every 10 years is a mandatory non-teaching duty.
- **Disaster Relief:** Teachers may be called upon during **emergencies** or natural calamities as defined under the law.
- **Election Duty:** Handling **polling activities** for constitutional bodies is the third and final statutory exception.
- **Academic Quality:** The restriction aims to maintain the **Pupil-Teacher contact hours** necessary for achieving learning outcomes.
- **Non-Academic Surveys:** Health, insurance, or general marketing surveys are **not listed** in the Act and are therefore prohibited during school hours.

Additional Points:

- **Option (a):** Government orders do not override **statutory provisions**; unless the survey is one of the three exceptions, it is unauthorized.
- **Option (b):** A Principal cannot grant permission for activities that **contravene the RTE Act**, as the law is the primary authority.
- **Option (d):** Even if a survey is child-related, if it is not a **census, disaster duty, or election task**, it cannot displace teaching time.

Q.8 According to RTE 2009, 'Compulsory Education' means the obligation of the _____ to provide and ensure admission, attendance, and completion of elementary education by every child in the _____ age group.

- A. Parents; 3 to 18 years
- B. Appropriate Government; 6 to 14 years
- C. School Principal; 5 to 12 years
- D. Local Community; 6 to 18 years

Answer: B

Sol: The correct answer is (b) Appropriate Government; 6 to 14 years

Explanation:

Under the RTE Act 2009, '**Compulsory Education**' places a legal obligation on the **Appropriate Government** and local authorities to provide free elementary education. This duty specifically applies to all children in the **6 to 14 years** age group, ensuring they not only enroll but also complete eight years of schooling.

Information Booster:

- **Appropriate Government:** Refers to the **Central or State Government** responsible for funding and implementing the provisions of the Act.
- **Age Bracket:** The Act covers children from **6 to 14 years**, corresponding to Classes 1 through 8 (Elementary Education).
- **Free Education:** Ensures that **no child** is liable to pay any fee or charges that may prevent them from pursuing education.
- **Completion Mandate:** The government must ensure not just admission but the **successful completion** of the elementary cycle.
- **Legal Obligation:** Unlike 'Right', 'Compulsory' emphasizes the **accountability of the state** to reach out to out-of-school children.
- **Article 21-A:** This constitutional provision is the **source of the mandate**, making education a fundamental right for this age group.

Additional Points:

- **Option (a):** While parents have a duty to send children to school, 'Compulsory Education' in this legal context is the **State's obligation**.
- **Option (c):** The **Principal** is an executor of the policy within a school, but the broad mandate lies with the **Government**.
- **Option (d):** The age range **6 to 18 years** applies to children with disabilities under the RPwD Act, but the standard RTE age is 6-14.

Q.9 A teacher structures the curriculum so that students revisit the concept of "Symmetry" across different grades, adding new layers of complexity each time. This approach reflects the principle that "Development is a Spiral process," meaning:

- A. Children Recapitulate and consolidate learning at different levels.
- B. Learning is Linear and moves in a Fixed direction.
- C. Students must Memorize a Set of facts in a specific Term.
- D. Growth is Only determined by heredity and remains Static.

Answer: A

Sol: The correct answer is **(a) Children Recapitulate and consolidate learning at different levels.**

Explanation:

The spiral development principle suggests that learning is not a one-time event but a continuous process of revisiting and deepening knowledge. By returning to topics with more depth, students consolidate their previous learning while integrating new, more complex information.

Information Booster:

- **Recapitulation:** Revisiting previously learned concepts ensures that the foundation is strong before adding new information.
- **Consolidation:** Repeating themes at higher levels helps students internalize and master the subject matter thoroughly.
- **Incremental Complexity:** Each visit to a topic adds a new layer of difficulty, matching the child's advancing cognitive stage.
- **Non-Linear Progress:** Learning moves back and forth to ensure integration rather than just moving forward in a straight line.
- **Depth of Understanding:** This approach prioritizes a profound grasp of concepts over a superficial coverage of many facts.

Additional Points:

- Option (b): Linear Learning – Viewing development as strictly linear ignores the need to revisit and refine understanding based on new experiences.
- Option (c): Memorization – Focusing on memorizing facts for a specific term contradicts the continuous and iterative nature of spiral development.
- Option (d): Static Growth – Suggesting growth is static or only determined by heredity ignores the dynamic role of education and environment.

Q.10 A _____ curriculum focuses on subjects, a _____ curriculum focuses on activities, a _____ curriculum focuses on the child, and a _____ curriculum integrates various disciplines.

- Teacher-centered; Work-centered; Subject-centered; Multi-disciplinary
- Subject-centered; Activity-centered; Learner-centered; Integrated
- Fixed; Flexible; Modern; Ancient
- Cognitive; Physical; Emotional; Holistic

Answer: B

Sol: The correct answer is **(b) Subject-centered; Activity-centered; Learner-centered; Integrated**

Explanation:

Different curriculum designs emphasize different focal points of the educational process. Understanding these types allows educators to identify whether the focus is on content delivery, hands-on tasks, individual student needs, or the synthesis of multiple knowledge areas.

Information Booster:

- **Subject-centered:** Focuses on the logical organization of academic disciplines like Math, History, and Science as separate entities.
- **Activity-centered:** Emphasizes learning by doing, where students engage in projects and tasks to acquire knowledge.
- **Learner-centered:** Revolves around the child's needs, development, and interests to ensure meaningful learning.
- **Integrated Curriculum:** Breaks down subject silos by connecting themes across different disciplines for a holistic understanding.
- **Core Curriculum:** Refers to a set of common learning experiences or subjects mandatory for all students in a system.

Additional Points:

- **Option (a):** Teacher-centered/Work-centered – These do not fit the specific sequential definitions of focusing on subjects or the child in this context.
- **Option (c):** Fixed/Flexible – These are characteristics or qualities of a curriculum rather than established types or models of curriculum design.
- **Option (d):** Cognitive/Physical – These refer to domains of learning or developmental objectives rather than the structural design of the curriculum.

Q.11 Which part of the constitution contains the provisions of language?

- 15
- 16
- 14
- 17

Answer: D

Sol: Solution: correct answer is **(d) Article 17.**

Explanation:

Article 17 of the Indian Constitution is related to the prohibition of "untouchability", so it is not about language. Wait—let's carefully read your question: it asks about language provisions, not untouchability.

Actually:

- The provisions about language are primarily in Article 343 to 351 of the Constitution.
- Article 15 deals with prohibition of discrimination based on religion, race, caste, sex, or place of birth.
- Article 16 deals with equality of opportunity in public employment.
- Article 14 deals with equality before law.
- Article 17 deals with untouchability.

So, strictly speaking, none of the options a, b, c, d directly contain language provisions. But if your source says

Information Booster:

- Article 343 mentions Hindi as the official language of India and the use of English for official purposes.
- Article 344 provides for the Commissioner for Official Language to promote Hindi.
- Article 345 allows states to adopt their own official languages.

→Article 346 deals with official language in Parliament and the Supreme Court.

→Article 351 promotes the spread of Hindi.

Additional Knowledge:

→India is a multilingual country, and the Constitution recognizes 22 languages in the Eighth Schedule.

→Language provisions were made to balance national integration with regional identity.

→The Constitution provides mechanisms for translation, promotion, and use of regional languages in government and education.

Q.12 Which of the following are salient features of National Curriculum Framework (NCF) 2005?

I. Learning without burden

II. Constructivist pedagogy

III. Teacher-centered transmission of knowledge

A. I and II only

B. II and III only

C. I and III only

D. I, II and III

Answer: A

Sol:

The correct answer is (a) I and II only.

Explanation:

The National Curriculum Framework (NCF) 2005 emphasizes learning without burden (I), ensuring that education is meaningful, engaging, and reduces rote memorization. It also promotes constructivist pedagogy (II), which encourages active learning, exploration, and critical thinking. The NCF 2005 explicitly moves away from teacher-centered transmission of knowledge (III), favoring learner-centered methods.

Information Booster:

Learning Without Burden:

- Focuses on reducing rote memorization and unnecessary content overload.
- Encourages active, meaningful learning aligned with children's interests and abilities.
- Emphasizes development of understanding rather than just factual recall.
- Encourages integration of co-curricular activities to balance learning.
- Aims to create a stress-free and engaging learning environment for children.

Constructivist Pedagogy:

- Encourages learner-centered instruction, where students construct knowledge actively.
- Promotes exploration, experimentation, and problem-solving in the learning process.
- Facilitates collaborative learning, discussions, and inquiry-based methods.
- Supports the use of real-life contexts to make learning meaningful.
- Helps in developing critical thinking, creativity, and decision-making skills.

Q.13 When was the Right of Children to Free and Compulsory Education Act enacted in India?

A. 26 August 2010

B. 26 August 2012

C. 26 August 2011

D. 26 August 2009

Answer: D

Sol: Solution: Correct Answer: (d) 26 August 2009

Explanation:

This act makes education a fundamental right for every child in India between the ages of 6 and 14 years. It ensures that children have access to free and compulsory elementary education and that no child is denied enrollment, attendance, or completion of elementary education due to social or economic reasons.

Information Booster:

→The RTE Act came into force on 1 April 2010, which is when its provisions were practically applied in schools.

→It mandates that private schools reserve 25% of seats for children from disadvantaged groups.

→It also sets norms and standards for school infrastructure, teacher-student ratio, and curriculum to improve quality.

Additional Knowledge:

→The act is linked to Article 21A of the Indian Constitution, which explicitly guarantees free and compulsory education as a fundamental right.

→RTE emphasizes child-centered learning, ensuring education is meaningful, inclusive, and equitable.

→It also prohibits physical punishment and mental harassment in schools, focusing on a safe and encouraging learning environment.

Q.14 Name the Education Commission that recommended for providing training for democracy?

A. Revised national policy (1992)

- B. University education commission (1948-49)
- C. National Policy on education (1986)
- D. The Indian education commission (1964-66)

Answer: B

Sol:

Solution: correct answer is (b) University Education Commission (1948-49).

Explanation:

The University Education Commission, headed by Dr. S. Radhakrishnan, was established in 1948 to examine the condition and future of higher education in India. One of its key recommendations was that universities should not only impart academic knowledge but also prepare students for responsible citizenship. This included training for democracy, fostering values like critical thinking, participation, and social responsibility, which are essential for a democratic society.

Information Booster:

The Commission emphasized that higher education should aim at the all-round development of personality, equipping students with the ability to understand social, political, and economic problems of the country. It suggested that education should cultivate a spirit of public service and democratic leadership. This idea became foundational in shaping university curricula that integrate civic education and social awareness.

Additional Knowledge:

- The University Education Commission also highlighted the need for teacher training to strengthen democratic values among students.
- It encouraged the development of liberal education, which balances vocational and professional skills with ethical and civic consciousness.
- Its recommendations influenced later policies like the National Policy on Education (1986), which further promoted education for democratic citizenship at all levels.

Q.15 The Kothari Commission (1964–66) was tasked with recommending reforms in the Indian education system. It was a landmark report that aimed to make the education system more inclusive, equitable, and efficient. Among its recommendations, the commission advocated for a Common School System to reduce disparities in educational opportunities. It also emphasized a new 10+2+3 pattern for schooling, ensuring a more structured and accessible education for all. The commission's recommendations aimed to address the issues of inequality in education, although it did not suggest separate curricula for boys and girls.

Which of the following were recommended by the Kothari Commission (1964–66)?

- I. Common School System
- II. 10+2+3 pattern of education
- III. Separate curricula for boys and girls

- A. I and II only
- B. II and III only
- C. Only III
- D. I, II and III

Answer: A

Sol:

The correct answer is (a) I and II only.

Explanation:

The Kothari Commission (1964–66) made significant recommendations to improve the Indian education system, such as the Common School System to ensure equal access to education and the 10+2+3 pattern to provide a more flexible educational structure. However, it did not recommend separate curricula for boys and girls, which was not a part of its inclusive approach to education.

Information Booster:

Common School System:

- The commission recommended a Common School System to provide equal educational opportunities for all children, regardless of their social or economic backgrounds.
- It aimed to eliminate disparities in education across different regions and communities.
- Focused on reducing the social divide and promoting inclusive education.
- This system would ensure access to basic education for every child in India.
- Aimed to centralize education and standardize the curriculum to some extent across the country.

10+2+3 Pattern of Education:

- **The commission recommended the 10+2+3 pattern to structure the education system:** 10 years of general education, 2 years of higher secondary education, and 3 years of university education.
- This structure allowed for a smoother transition from school to higher education and university.
- Focused on providing a solid foundation for children and flexibility for future academic choices.
- Aimed to standardize educational progression across the country.
- This structure still remains the basis of India's education system today, with slight variations in different states.

Q.16 Which commission considered strengthening of social and national integration as one of the major goals of education?

- A. Secondary Education Commission (1952-53)
- B. Revised National Policy (1992)
- C. National Policy Education (1986)
- D. The Indian Education Commission (1964-66)

Answer: D

Sol: Solution: correct answer is: (d) The Indian Education Commission (1964-66)

Explanation:

The Indian Education Commission, also known as the Kothari Commission (1964–66), was appointed to evaluate and recommend improvements in the Indian education system. One of its major objectives was to strengthen social and national integration. The commission emphasized that education should promote national unity, citizenship values, and cultural cohesion while also preparing individuals for personal growth and societal contribution.

Information Booster:

- The Kothari Commission laid the foundation for a common school system to reduce disparities in education and promote equality.
- It introduced the 10+2+3 structure of education (10 years of school, 2 years higher secondary, 3 years undergraduate) which became standard in India.
- The commission also stressed the role of education in developing scientific temper, moral values, and national consciousness.

Additional Knowledge:

- The commission recommended free and compulsory education up to age 14 to ensure broader access to education.
- It highlighted the link between education and economic development, arguing that an educated population is crucial for national progress.
- Social and national integration was seen as a key goal because India, being diverse in language, culture, and religion, needed education to foster unity and shared values.

Q.17 Which Gender Analysis Framework has these four components- the activity profile, access and control profile, influencing factors and checklists for analysis.

- A. Harvard Analytical Framework
- B. Gender Equality Framework
- C. Moser Framework
- D. People-Oriented Planning Framework

Answer: A

Sol:

Solution: Correct Answer: (a) Harvard Analytical Framework

Explanation:

The Harvard Analytical Framework, also known as the Gender Roles Framework, was one of the first gender analysis models designed to make a case for why gender is important for economic efficiency in development. It consists of four main components: the Activity Profile (who does what), the Access and Control Profile (who has what), Influencing Factors (what causes the differences), and the Project Cycle Analysis (a checklist for applying this to a project). This framework is primarily used to map the work of men and women in a community and to see how resources are distributed. It helps planners understand that "neutral" interventions can often affect men and women differently because of their pre-existing roles and levels of control over assets.

Information Booster:

- The framework was developed by the Harvard Institute for International Development in the mid-1980s.
- It is particularly useful for agricultural and rural development projects.
- The "Activity Profile" distinguishes between productive work and reproductive (household) work.
- "Access" refers to the ability to use a resource, while "Control" refers to the power to decide how it is used.
- It is a data-oriented tool that focuses on facts rather than just social theories.
- The "Influencing Factors" component looks at legal, economic, and cultural reasons for gender gaps.

Additional Knowledge:

- The Harvard Framework is often criticized for being too "top-down" and ignoring power dynamics.
- It focuses more on "efficiency" (getting the job done) than "empowerment" (changing social structures).
- Unlike the Moser Framework, it does not explicitly distinguish between practical and strategic gender needs.
- It remains a foundational tool for Gender Mainstreaming in international NGOs.
- The framework is highly structured, making it easy for non-experts to collect gender-disaggregated data.
- It emphasizes that women's labor is often "invisible" in traditional economic assessments.

Q.18 What is gender constancy?

- I. Child's awareness about his/her sex being same always.
- II. It is also called sex-category constancy.

- A. Both I and II
- B. Only II
- C. Only I
- D. Neither I nor II

Answer: A

Sol:

The correct answer is a) Both I and II.

Explanation:

Gender constancy refers to a child's understanding that their gender is permanent and does not change over time, regardless of superficial changes

in appearance or activities. This awareness develops in early childhood and is crucial for the child's gender identity. It is also known as sex-category constancy.

Statement I: Child's awareness about his/her sex being same always:

- Child recognizes that their gender is permanent and unchanging.
- Understanding is not influenced by clothing, hairstyle, or activities.
- This awareness usually develops between ages 4–7.

Statement II: It is also called sex-category constancy:

- Gender constancy is another term for sex-category constancy.
- Emphasizes that children categorize themselves correctly as male or female.
- Helps in forming stable gender identity and understanding social roles.

Q.19 Gender socialization encompasses which of the following dimensions?

- I. Difference
- II. Hierarchy

- A. Neither I nor II
- B. Only II
- C. Only I
- D. Both I and II

Answer: D

Sol: Explanation:

The correct answer is "Both I and II."

Gender socialization refers to the process by which individuals learn the cultural norms, behaviors, and expectations associated with their gender from childhood. It involves two main dimensions:

Difference:

- Gender socialization highlights differences between men and women in terms of roles, responsibilities, behaviors, and societal expectations.
- It reinforces stereotypes such as men being strong and dominant while women being nurturing and submissive.

Hierarchy:

- Gender socialization also establishes hierarchies of power and privilege.
- It often leads to gender inequalities, where men typically occupy positions of authority while women are expected to follow traditional roles.
- Hierarchy is evident in areas such as wage gaps, leadership positions, and social expectations.

Thus, both difference and hierarchy play a crucial role in the gender socialization process, shaping how individuals perceive and perform their gender roles in society.

Information Booster:

Key Aspects of Gender Socialization

Family Influence

- Parents and caregivers treat children differently based on their gender, often reinforcing gender norms through toys, clothing, and activities.
- Example: Boys are encouraged to play with cars and action figures, while girls are given dolls and kitchen sets.

Education System

- Schools play a significant role in gender socialization by reinforcing traditional gender roles through curricula, teacher expectations, and peer interactions.
- Subjects and extracurricular activities are often gendered (e.g., STEM for boys, arts for girls).

Media Influence

- Television, movies, advertisements, and social media shape perceptions of masculinity and femininity.
- Example: Male characters are often portrayed as leaders and problem-solvers, while female characters are shown in supportive or domestic roles.

Workplace Gender Norms

- Professions are often gendered (e.g., nursing and teaching for women, engineering and leadership roles for men).
- Wage disparities exist due to gender hierarchy in workplaces.

Cultural and Religious Expectations

- Many societies and religious practices enforce rigid gender roles, dictating how men and women should behave.
- Example: In some cultures, women are expected to prioritize family over careers.

Impact of Gender Socialization

Positive Effects: Encourages a sense of identity, belonging, and structure in society.

Negative Effects: Reinforces gender inequality, discrimination, and social restrictions on personal freedom.

Q.20 Which of the following ideas in Piaget's theory can be applied in teaching students-

1. Use of constructivist approach.
2. Consider the child's knowledge and level of thinking.
3. Use of continuous assessment.
4. Turn the classroom into setting of exploration and discovery.

- A. 1, 2
B. 1, 2, 3, 4
C. 1, 4
D. 1, 2, 3

Answer: B

Sol: Solution: Correct Answer: B (1, 2, 3, 4)

Explanation:

Jean Piaget's theory of cognitive development emphasizes that learning is an active process where children construct knowledge through interaction with their environment. All four points mentioned in the question reflect Piaget's ideas:

Use of constructivist approach – Piaget believed knowledge is constructed, not transmitted. Hence, teaching should be child-centered and activity-based.

Consider the child's knowledge and level of thinking – Teachers must match teaching methods with the child's developmental stage (sensorimotor, preoperational, concrete operational, formal operational).

Use of continuous assessment – Piaget emphasized that learning is a gradual process, not one-time. Continuous observation and assessment help track the child's progress in thinking and understanding.

Turn the classroom into a setting of exploration and discovery – Piaget promoted learning by doing, experiments, and problem-solving so that children can discover concepts themselves rather than rote memorization.

Information Booster:

- Piaget's theory rejects rote learning and stresses active participation.
- Teachers act as facilitators, guiding exploration rather than dictating facts.
- Learning activities should be designed according to the child's readiness and cognitive level.
- Discovery learning and group activities promote deeper understanding.

Additional Knowledge:

Educational Implications of Piaget's Theory:

- Use real-life examples and concrete materials in teaching.
- Encourage questioning, reasoning, and problem-solving.
- Respect individual differences in learning pace.
- Provide opportunities for peer interaction (helps in cognitive conflict and growth).

Q.21 A teacher conducts a lesson on environmental conservation with her students. She encourages them to participate in activities like planting trees, cleaning the school grounds, and discussing ways to reduce waste. The goal is to help students not only understand environmental concepts but also develop a sense of responsibility towards protecting the environment.

In Environmental Studies, values education is integrated to:

- A. Strengthen memorization of facts
B. Develop responsibility towards environment
C. Focus exclusively on scientific knowledge
D. Encourage rote repetition of information

Answer: B

Sol:

The correct answer is (b) **Develop responsibility towards environment.**

Explanation:

In Environmental Studies, values education aims to foster responsibility towards the environment (b). This involves instilling a sense of duty and care for the natural world, encouraging students to adopt sustainable practices. While scientific knowledge is important, the focus is on nurturing responsible behavior, rather than on memorization or rote repetition.

Information Booster:

Developing Responsibility:

- Environmental Studies incorporates values education to encourage students to care for the environment and make environmentally conscious decisions.
- Activities like tree planting, recycling programs, and nature walks help develop a sense of environmental responsibility.
- Students learn that they play a key role in sustainable practices and protecting natural resources.

Fostering Awareness and Action:

- The focus is on practical engagement with the environment, motivating students to take action beyond the classroom.
- Encourages students to understand the impact of their actions on the environment and work towards sustainable solutions.
- Emphasizes collaborative efforts, such as community projects, to address environmental challenges.

Additional Points:

- **Strengthen memorization of facts** → Incorrect because values education is not focused on rote learning or memorization but on the development of responsibility and action.
- **Focus exclusively on scientific knowledge** → Incorrect because values education in EVS emphasizes holistic learning, including environmental ethics and actions, not just scientific facts.
- **Encourage rote repetition of information** → Incorrect because the goal is to encourage active learning and responsible behavior, not just repeating facts.

Q.22 Which of the following teaching strategies enhance experiential learning in Environmental Studies?

- I. Field visits and nature observations
- II. Memorization of textbook definitions
- III. Group projects on local environmental issues
- IV. Lecture-based instruction exclusively

- A. I and III only
- B. II and IV only
- C. I, II and III only
- D. I, III and IV only

Answer: A

Sol:

The correct answer is (a) **I and III only.**

Explanation:

Experiential learning in Environmental Studies involves active participation and real-world engagement. Strategies like field visits and nature observations (I) and group projects on local environmental issues (III) encourage students to apply what they learn in real-world contexts. These methods promote hands-on learning and critical thinking. Memorization of textbook definitions (II) and lecture-based instruction exclusively (IV) are more passive approaches and do not fully engage students in experiential learning.

Information Booster:

Field Visits and Nature Observations:

- Field visits allow students to experience nature firsthand, providing a deeper understanding of environmental concepts.
- These activities engage students in active observation and data collection, fostering critical thinking and real-world application of knowledge.

Group Projects on Local Environmental Issues:

- Group projects encourage students to collaborate and research local environmental problems, such as pollution or conservation efforts.
- This fosters problem-solving skills and allows students to apply their learning to real-world scenarios.
- Collaborative work also enhances communication skills and encourages social responsibility.

Q.23 Traditional approach and Modern approach are adopted by social scientists in understanding political science. Which of the following statement is correct about these approaches?

- I. Traditional approach insists on quantitative and inductive approach and aims at making politics a scientific body of knowledge.
- II. Modern approach defines political science as an objective, scientific and process oriented task.

- A. Both I and II
- B. Only II
- C. Only I
- D. Neither I nor II

Answer: B

Sol:**Solution:** Correct Answer: (b) Only II**Explanation:**

The traditional approach in political science is normative and descriptive in nature.

It focuses on institutions, history, laws, and values, not on quantitative or scientific methods.

Hence, statement I is incorrect because it wrongly attributes quantitative and inductive methods to the traditional approach.

The modern approach, on the other hand, emphasizes scientific study, objectivity, and empirical analysis.

It defines political science as an objective, process-oriented discipline using quantitative and behavioral methods.

Therefore, statement II is correct.

Information Booster:

Traditional Approach:

→Focus: Political institutions (state, government, constitution).

→Nature: Normative, philosophical, historical.

→Aim: What ought to be rather than what is.

→Examples: Historical, Institutional, Legal, Philosophical approaches.

Modern Approach:

→Focus: Political behavior, decision-making, systems analysis.

→Nature: Empirical, scientific, objective.

→Aim: Explain and predict political phenomena.

→Examples: Behavioralism, Systems theory, Structural-functionalism.

Additional Knowledge:

→The shift from traditional to modern approach occurred after World War II, especially with the rise of the behavioral movement in the 1950s.

→Scholars like David Easton, Robert Dahl, and Gabriel Almond emphasized data-based, analytical, and process-oriented study of politics.

Q.24 Indicate the correct sequence among four stages of organizing And activity-based approach in EVS.

- A. recapitulate the theme, extend support to each student, have a well-organised plan, create a positive emironment
- B. extend support to each student, recapitulate the theme, create a positive environment, have a well-organised plan
- C. create a positive environment, have a well-organized plan, extend support to each student, recapitulate the theme
- D. have a well-organised plan, create a positive environment, extend support to each student, recapitulate the theme

Answer: C

Sol: The activity – based approach in EVS refers to a teaching method that emphasizes hands-on learning experiences and activities to engage students in the study of environmental science. Instead of relying solely on lectures or textbooks, educators using an activity based approach seek to actively involve students in the learning process through various activities, such as experiments, field trips, role-plays, and group projects.

Q.25 Which of the following is the most important for students on a field trip for EVS teaching?

- A. Setting goals of field trip
- B. Choosing means of travel
- C. Creating opportunities for discussion
- D. Maintaining reflective journal

Answer: C

Sol: During a field trip for EVS teaching, students should have the opportunity to engage in meaningful discussions about the environment, sustainability, conservation, and other related topics. These discussions can help students connect what they are learning in the classroom to real-life situations and can promote critical thinking, problem-solving and active engagement with the material.

Q.26 A teacher shows a slow-motion video of a seed germinating and asks students to identify the sequence of growth and suggest why the roots grow downwards. Which of the following are likely to be employed?

(1) Observing (2) Sequencing (3) Inferring (4) Formulating Hypothesis

- A. (1) and (2)
- B. (1), (2) and (3)
- C. (3) and (4)
- D. (1), (2), (3) and (4)

Answer: D**Sol:**

The correct answer is (d) (1), (2), (3) and (4).

Explanation:

Watching the video carefully to see the radical and plumule emerge is (Observing). Arranging the stages of growth in order is (Sequencing). Explaining that roots grow down because of gravity is (Inferring). Suggesting reasons for this behavior to be tested later is (Formulating a Hypothesis).

Information Booster:

- **Observing:** Using ICT aids like slow-motion videos allows students to see biological processes that happen too slowly for real-time viewing.
- **Sequencing:** This involves the **logical ordering** of events, which is a key skill in understanding life cycles and processes.
- **Inferring:** Students use their **analytical skills** to explain why certain biological directions (like downward root growth) occur.
- **Formulating Hypothesis:** By suggesting reasons, students engage in **higher-order thinking** by proposing testable explanations for natural phenomena.
- **ICT in Biology:** Digital tools help in **visualizing growth** and development that are otherwise difficult to track in a single classroom period.

Additional Points:

- **Measuring:** This skill is not utilized here as the students are not using tools to quantify the length or weight of the seed.
- **Classifying:** There is no task involving the **grouping of multiple seeds** into different categories in this specific prompt.
- **Predicting:** While related to hypothesizing, the focus here is on **explaining an observed event** rather than guessing a future one.

Q.27 A science teacher uses 'ICT' (Information and Communication Technology) to show a simulation of molecular movement in different states of matter. This helps students to:

- Avoid doing actual physical experiments in the science laboratory.
- Spend more time on the computer rather than studying their textbooks.
- Memorize the definitions of solids, liquids, and gases more quickly.
- Visualize abstract concepts that cannot be seen with the naked eye.

Answer: D

Sol:

The correct answer is (d) **Visualize abstract concepts that cannot be seen with the naked eye.**

Explanation:

Many scientific concepts, such as molecular motion, are "microscopic" and abstract. ICT simulations provide a visual representation of these unseen processes, helping students build a correct mental model of how particles behave in solids, liquids, and gases.

Information Booster:

- **Visualization of the Unseen:** Simulations allow students to observe **atomic and molecular levels** which are otherwise impossible to see.
- **Dynamic Modeling:** Unlike static diagrams, ICT shows the **speed and vibration** of particles as temperature changes.
- **Safe Exploration:** ICT provides a platform to "test" scenarios that might be **dangerous or impossible** to conduct in a school lab.
- **Interactive Learning:** Students can **manipulate variables** (like increasing heat) and see the immediate effect on molecular movement.
- **Cognitive Bridging:** It helps in connecting **abstract theories** to a visual reality, making the concept easier to internalize.

Additional Points:

- **Avoiding Experiments:** ICT should **supplement** hands-on labs, not replace the tactile experience of real-world experimentation.
- **Memorization:** The goal of a simulation is **conceptual understanding**, not speeding up the rote memorization of definitions.
- **Computer Usage:** The focus is on the **pedagogical value** of the content, not merely increasing the time spent on electronic devices.

Q.28 According to National Curriculum Framework 2005, assessment in mathematics should include

- Ranking the students according to their scores
- Progress of the students in terms of conceptual understanding and acquisition of problem solving skill
- Testing the knowledge of procedure and formulae
- Testing the ability of a student to do error-free calculation

Answer: B

Sol: Correct Answer is (B) Progress of the students in terms of conceptual understanding and acquisition of problem-solving skill

Explanation: According to NCF 2005, assessment in mathematics should focus on understanding concepts, reasoning, and developing problem-solving skills rather than rote memorization or mechanical calculations.

Additional Information:

- **(A)** Ranking students only by scores promotes competition, not learning.
- **(C)** Merely testing procedures and formulas ignores conceptual understanding.
- **(D)** Error-free calculation alone does not reflect deep mathematical thinking.

Q.29 Which of the following activity teacher can use for class II children to teach about subtraction of one digit numbers.

- A. Draws 6 dots and encircles 2 among them and asks children to count the remaining dots. Repeats the same process with similar examples.
 B. Writes $6 - 2 = 4$ on black board and asks children to write it 10 times in their not book
 C. Teacher asks children to read aloud all the problems written on the black board
 D. Teacher gives a lot of numerical problems like $17 - 8$, $14 - 12$ etc. to practice

Answer: A

Sol: The correct answer is (A) Draws 6 dots and encircles 2 among them and asks children to count the remaining dots. Repeats the same process with similar examples.

Explanation:

For **Class II children**, mathematical learning should be **concrete and visual**, not purely symbolic.

By **drawing dots** (or using real objects like counters, sticks, or buttons), the teacher helps students:

See subtraction as “taking away” from a group.

Count and visualize what remains after removing some objects.

Move from **concrete experience** → **pictorial understanding** → **abstract symbols** (like $6 - 2 = 4$).

This approach aligns with the **constructivist method** and the **NCF 2005** vision, which emphasizes **learning by doing** and building understanding through **hands-on activities**.

Additional Information (Other Options):

(B) Writes $6 - 2 = 4$ on the blackboard and asks children to write it 10 times in their notebook

Incorrect – This encourages **rote memorization**, not understanding.

(C) Teacher asks children to read aloud all the problems written on the blackboard

Incorrect – Reading problems aloud does not help children **grasp the meaning** of subtraction.

(D) Teacher gives a lot of numerical problems like $17 - 8$, $14 - 12$ etc. to practice

Incorrect – Practice without **conceptual understanding** leads to mechanical learning, especially inappropriate for young learners.

Information Booster:

Concrete materials and **visual aids** (dots, counters, beads, pictures) are essential for introducing new arithmetic concepts.

Activities like **removing, separating, or comparing groups** help children internalize the idea of subtraction as “taking away” or “finding the difference.”

Once the concept is clear, children can gradually move toward **symbolic subtraction** (using numbers).

Q.30 A teacher told her students to maintain a daily mathematics journal to note down the situations where in they use mathematics in their daily life. The objective is to:

- A. Prepare the class for a forth coming inspection.
 B. Help students improve computational skills.
 C. Help students connect classroom mathematics to that of the outside world.
 D. To test students’ understanding of their daily life.

Answer: C

Sol: Correct answer is: (C) Help students connect classroom mathematics to that of the outside world.

Explanation:

The main purpose of maintaining a **mathematics journal** to note real-life uses of math is to:

- **Bridge the gap between abstract classroom learning and real-world application.**
- Make students **aware of the relevance of mathematics** in their everyday experiences (e.g., shopping, time management, budgeting).
- Align with **constructivist learning** and NCF 2005’s goal of **making mathematics meaningful and connected to life.**

Other Options:

- **A: Prepare the class for a forthcoming inspection** – This is procedural, not educational.
- **B: Help students improve computational skills** – Journaling real-life math use focuses on **application and understanding**, not computation drills.
- **D: To test students’ understanding of their daily life** – The goal is **reflection and connection**, not testing.

Information Booster:

This approach supports:

- **Experiential and reflective learning.**
- **Mathematical thinking beyond the classroom.**
- **NEP 2020’s emphasis** on connecting education with real-life contexts and fostering critical thinking.

Q.31 A teacher explains grammar rules first and then gives examples. According to constructivist pedagogy, the better approach would be to:

- A. Memorize rules
- B. Translate sentences
- C. Let students infer rules from examples
- D. Drill structures

Answer: C

Sol:

Solution: Correct Answer: (c) Let students infer rules from examples

Explanation:

Constructivist pedagogy believes that students learn best when they actively construct knowledge instead of passively receiving it. So, rather than the teacher explaining grammar rules first, students should be given examples, sentences, or situations and encouraged to discover the rules themselves. This makes learning meaningful and long-lasting.

Information Booster:

→Constructivism focuses on learning by doing and thinking.

When students infer rules:

→They engage in critical thinking

→They understand grammar in context, not as isolated rules

→Learning becomes student-centered, not teacher-centered

→This approach is also called inductive learning (from example to rule).

Additional Knowledge:

→Constructivist ideas are based on the theories of Jean Piaget and Lev Vygotsky.

In language teaching, this method:

→Encourages active participation

→Builds confidence and autonomy in learners

→Helps learners apply grammar naturally in speaking and writing

→Modern approaches like communicative language teaching and activity-based learning follow this principle.

Q.32 A teacher reads aloud with proper stress and intonation. This helps students develop:

- A. Writing skills
- B. Pronunciation and listening skills
- C. Grammar accuracy
- D. Translation ability

Answer: B

Sol:

Solution: Correct Answer: (b) Pronunciation and listening skills

Explanation:

When a teacher reads aloud with proper stress and intonation, students hear correct sounds, rhythm, and patterns of spoken English. This exposure helps learners understand how words are pronounced and how meaning changes with stress and intonation. At the same time, students improve their listening ability by focusing on sounds, pauses, and sentence flow.

Information Booster:

Reading aloud by the teacher acts as a live language model. Learners unconsciously imitate correct pronunciation, word stress, sentence rhythm, and natural speech patterns. This is especially useful for beginners and second-language learners who need strong auditory input.

Additional Knowledge:

Such read-aloud activities support phonological awareness, help learners distinguish similar sounds, and build confidence in speaking. Over time, students develop clearer speech and better comprehension because they are regularly exposed to accurate and expressive spoken language.

Q.33 According to Piaget, which term is used for the ability to store mental images of objects and experiences as symbols?

- A. Representational ability
- B. Flexible ability
- C. Critical ability
- D. Learning ability

Answer: A

Sol: Correct Answer: **(A) Representational ability**

Explanation:

According to Jean Piaget, an important achievement in children's cognitive development is the ability to store objects and experiences in the mind through mental images or symbols. This ability is called representational ability.

It means:

- A child no longer depends solely on the physical presence of an object.
- The child can form a mental image of the object and represent it internally using symbols (such as words, pictures, or signs).

Example:

- If a child cannot see their toy, they can still remember it and talk about it.
- This shows that the child has formed a mental representation of the object.

Information Booster:

According to Piaget, this ability develops during the Pre-operational Stage, which is approximately 2 to 7 years of age.

During this stage, a child:

- Learns to use symbols
- Develops language
- Enhances imagination
- Expresses ideas through symbolic play

Additional Knowledge:

- The emergence of representational function or symbolic function is a major milestone in cognitive development.
- It forms the foundation for activities like language, drawing, storytelling, and pretend play.
- It also enables the development of thinking, planning, and problem-solving skills.

Q.34 Two psychologists are analyzing a student's behavioral issues. Psychologist A asks, "What specific crisis is he failing to resolve at his current age?" Psychologist B asks, "How are his home life and school life interacting to support or hinder him?" Which theories do they represent?

- Both represent Erikson.
- Psychologist A: Bronfenbrenner; Psychologist B: Erikson.
- Psychologist A: Erikson; Psychologist B: Bronfenbrenner.
- Both represent Bronfenbrenner.

Answer: C

Sol:

The correct answer is (c) **Psychologist A: Erikson; Psychologist B: Bronfenbrenner.**

Explanation:

Psychologist A focuses on an internal psychological crisis determined by the child's age (e.g., "Is he facing Industry vs. Inferiority?"), which is the hallmark of Erikson's Psychosocial Theory. Psychologist B focuses on the interaction between contexts (Home and School), which describes the Mesosystem in Bronfenbrenner's Ecological Theory.

Information Booster:

- **Erikson (Psychosocial):** Focuses on the inner emotional life and age-specific crises.
- **Bronfenbrenner (Ecological):** Focuses on the outer context and layers of environment.
- **Nature of Development:** Erikson sees it as a series of steps (Stage Theory); Bronfenbrenner sees it as a system of concentric circles (Systems Theory).
- **Application:** Erikson is used for understanding personality; Bronfenbrenner for understanding social support.
- **Complementary:** Teachers use both—Erikson for the student's feelings, Bronfenbrenner for the student's background.

Q.35 16-year-old Fatima is trying out different clothing styles, changing her friend groups frequently, and debating political ideas with her parents. She is trying to figure out "who she really is." Erikson would say she is navigating the crisis of:

- Intimacy vs. Isolation
- Identity vs. Role Confusion
- Autonomy vs. Shame and Doubt
- Generativity vs. Stagnation

Answer: B

Sol:

The correct answer is (b) **Identity vs. Role Confusion.**

Explanation:

Fatima is in Adolescence (ages 12–18). The primary task of this stage is to answer the question, "Who am I?" by exploring different social roles, ideologies, and future goals. Her experimentation with clothes and ideas is a healthy part of forming an Identity. Failure to establish this sense of self

leads to Role Confusion.

Information Booster:

- **Developmental Task:** Integrating various self-images (student, friend, child) into a cohesive, stable self-identity.
- **Peer Importance:** Peer groups become the primary source of social validation.
- **Virtue Acquired:** Successful resolution leads to Fidelity—the ability to commit to others and values.
- **Crisis:** Without exploration, teens may end up with a "foreclosed" identity (blindly following parents) or "diffused" identity (not caring).
- **Scope:** Covers sexual identity, career choice, and political/religious beliefs.

Additional Points:

- **Intimacy vs. Isolation:** Occurs in Young Adulthood, focusing on relationships after identity is formed.
- **Autonomy vs. Shame:** Occurs in Early Childhood (toddlers), focusing on physical independence.
- **Generativity vs. Stagnation:** Occurs in Middle Adulthood, focusing on parenting and career contribution.

Q.36 In Edward Thorndike's theory, the Law of Effect emphasizes:

- Punishment strengthens behavior
- Practice strengthens connections
- Satisfying consequences strengthen responses
- Conditioning through pairing

Answer: C

Sol: The correct answer is (c) Satisfying consequences strengthen responses

Explanation:

Thorndike's **Law of Effect** states that behaviors followed by pleasant or **satisfying consequences** are more likely to be repeated, while those followed by discomfort are weakened. This was a revolutionary shift toward understanding how results shape learning. It laid the foundation for Skinner's later work on **reinforcement** in operant conditioning.

Information Booster:

- **Connectionism:** Thorndike believed learning is the result of forming associations (bonds) between stimuli and responses.
- **Satisfaction:** A state of affairs which the animal does nothing to avoid, often doing things to attain it.
- **Trial and Error:** Learning occurs by trying various responses until one leads to a successful outcome.
- **Educational Impact:** Teachers use rewards and positive feedback based on this law to encourage student effort.
- **Revision:** Thorndike later admitted that while satisfaction strengthens, 'annoyance' (punishment) doesn't always weaken responses.

Additional Points:

- Option (a): **Punishment strengthens behavior** – Incorrect; punishment is intended to weaken or suppress behavior.
- Option (b): **Practice strengthens connections** – This refers to the 'Law of Exercise', not the Law of Effect.
- Option (d): **Conditioning through pairing** – This is the hallmark of Pavlovian Classical Conditioning.

So the correct answer is (c)

Q.37 A chimp suddenly uses boxes to reach bananas. This shows:

- Conditioning
- Insightful learning
- Readiness
- Punishment

Answer: B

Sol: The correct answer is (b) Insightful learning

Explanation:

Insightful learning, proposed by **Wolfgang Kohler**, involves a sudden understanding or 'Aha!' moment. In his experiment with the chimpanzee **Sultan**, the animal didn't use trial and error; instead, it perceived the **whole situation** and realized how the boxes could be used as tools. It emphasizes cognitive restructuring over mechanical association.

Information Booster:

- **Gestalt Theory:** Focuses on perceiving the whole rather than just the sum of its individual parts.
- **Sudden Solution:** Learning occurs through a sudden flash of understanding rather than gradual steps.
- **Cognitive Process:** It involves high-level mental activity and perceiving relationships between elements.
- **Transposition:** Once an insight is gained, it can be easily applied to similar future problems.
- **Internal Motivation:** The solution itself provides a sense of satisfaction and cognitive closure.

Additional Points:

- Option (a): **Conditioning** – Suggests learning through repetitive stimulus-response pairings.
- Option (c): **Readiness** – Refers to the physical/mental maturity required to learn, not the process itself.
- Option (d): **Punishment** – An aversive consequence used to stop a behavior, not a method of problem-solving.

So the correct answer is (b)

Q.38 According to Piaget's theory of cognitive development, during which stage does a child develop the ability to perform operations mentally and reverse them?

- A. Sensorimotor stage
- B. Preoperational stage
- C. Concrete operational stage
- D. Formal operational stage

Answer: C

Sol: Correct Answer: (C) Concrete operational stage

Explanation:

- In the concrete operational stage (7–11 years), children learn to mentally perform operations like classification, seriation, and conservation.
- Reversibility means understanding that actions can be undone (e.g., water poured into a tall glass is still the same amount).
- Children also start logical thinking about concrete objects.
- Egocentrism reduces and perspective-taking improves.
- This stage marks major cognitive growth essential for mathematical and scientific reasoning.

Information Booster:

- Piaget proposed four stages: Sensorimotor, Preoperational, Concrete operational, Formal operational.
- Conservation tasks (liquid, mass, number) develop during this stage.
- Thinking becomes rule-based and organized.
- Abstract thinking is still not fully developed.
- Cognitive tasks must involve hands-on materials for this age group.

Additional Information (Other Options):

Option (A) Sensorimotor: Involves sensory exploration and object permanence.

Option (B) Preoperational: Characterized by egocentrism and symbolic play, not reversibility.

Option (D) Formal operational: Involves abstract and hypothetical reasoning.

Q.39 A student inherits high verbal ability but receives poor language exposure. This will likely result in:

- A. Full expression of verbal ability
- B. Zero growth in verbal ability
- C. Under-utilization of genetic potential
- D. No relation to environment

Answer: C

Sol:

Solution: Correct Answer: (c) Under-utilization of genetic potential

Explanation:

A student may be born with strong verbal ability (genetic potential), but if the environment provides poor language exposure — limited conversation, weak literacy environment, no rich vocabulary — then the student cannot fully develop the ability they naturally possess.

So, the genetic potential remains partially expressed, not fully developed.

This is called "under-utilization of genetic potential" or "environmental suppression of ability."

Information Booster:

- Nature (genes) provides the capacity.
 - Nurture (environment) determines how much of that capacity is realized.
 - Skills like language, intelligence, creativity require environmental stimulation to grow.
- Poor environment → reduced performance, even if genes are strong.

Good environment → maximizes inherited talent.

This aligns with the educational principle of interactionism, which says development is the result of both heredity and environment working together, not one alone.

Additional Knowledge:

In psychology, this is often described using Reaction Range Theory:

→ Heredity sets the upper and lower limits of potential, but environment decides where within that range the individual will fall.

→ Language development is highly experience-dependent — vocabulary, grammar, fluency develop only when a child gets rich linguistic interactions.

Teachers can help maximize potential through:

→ reading activities, storytelling, conversations, comprehension tasks, vocabulary enrichment, etc.

Q.40 A teacher explains multiplication using repeated addition first. This follows which maxim?

- A. Whole to part
- B. Particular to general
- C. Analysis to synthesis
- D. Empirical to rational

Answer: D

Sol:

Solution: Correct Answer: (d) Empirical to rational

Explanation:

When a teacher explains multiplication using repeated addition, they start with concrete, observable examples (adding numbers repeatedly) before moving to the abstract concept of multiplication. This approach begins with experience and observation (empirical) and then moves toward reasoning and abstract understanding (rational).

Information Booster:

→ The Empirical to Rational maxim is based on the idea that learning is more effective when students first encounter concrete examples, experiments, or practical situations, and then generalize these experiences into abstract principles or rules.

→ This method helps students connect new concepts to prior knowledge and real-world experience, making understanding deeper and retention stronger.

Additional Knowledge:

→ This maxim is widely supported in modern pedagogy and is reflected in Piaget's cognitive development theory, where children move from concrete operations to abstract thinking.

→ It also aligns with the constructivist approach, where learners actively construct understanding through experience before formalizing it.

→ For example, before teaching the formula for the area of a rectangle, a teacher might ask students to count unit squares in several rectangles (empirical), and then guide them to derive the formula

→ Length \times breadth (rational).

