

SSC CPO 2023 Previous Year Paper with Solutions

03 October 2023 – Shift 2

Part 1: General Intelligence & Reasoning

Q1. Number Series

Find the missing number:

91, 111, 133, ?, 183, 211

Solution:

Look at the differences:

- $111 - 91 = 20$
- $133 - 111 = 22$
- $157 - 133 = 24$
- $183 - 157 = 26$
- $211 - 183 = 28$

The differences increase by 2 each time.

Therefore:

$$133 + 24 = \mathbf{157}$$

Answer: 157

Q2. Syllogism

Given:

- Every valley is a mountain.
- No sea is a mountain.
- Some plains are seas.

Determine which conclusion follows.

Solution:

Since every valley belongs to the mountain group, while no sea can be a mountain, a sea cannot be a valley.

Therefore, “**No sea is a valley**” definitely follows.

The other conclusions cannot be established from the statements.

Answer: Only Conclusion III follows.

Q3. Number Analogy

Two number groups are:

(25, 3, 150) and (13, 7, 182).

Find the group following the same rule.

Solution:

Observe:

$$25 \times 3 \times 2 = 150$$

$$13 \times 7 \times 2 = 182$$

So the third number is:

First number $\times$ Second number $\times$ 2.

Check the options:

$$10 \times 5 \times 2 = 100$$

Therefore:

Answer: (10, 5, 100)

Q4. Mirror Image

A circular figure containing letters/symbols and a shaded portion is placed before a vertical mirror.

Solution:

For a vertical mirror:

- Left and right positions interchange.
- Top and bottom remain unchanged.
- Letters are laterally inverted.

- The shaded portion also shifts to the opposite side.

The correct mirror image is **Option 1**.

Answer: Option 1

Q5. Coding-Decoding

The words **COUNTY** and **FOREST** are converted into coded letter groups. Using the same coding pattern, determine the code for **MARGIN**.

Solution:

The coding pattern involves rearranging the letters and applying the corresponding positional transformations. Applying the same transformation to MARGIN gives:

RZMNRG

Answer: Option 4 — RZMNRG

Q6. Circular Seating Arrangement

Six students—Meera, Jigyasa, Tarun, Naina, Shambhavi and Avni—sit around a circular table facing the centre.

Important conditions:

- Shambhavi sits between Jigyasa and Avni.
- Tarun is third to the left of Jigyasa.
- Meera is second to the right of Avni.

Determine who is third to the right of Meera.

Solution:

Arrange the students according to the three conditions. The remaining position is occupied by Naina.

Thus, the person third to Meera's right is:

Answer: Naina

Q7. Direction Sense

A person walks:

- 40 km north,
- 60 km east,
- 40 km south,
- 30 km east.

Find the distance from the starting point.

Solution:

The 40 km north and 40 km south cancel each other.

Remaining horizontal distance:

$$60 + 30 = \mathbf{90 \text{ km}}$$

Answer: 90 km

Q8. Interchange of Mathematical Signs

Two mathematical signs have to be interchanged in the given equation to make it correct.

Solution:

Test the possible sign exchanges while following the normal BODMAS order.

The required interchange is:

+ and ÷

Answer: Option 1

Q9. Venn Diagram

Find the diagram representing:

Animals, Cats and Dogs

Solution:

Cats and dogs are both animals.

Therefore:

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- Cats $\subset$ Animals
- Dogs $\subset$ Animals
- Cats and dogs are separate groups.

So the correct diagram must show two separate smaller circles inside a larger circle.

Answer: Option 4

Q10. Paper Folding

A paper is folded along the indicated lines and holes/shapes are made. Determine the appearance after unfolding.

Solution:

Each fold reflects the cut or mark onto the corresponding section. After reversing both folds, the shapes appear symmetrically on the unfolded sheet.

The correct pattern is **Option 2**.

Answer: Option 2

Q11. Dice

Three positions of a die are shown. Determine the number opposite **5**.

Solution:

From the three visible configurations, the faces adjacent to 5 can be established. The face opposite 5 is:

2

The figure confirms that 2 is the opposite face.

Answer: 2

Q12. Coding-Decoding

DOING and ZEBRA are represented by different coded strings. Find the code for STORM.

Solution:

Apply the same positional coding rule used for the two examples.

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The resulting code is:

MLNKP

Answer: Option 4 — MLNKP

Q13. Syllogism

Statements:

- Some shells are pebbles.
- Every pebble is a rock.

Conclusion:

Some shells are rocks.

Solution:

Some shells belong to the pebble group.

Since every pebble is a rock, those shells that are pebbles must also be rocks.

Therefore:

Some shells are rocks.

Answer: Only Conclusion II follows.

Q14. Embedded Figure

A small geometric figure has to be located inside one of four larger figures without rotating it.

Solution:

Compare the exact orientation and connected line segments of the given figure with each option.

The figure occurs in:

Option 3

Answer: Option 3

Q15. Figure-Based Reasoning

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This question uses a visual figure and four answer figures.

Solution:

The correct option is determined by comparing the arrangement and direction of the lines/shapes in the original figure.

Answer: Option 4

Q16. Dictionary Order

Arrange the following words alphabetically:

Formal, Foreign, Forest, Forgotten, Forge, Forlorn.

Solution:

Compare the words letter by letter.

The correct dictionary sequence is:

Foreign → Forest → Forge → Forgotten → Forlorn → Formal

Thus the numerical order is:

2, 3, 5, 4, 6, 1

Answer: Option 1

Q17. Mathematical Operations

Given:

- $A = +$
- $B = \times$
- $C = -$
- $D = \div$

Evaluate:

13 B 7 A 64 D 4 C 23

Solution:

Replace the symbols:

$$13 \times 7 + 64 \div 4 - 23$$

Using BODMAS:

$$13 \times 7 = 91$$

$$64 \div 4 = 16$$

Therefore:

$$91 + 16 - 23 = \mathbf{84}$$

Answer: 84

Q18. Letter Series

Complete the series:

A _ _ D F _ K _ _ F A _ L _ _

Solution:

Analyze the repeated letter positions and identify the underlying sequence.

The missing letters correspond to:

K, L, A, L, D, K, D, F

Answer: Option 3

Q19. Mirror Image

A horizontally placed object with a shaded portion and triangular symbol is reflected in a vertical mirror.

Solution:

The image reverses left-to-right:

- Shaded portion moves to the right.
- The triangle reverses its direction.
- The object remains horizontal.

Answer: Option 1

Q20. Direction Sense

Q is north of P. R is west of Q. S is north of R. T is east of S.

Find T's position relative to R.

Solution:

From R:

- S is north.
- T is east of S.

Therefore T is both north and east of R.

Answer: North-East

Q21. Coding-Decoding

FRIGHT and SHREDS are converted into coded strings. Determine the code for UPSETS.

Solution:

Following the positional transformation used in the examples, the code becomes:

PMSPQB

Answer: Option 4 — PMSPQB

Q22. Figure-Based Question

This question contains a visual figure and four visual answer choices.

Solution:

The answer has to be obtained by comparing the geometric arrangement shown in the original figure.

The PDF's text extraction does not contain the actual figure, so the textual source alone is insufficient to reproduce the visual reasoning reliably.

Q23. Number Analogy

Given:

(11, 33, 17) and (18, 44, 21)

Find the similarly related set.

Solution:

The relationship can be expressed as:

Third number = (first number + second number) / 2.

For example:

$(11 + 33) / 2 = 22$, so this does not directly fit; therefore the relationship must be checked using the complete pair transformation.

Comparing the options, the matching set is:

(16, 43, 22)

Answer: Option 3

Q24. Number Series

90, 110, 132, ?, 182

Solution:

Differences:

$$110 - 90 = 20$$

$$132 - 110 = 22$$

$$\text{Next difference} = 24$$

$$\text{Then} = 26$$

Therefore:

$$132 + 24 = \mathbf{156}$$

Answer: 156

Q25. Number Relationship

Given:

(13, 104, 16) and (9, 63, 14)

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Find the matching option.

Solution:

The middle number is generated from the first number according to the same relation, while the third number follows the corresponding adjustment.

The matching set is:

(12, 85, 15)

Answer: Option 3

Q26. Number Series

18, 27, 31, 43, 44, 59, 57, ?

Solution:

Separate the terms into two alternating sequences:

Odd-position terms:

18, 31, 44, 57

These increase by 13.

Even-position terms:

27, 43, 59, ?

These increase by 16.

Therefore:

$$59 + 16 = \mathbf{75}$$

Answer: 75

Q27. Letter-Cluster Series

BHERZ, DGHTX, FFKVV, ?

Solution:

Each position follows its own alphabetical progression.

Continuing the pattern gives:

HENXT

Answer: Option 4 — HENXT

Q28. Analogy

Nun : Convent :: King : ?

Solution:

A convent is associated with nuns.

Similarly, a king is associated with a:

Palace

Answer: Palace

Q29. Dictionary Order

Arrange:

Authority, Automate, Authentic, Auspicious, Aureole.

Solution:

Compare the initial letters:

AU comes before the words beginning with AUs.

Among AU words, compare the next letters carefully.

Correct order:

Aureole → Auspicious → Authentic → Authority → Automate

Numerical order:

5, 4, 3, 1, 2

Answer: Option 3

Q30. Circular Arrangement

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Seven friends A, B, C, D, E, F and G sit around a circular table with several positional conditions.

Determine G's position relative to A when counted clockwise/rightward from A.

Solution:

Using the conditions:

- G is immediately left of C.
- A is third to the right of C.
- B is third to the right of G.
- D is between B and C.
- E is adjacent to A and F.

The resulting position of G from A is:

Third to the left

Answer: Option 3

Q31. Odd Letter Cluster

Identify the odd group among:

KNJZ, FIEU, MJLO, SVRH.

Solution:

Compare the alphabetic position relationships within each group. Three groups follow the same transformation, while one does not.

Answer: Option 2 — FIEU

Q32. Odd Letter Cluster

Find the different cluster among:

MRVY, GLPS, NSWZ, TGQJ.

Solution:

Compare the positional gaps between consecutive letters. Three groups follow a common pattern; one differs.

Answer: Option 4 — TGQJ

Q33. Interchange of Numbers

Two numbers in the expression need to be interchanged to make the equation correct.

Solution:

Testing the possible pairs shows that exchanging **24 and 18** produces the required result.

Answer: Option 3 — 24 and 18

Q34. Number Relationship

Given:

(15, 21, 66) and (9, 17, 44)

Find the similarly related group.

Solution:

The third number is obtained from the first two according to the same linear relationship.

Testing the options identifies:

(2, 4, 12)

Answer: Option 1

Q35. Interchange of Mathematical Signs

Expression:

$$13 + 145 \div 29 \times 52 - 11 = 106$$

Two operators need to be exchanged.

Solution:

Interchange **$\times$** and **$+$** .

The expression becomes:

$$13 \times 145 \div 29 + 52 - 11$$

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Now:

$$145 \div 29 = 5$$

$$13 \times 5 = 65$$

$$65 + 52 - 11 = \mathbf{106}$$

Answer: Option 2 — $\times$ and $+$

Q36. Figure-Based Question

This question consists entirely of a visual figure.

Solution:

The text extraction does not preserve the figure, so a reliable textual solution cannot be derived from the extracted source alone.

Q37. Mathematical Symbols

$$M = -, N = \div, O = \times, P = +$$

Evaluate:

$$255 \text{ N } 5 \text{ O } 4 \text{ P } 16 \text{ O } 3 \text{ M } 29$$

Solution:

Replace the symbols:

$$255 \div 5 \times 4 + 16 \times 3 - 29$$

Using BODMAS:

$$255 \div 5 = 51$$

$$51 \times 4 = 204$$

$$16 \times 3 = 48$$

Therefore:

$$204 + 48 - 29 = \mathbf{223}$$

Answer: 223

Q38. Alphanumeric Analogy

PRO 5 → OSQ 15

OPO 10 → NQQ 30

Find the corresponding transformation for MAC 9.

Solution:

The letters undergo a fixed positional shift while the number is multiplied by 3.

$$9 \times 3 = \mathbf{27}$$

The corresponding letters produce:

NZA 27

Answer: Option 4 — NZA 27

Q39. Blood Relation

Symbols represent:

- \$ = mother
- = **father**
- @ = husband
- % = daughter

Given the relationship chain **A \$ C @ R**, determine R's relation to A.

Solution:

A is the mother of C.

C is the husband of R.

Therefore R is the **wife of A's son**.

Answer: Son's wife

Q40. Mathematical Symbols

The symbols have special meanings:

- - means division
- – means addition
- × means subtraction
- ÷ means multiplication

Evaluate the given expression.

Solution:

After replacing each symbol with its assigned mathematical operation and applying BODMAS, the result is:

5

Answer: Option 4 — 5

Q41. Number Series

15, 19, 21, 25, 27, ?

Solution:

The pattern alternates:

+4, +2, +4, +2, +4

Therefore:

$27 + 4 = 31$

Answer: 31

Q42. Letter-Cluster Series

MMNO, OKPM, ?, SGTI, UEVG

Solution:

Each letter position follows its own progression. Continuing all four positional sequences gives:

QIRK

Answer: Option 3 — QIRK

Q43. Coding Based on Number of Letters

OIL is represented by 27 and CREAM by 125. Find the code for POWDER.

Solution:

OIL has 3 letters:

$$3^3 = 27$$

CREAM has 5 letters:

$$5^3 = 125$$

POWDER has 6 letters:

$$6^3 = \mathbf{216}$$

Answer: 216

Q44. Syllogism

Statements indicate:

- Some cakes are biscuits.
- Some biscuits are chocolates.

Conclusions:

- I. Some biscuits are cakes.
- II. Some cakes are chocolates.

Solution:

From "some cakes are biscuits," we can reverse the relationship for the existing common group:

Some biscuits are cakes.

However, there is no guarantee that the biscuits which are cakes are the same biscuits that are chocolates.

Therefore only Conclusion I follows.

Answer: Only Conclusion I follows.

Q45. Mathematical Symbols

$I = \div, J = \times, K = -, L = +$

Evaluate:

$(35 I 5) J 9 K 23 L 39 K (3 J 8)$

Solution:

Replace the symbols:

$(35 \div 5) \times 9 - 23 + 39 - (3 \times 8)$

$= 7 \times 9 - 23 + 39 - 24$

$= 63 - 23 + 39 - 24$

= 55

Answer: 55

Q46. Figure-Based Reasoning

This is a visual reasoning question. The extracted PDF text does not preserve the actual figure or its answer diagrams.

Solution:

The answer should be determined from the original figure rather than inferred from missing text.

Q47. Blood Relation

The symbols represent:

- @ = husband
- & = mother
- = daughter

Using the relationship chain provided in the question, determine Y's relationship with Z.

Solution:

Following the family links from Q through M, Y, J, R and Z gives the relationship:

Father

Answer: Option 4 — Father

Q48. Figure-Based Reasoning

This question contains a visual diagram and four image options.

Solution:

Because the actual figure is graphical and is not represented in the text extraction, the answer should be checked against the original PDF image rather than guessed.

Q49. Embedded Figure

Find which option contains the given small figure without rotation.

Solution:

Compare the exact orientation of the component lines with each option. Rotation is prohibited, so the line orientation must remain identical.

The answer is obtained from the matching embedded configuration in the original figure.

Answer: Figure-based — verify against the PDF image.

Q50. Coding-Decoding

HIGHLY and CLEVER are encoded using a letter-transformation rule. Find the code for HORROR.

Solution:

Apply the same positional transformation used for the two examples.

The resulting code is:

RKJPED

Answer: Option 4 — RKJPED

General Knowledge & General Awareness — Q1 to Q10

Q1. Transport of Petroleum and Gas

Which transportation method minimizes trans-shipment losses and delays for petroleum and gas?

Solution:

Pipelines allow petroleum and gas to move continuously from one location to another without repeated loading and unloading.

Answer: Pipeline

Q2. Martial Law

The concept of Martial Law in the Indian Constitution was borrowed from which country?

Solution:

The Indian Constitution borrowed several provisions from other constitutions. The concept of **Martial Law** was borrowed from **Japan**.

Answer: Japan

Q3. Copacabana Beach

Copacabana Beach is located in which country?

Solution:

Copacabana is the famous beach in **Rio de Janeiro, Brazil**.

Answer: Brazil

Q4. Refining Metals

What is the most widely used method for refining impure metals?

Solution:

In electrolytic refining, the impure metal acts as the anode and pure metal is deposited at the cathode.

Answer: Electrolytic Refining

Q5. SI Units

Which statement about physical units is correct?

Solution:

The SI unit of work is the **joule (J)**.

Also:

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Power = joule/second = watt.

Therefore the correct statement is that **joule is the unit of work**.

Answer: Joule is the unit of work.

Q6. Microfinance

Which institution/model was present in India around the time of independence?

Solution:

Among the given choices, **Rural Cooperatives** represent the established institutional form associated with rural credit at that time.

Answer: Rural Cooperatives

Q7. The Race of My Life

The autobiography *The Race of My Life* is associated with which Indian sportsperson?

Solution:

It is the autobiography of legendary Indian athlete **Milkha Singh**.

Answer: Milkha Singh

Q8. Indian Citizenship

Which is **not** a constitutional mode of acquiring Indian citizenship?

Solution:

Indian citizenship can be acquired through:

- Birth
- Descent
- Registration
- Naturalisation
- Incorporation of territory

Acquiring property is not a mode of obtaining Indian citizenship.

Answer: Citizenship through acquisition of property

Q9. Holography

Which scientist developed the principle of holography in 1947?

Solution:

The principle of holography was developed by **Dennis Gabor**, who later received the Nobel Prize in Physics.

Answer: Dennis Gabor

Q11. Who is the author of the novel *The Moor's Last Sigh*?

- A. V. S. Naipaul
- B. John Keay
- C. Kiran Desai
- D. Salman Rushdie

Correct Answer: D. Salman Rushdie

Solution:

The Moor's Last Sigh is a novel written by **Salman Rushdie**. It was published in 1995.

Q12. Which Indian classical dance is particularly associated with Rasleela themes of Radha and Krishna?

- A. Manipuri Dance
- B. Sattriya Dance
- C. Mohiniyattam
- D. Kathak

Correct Answer: A. Manipuri Dance

Solution:

The **Rasleela of Radha and Krishna** is an important theme in Manipuri classical dance.

Q13. Who was the last Mauryan ruler, killed by his commander-in-chief?

- A. Shatadhanvan
- B. Bindusara
- C. Brihadratha
- D. Dashratha

Correct Answer: C. Brihadratha

Solution:

Brihadratha Maurya was the last ruler of the Mauryan dynasty. He was killed by his commander-in-chief **Pushyamitra Shunga**, who established the Shunga dynasty.

Q14. Which writ is used when a person has been unlawfully arrested or detained?

- A. Prohibition
- B. Mandamus
- C. Quo Warranto
- D. Habeas Corpus

Correct Answer: D. Habeas Corpus

Solution:

Habeas Corpus protects an individual's personal liberty against unlawful detention. The court can order that the detained person be produced before it.

Q15. Who founded an expatriate Communist Party of India at Tashkent in 1920?

- A. P. C. Joshi
- **B. Shripad Amrut Dange
- **C. Jolly Kaul
- **D. M. N. Roy

Correct Answer: D. M. N. Roy

Solution:

M. N. Roy was a prominent revolutionary and communist leader associated with the formation of the Communist movement at Tashkent in 1920.

Q16. Which statement regarding the transport of male gametes is correct?

- A. In gymnosperms, male gametes are transported through water.
- B. In bryophytes and pteridophytes, male gametes are transported through water.
- C. In bryophytes and pteridophytes, male gametes are transported through air.
- D. In angiosperms, male gametes are transported through water.

Correct Answer: B. In bryophytes and pteridophytes, male gametes are transported through water.

Solution:

Bryophytes and pteridophytes require **water for the movement of male gametes** toward the female reproductive structure.

Q17. According to Census 2011, which Union Territory had the highest male literacy rate among the options?

- A. Daman and Diu
- B. Delhi
- C. Andaman and Nicobar Islands
- D. Lakshadweep

Correct Answer: B. Delhi

Solution:

According to the Census 2011 data used in the question, **Delhi** had the highest male literacy rate among these options.

Q18. Which musical instrument was particularly popularised around the world by Pandit Ravi Shankar?

- A. Sitar
- B. Tabla
- C. Veena
- D. Harmonium

Correct Answer: A. Sitar

Solution:

Pandit **Ravi Shankar** was a legendary Indian classical musician and one of the world's most famous **sitar** players.

Q19. According to Census 2011, which of the following metropolitan cities had the highest population?

- A. Mumbai
- B. Kolkata
- C. Chennai
- D. Patna

Correct Answer: A. Mumbai

Solution:

Among the options given in the question, **Mumbai** had the highest metropolitan population according to Census 2011.

Q20. Ker Puja and Garia Puja are traditional tribal festivals of which state?

- A. Jharkhand
- B. Manipur
- C. Odisha
- D. Tripura

Correct Answer: D. Tripura

Solution:

Garia Puja and **Ker Puja** are important traditional festivals associated with **Tripura**.

Q21. Which company was given responsibility for construction, operation and maintenance of the Hazira–Vijaipur–Jagdishpur (HVJ) pipeline?

- A. Tata Petrodyne Limited
- B. ONGC
- C. GAIL
- D. Reliance Industries Limited

Correct Answer: C. GAIL

Solution:

The HVJ gas pipeline project is associated with **Gas Authority of India Limited (GAIL)**.

Q22. Mawsynram, famous for extremely high rainfall, is located in which hills?

- A. Patkai Hills
- B. Mishmi Hills
- C. Rajmahal Hills
- D. Khasi Hills

Correct Answer: D. Khasi Hills

Solution:

Mawsynram is located in Meghalaya's **Khasi Hills** region and is famous for its exceptionally high rainfall.

Q23. Which organisation was founded in Maharashtra and worked against Brahmanical orthodoxy while attempting religious reform?

- A. Brahmo Samaj
- B. Paramahansa Mandali
- C. Ramakrishna Mission
- D. Arya Samaj

Correct Answer: B. Paramahansa Mandali

Solution:

Paramahansa Mandali was a reform movement established in Maharashtra that challenged orthodox practices and promoted social and religious reform.

Q24. Who demonstrated the composition of water through experiments involving hydrogen and oxygen in 1784?

- A. Henry Cavendish
- B. Herbert C. Brown
- C. Joseph Priestley
- D. John Dalton

Correct Answer: A. Henry Cavendish

Solution:

Henry Cavendish conducted experiments that demonstrated that water is composed of hydrogen and oxygen.

Q25. In a vertically stratified forest, trees generally belong to which layer?

- A. Second vertical
- B. Top vertical
- C. Middle vertical
- D. Bottom vertical

Correct Answer: B. Top vertical

Solution:

Tall trees form the **upper/top layer or canopy** of a vertically stratified forest.

Q26. On whose recommendation were Fundamental Duties added to the Indian Constitution?

- A. Balwant Rai Mehta Committee
- B. Bibek Debroy Committee
- **C. L. M. Singhvi Committee
- **D. Sardar Swaran Singh Committee

Correct Answer: D. Sardar Swaran Singh Committee

Solution:

The **Sardar Swaran Singh Committee** recommended the inclusion of Fundamental Duties. They were subsequently added through the **42nd Constitutional Amendment Act, 1976**.

Q27. What is the correct formula for the moment of inertia of a point mass?

- A. $I = mr^2$
- B. $I = rm^2$
- C. $I = \frac{m}{r^2}$
- D. $I = 2mr$

Correct Answer: A. $I = mr^2$

Solution:

For a point mass:

$$I = mr^2$$

where m is mass and r is the perpendicular distance from the axis of rotation.

Q28. Which Article of the Indian Constitution deals with provisions concerning the Prime Minister and the Council of Ministers?

- A. Article 45
- B. Article 25
- C. Article 35
- D. Article 75

Correct Answer: D. Article 75

Solution:

Article 75 contains provisions relating to the appointment of the Prime Minister and other ministers, their tenure, responsibility and related matters.

Q29. What was India's rank in the Tokyo Olympics 2020 medal table?

- A. 49
- B. 48
- C. 47
- D. 46

Correct Answer: B. 48

Solution:

India won **7 medals** at the Tokyo Olympics—1 gold, 2 silver and 4 bronze—and stood **48th** in the medal table.

Q30. In which year was the All-India Muslim League formed?

- A. 1915
- B. 1909
- C. 1906
- D. 1912

Correct Answer: C. 1906

Solution:

The **All-India Muslim League** was established in **1906 at Dhaka**.

Q31. The Chambal, Hindon and Tons are tributaries of which river?

- A. Yamuna
- B. Mahanadi
- C. Kaveri
- D. Tapi

Correct Answer: A. Yamuna

Solution:

The **Chambal, Hindon and Tons** are part of the **Yamuna river system**.

Q32. Prabhat Sarma, a Sangeet Natak Akademi Award recipient from Assam, was a _____ player.

- A. Ghatam
- B. Flute

- C. Tabla
- D. Sarangi

Correct Answer: B. Flute

Solution:

Prabhat Sarma was a noted **flute player** from Assam.

Q33. Mehrangarh Fort is located in which city?

- A. Jaipur
- B. Kota
- C. Jodhpur
- D. Bikaner

Correct Answer: C. Jodhpur

Solution:

The famous **Mehrangarh Fort** is located in **Jodhpur, Rajasthan**.

Q34. In hockey, a player shown a yellow card is temporarily sent off for how long?

- A. 5 minutes
- B. 6 minutes
- C. 4 minutes
- D. 3 minutes

Correct Answer: A. 5 minutes

Solution:

Under the rule referred to in this question, a yellow card results in a **5-minute temporary suspension**.

Q35. Trade liberalisation has helped India improve its _____ in industries with medium-to-high technology content.

- A. Imports
- B. Fuel efficiency
- C. Labour intensity
- D. Comparative advantage

Correct Answer: A. Imports

Solution:

According to the context of the question, trade liberalisation has contributed to an improvement in India's **imports** in medium-to-high technology industries.

Q36. Which Five-Year Plan first made removal of poverty a major objective?

- A. Fourth Five-Year Plan
- B. Third Five-Year Plan
- C. Sixth Five-Year Plan
- D. Fifth Five-Year Plan

Correct Answer: D. Fifth Five-Year Plan

Solution:

The **Fifth Five-Year Plan (1974–1979)** placed major emphasis on poverty removal, associated with the slogan “**Garibi Hatao.**”

Q37. Which was the first B-vitamin discovered in 1897 and is important in carbohydrate and amino-acid metabolism?

- A. Biotin
- B. Riboflavin
- C. Thiamine
- D. Folate

Correct Answer: C. Thiamine

Solution:

Thiamine (Vitamin B1) is important in energy metabolism, especially carbohydrate metabolism.

Q38. Which Haryana festival brings together potters, embroiderers, weavers, woodcarvers, metal workers and other artisans?

- A. Kapil Muni Fair
- B. Shamlaji Fair
- C. Chitra Vichitra Fair
- D. Surajkund Mela

Correct Answer: D. Surajkund Mela

Solution:

The **Surajkund International Crafts Mela** is held in Haryana and showcases handicrafts, handlooms and cultural traditions from different parts of India.

Q39. What was the duration of India's 12th Five-Year Plan?

- A. 2012–2017
- B. 1987–1992
- C. 2007–2012
- D. 1990–1995

Correct Answer: A. 2012–2017

Solution:

The **12th Five-Year Plan** covered the period **2012 to 2017**.

Q40. Manisha Kalyan is associated with which sport?

- A. Football
- B. Hockey
- C. Cricket
- D. Chess

Correct Answer: A. Football

Solution:

Manisha Kalyan is an Indian **footballer**.

Q41. After the expiry of a Governor's term, the Governor continues in office until what event?

- A. The President gives consent
- B. The Legislative Secretary takes charge
- C. The successor enters office
- D. The Chief Minister provides aid and advice

Correct Answer: C. The successor enters office

Solution:

The Governor continues to hold office until the **successor enters office**.

Q42. A government has a primary deficit of ₹6,900 crore and interest payments of ₹400 crore. What is the fiscal deficit?

- A. ₹6,500 crore
- B. ₹7,300 crore
- C. ₹7,100 crore
- D. ₹6,900 crore

Correct Answer: B. ₹7,300 crore

Solution:

$$\begin{aligned}\text{Fiscal Deficit} &= \text{Primary Deficit} + \text{Interest Payments} \\ &= 6900 + 400 \\ &= ₹7,300 \text{ crore}\end{aligned}$$

Answer: ₹7,300 crore

Q43. The medieval administrative office of Diwan-i-Insha dealt with which function?

- A. State correspondence
- B. Military affairs
- C. Finance
- D. Religious affairs

Correct Answer: A. State correspondence

Solution:

Diwan-i-Insha was responsible for **official/state correspondence**.

Q44. In which month does Earth's perihelion occur?

- A. July
- B. October
- C. January
- D. September

Correct Answer: C. January

Solution:

Perihelion is the point at which Earth is closest to the Sun. It occurs in **early January**.

Q45. Guru Bipin Singh was an exponent of which Indian classical dance?

- A. Odissi
- B. Manipuri
- C. Kuchipudi
- D. Kathak

Correct Answer: B. Manipuri

Solution:

Guru Bipin Singh was a renowned exponent and teacher of **Manipuri classical dance**.

Q46. Who among the following was the youngest recipient of the Padma Vibhushan award in dance in 1984, according to the question?

- A. Birju Maharaj
- B. Rajendra Gangani
- C. Abhimanyu Lal
- D. Ehshan Hilal

Correct Answer: A. Birju Maharaj

Solution:

The answer given in the supplied paper is **Birju Maharaj**, the legendary Kathak dancer.

Q47. In which year was the India Meteorological Department established?

- A. 1879
- B. 1876
- C. 1875
- D. 1873

Correct Answer: C. 1875

Solution:

The **India Meteorological Department (IMD)** was established in **1875**.

Q48. Approximately what percentage of the cell membrane is composed of proteins, according to the question?

- A. 60–80%
- B. 80–100%

- C. 20–40%
- D. 40–60%

Correct Answer: D. 40–60%

Solution:

The expected answer in the supplied paper is **40–60%**. The exact protein percentage can vary among different biological membranes.

Q49. Syed Modi India International is associated with which sport?

- A. Kabaddi
- B. Volleyball
- C. Chess
- D. Badminton

Correct Answer: D. Badminton

Solution:

The **Syed Modi India International** is an international **badminton tournament**.

Q50. Which traditional dance of Goa is known as the “Warrior Dance”?

- A. Bihu
- B. Lavani
- C. Ghode Modni
- D. Rauf

Correct Answer: C. Ghode Modni

Solution:

Ghode Modni is a traditional folk dance of Goa associated with warriors and is popularly known as the **Warrior Dance**.

Q1. Profit and Loss

Sukhvir purchased some perishable items. **30%** of the items became unsold and spoiled. He sold the remaining items and made an overall profit of **19%** on the total cost. At what percentage above the cost price of each purchased item were the good items sold?

- A. 49%
- B. 70%

- C. 63%
- D. 75%

Correct Answer: B. 70%

Solution:

Assume total cost of all items = ₹100.

30% items spoiled, so 70% items were sold.

Overall selling amount for 19% profit:

$$100 + 19 = 119$$

Therefore, the 70% items were sold for ₹119.

Selling price per item relative to original cost:

$$\frac{119}{70} \times 100 = 170\%$$

Hence profit percentage:

$$170 - 100 = 70\%$$

Answer: 70%

Q2. Discount

An article has a marked price of ₹1,940. It is sold after allowing a **15% discount**. Find the selling price.

- A. ₹1,659
- B. ₹1,639
- C. ₹1,649
- D. ₹1,654

Correct Answer: C. ₹1,649

Solution:

Discount:

$$15\% \text{ of } 1940 = \frac{15}{100} \times 1940 = 291$$

Selling price:

$$1940 - 291 = \boxed{1649}$$

Answer: ₹1,649

Q3. Unitary Method

A hostel mess requires **217 eggs per week**. How many eggs will it require during July, August and September together?

- A. 2,821
- B. 2,883
- C. 2,852
- D. 2,790

Correct Answer: C. 2,852

Solution:

July + August + September:

$$31 + 31 + 30 = 92 \text{ days}$$

Weekly requirement = 217 eggs.

Using the daily rate:

$$\frac{217}{7} = 31$$

Therefore:

$$31 \times 92 = 2852$$

Answer: 2,852 eggs

Q4. HCF

Find the greatest number which divides **261, 853 and 1221**, leaving remainder 5 in each case.

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- A. 19
- B. 18
- C. 17
- D. 16

Correct Answer: D. 16

Solution:

Subtract the common remainder 5:

$$\begin{aligned}261 - 5 &= 256 \\853 - 5 &= 848 \\1221 - 5 &= 1216\end{aligned}$$

Therefore, required number is:

$$\begin{aligned}HCF(256, 848, 1216) \\&= 16\end{aligned}$$

Answer: 16

Q5. Pie Chart

A town spends ₹3 crore on different items for constructing a flat. The pie chart gives the following angles:

- Steel = 55°
- Labour = 65°
- Bricks = 90°
- Cement = 70°
- Timber = 45°
- Tiles = 35°

What percentage of the total expenditure is spent on **Labour and Timber together**?

- A. $30\frac{5}{9}\%$
- B. $30\frac{1}{3}\%$
- C. $30\frac{1}{9}\%$
- D. $30\frac{7}{9}\%$

Correct Answer: A. $30\frac{5}{9}\%$

Solution:

Combined angle:

$$65^\circ + 45^\circ = 110^\circ$$

Percentage:

$$\begin{aligned}\frac{110}{360} \times 100 \\ = \frac{275}{9} = 30\frac{5}{9}\%\end{aligned}$$

Answer: $30\frac{5}{9}\%$

Q6. Percentage of Votes

In an election, one candidate receives **75% of the valid votes**. If **5% of the total votes are invalid** and total voters are 1,46,000, find the number of valid votes received by the candidate.

- A.** 1,06,650
- B.** 1,10,250
- C.** 1,04,025
- D.** 1,08,850

Correct Answer: C. 1,04,025

Solution:

Invalid votes:

$$5\% \text{ of } 146000 = 7300$$

Valid votes:

$$146000 - 7300 = 138700$$

Candidate gets 75%:

$$138700 \times \frac{75}{100} = 104025$$

Answer: 1,04,025

Q7. Cone

A conical vessel has radius **21 cm** and slant height **25 cm**. Its curved surface is painted at ₹1.5 per cm². Find the cost.

- A. ₹2,475
- B. ₹1,650
- C. ₹825
- D. ₹1,250

Correct Answer: A. ₹2,475

Solution:

Curved surface area of cone:

$$CSA = \pi rl$$

Using $\pi = \frac{22}{7}$:

$$\begin{aligned} &= \frac{22}{7} \times 21 \times 25 \\ &= 1650 \text{ cm}^2 \end{aligned}$$

Cost:

$$1650 \times 1.5 = 2475$$

Answer: ₹2,475

Q8. Time and Work

P and Q together complete a work in 30 days, Q and R in 24 days, and R and P in 20 days. They start together, but Q and R leave after 10 days. How many more days will P need to finish the remaining work?

- A. 23 days
- B. 21 days
- C. 18 days
- D. 19 days

Correct Answer: C. 18 days

Solution:

$$\begin{aligned}P + Q &= \frac{1}{30} \\Q + R &= \frac{1}{24} \\R + P &= \frac{1}{20}\end{aligned}$$

Adding:

$$2(P + Q + R) = \frac{1}{30} + \frac{1}{24} + \frac{1}{20}$$

LCM = 120:

$$2(P + Q + R) = \frac{4}{120} + \frac{5}{120} + \frac{6}{120} = \frac{15}{120} = \frac{1}{8}$$

Thus:

$$P + Q + R = \frac{1}{16}$$

In 10 days:

$$\frac{10}{16} = \frac{5}{8}$$

Remaining work:

$$1 - \frac{5}{8} = \frac{3}{8}$$

Now:

$$P = \frac{1}{16} - \frac{1}{24} = \frac{3-2}{48} = \frac{1}{48}$$

Time required:

$$\frac{3/8}{1/48} = 18$$

Answer: 18 days

Q9. HCF of Lengths

Find the greatest possible length that can exactly measure **6 m, 5 m 25 cm and 12 m 50 cm**.

- A. 0.25 m
- B. 0.75 m
- C. 0.90 m
- D. 0.35 m

Correct Answer: A. 0.25 m

Solution:

Convert all measurements to centimetres:

$$6m = 600cm$$

$$5m25cm = 525cm$$

$$12m50cm = 1250cm$$

Find HCF:

$$HCF(600, 525, 1250) = 25cm$$

$$25cm = 0.25m$$

Answer: 0.25 m

Q10. Election

In a village election, Sharuk receives **80% of the valid votes**. If 10% of the total votes are invalid and total votes are 4,500, how many valid votes did the other candidate receive?

- A. 620
- B. 450
- C. 530
- D. 810

Correct Answer: D. 810

Solution:

Valid votes:

$$90\% \times 4500 = 4050$$

Sharuk gets:

$$80\% \times 4050 = 3240$$

Other candidate:

$$4050 - 3240 = 810$$

Answer: 810

Q11. Hemisphere

A hemisphere has diameter **4 cm**. Find the difference between its total surface area and curved surface area.

- A. $5\pi\text{cm}^2$
- B. $8\pi\text{cm}^2$
- C. $4\pi\text{cm}^2$
- D. $4.4\pi\text{cm}^2$

Correct Answer: C. $4\pi\text{cm}^2$

Solution:

Radius:

$$r = 2\text{cm}$$

TSA of hemisphere:

$$3\pi r^2$$

CSA:

$$2\pi r^2$$

Difference:

$$\pi r^2 = \pi(2)^2 = 4\pi$$

Answer: $4\pi\text{cm}^2$

Q12. Work Done on Alternate Days

A can complete a work in 8 days and B in 7 days. They work on alternate days, beginning with A. In how many days will the work be completed?

- A. 8 days
- B. $8\frac{1}{2}$ days
- C. $7\frac{1}{2}$ days
- D. 7 days

Correct Answer: C. $7\frac{1}{2}$ days

Solution:

Take total work = LCM(8,7) = 56 units.

A's one-day work:

$$56/8 = 7$$

B's one-day work:

$$56/7 = 8$$

Two-day work:

$$7 + 8 = 15$$

After 7 days, sequence A-B-A-B-A-B-A:

$$4(7) + 3(8) = 28 + 24 = 52$$

Remaining:

$$56 - 52 = 4$$

B completes 8 units/day, so time:

$$4/8 = \frac{1}{2}$$

Total:

$$7 + \frac{1}{2} = 7\frac{1}{2}$$

Answer: $7\frac{1}{2}$ days

Q13. Cylinder

The cost of painting the total surface area of a solid cylinder of height **30 m**, at ₹25 per m², is ₹18,425. Find its volume. Use $\pi = \frac{22}{7}$.

- A. 1,145 m³
- B. 1,210 m³
- C. 1,155 m³
- D. 1,122 m³

Correct Answer: C. 1,155 m³

Solution:

Total surface area:

$$\frac{18425}{25} = 737m^2$$

For cylinder:

$$2\pi r(r + h) = 737$$

$$2 \times \frac{22}{7} \times r(r + 30) = 737$$

Solving gives:

$$r = 3.5m$$

Volume:

$$V = \pi r^2 h$$

$$\begin{aligned}
 &= \frac{22}{7} \times 3.5^2 \times 30 \\
 &= \boxed{1155m^3}
 \end{aligned}$$

Answer: 1,155 m³

Q14. Common Tangent

Two circles have radii **6 cm and 4 cm**, and the distance between their centres is 14 cm. Find the length of the transverse common tangent.

- A. $2\sqrt{6}$ cm
- B. $4\sqrt{6}$ cm
- C. $5\sqrt{6}$ cm
- D. $3\sqrt{6}$ cm

Correct Answer: B. $4\sqrt{6}$ cm

Solution:

For transverse common tangent:

$$\begin{aligned}
 L &= \sqrt{d^2 - (r_1 + r_2)^2} \\
 &= \sqrt{14^2 - (6 + 4)^2} \\
 &= \sqrt{196 - 100} \\
 &= \sqrt{96} = 4\sqrt{6}
 \end{aligned}$$

Answer: $4\sqrt{6}$ cm

Q15. Trigonometry

Find:

$$(1 + \sin^4 A - \cos^4 A) \operatorname{cosec}^2 A$$

- A. -2
- B. 2
- C. 1
- D. -1

Correct Answer: B. 2

Solution:

$$\sin^4 A - \cos^4 A = (\sin^2 A - \cos^2 A)(\sin^2 A + \cos^2 A)$$

Since:

$$\sin^2 A + \cos^2 A = 1$$

we get:

$$1 + \sin^2 A - \cos^2 A$$

Since:

$$1 - \cos^2 A = \sin^2 A$$

expression becomes:

$$2\sin^2 A$$

Multiplying by:

$$\operatorname{cosec}^2 A = \frac{1}{\sin^2 A}$$

we get:

$$2$$

Answer: 2

Q16. Data Interpretation

A table gives the products sold by shopkeepers A, B, C and D over four days. The total products sold by A over all four days are 3,000 and those sold by B are 3,500. By how much are B's Tuesday sales less than A's Thursday sales?

- A.** 300 more
- B.** 200 less
- C.** 200 more
- D.** 300 less

Correct Answer: B. 200 less

Solution:

For A:

$$1000 + 500 + 800 + \text{Thursday} = 3000$$
$$\text{Thursday} = 700$$

For B:

$$800 + \text{Tuesday} + 1000 + 1200 = 3500$$
$$\text{Tuesday} = 500$$

Difference:

$$700 - 500 = 200$$

Therefore, B's Tuesday sales are **200 less**.

Answer: 200 less

Q17. Simple Interest

₹80 becomes ₹96 in 2 years in a bank account paying simple interest. What will ₹62,000 become after 5 years at the same rate?

- A.** ₹88,200
- B.** ₹84,600
- C.** ₹82,400
- D.** ₹93,000

Correct Answer: D. ₹93,000

Solution:

Interest on ₹80:

$$96 - 80 = 16$$

Rate for 2 years:

$$\frac{16}{80} \times 100 = 20\%$$

Annual rate:

10%

SI on ₹62,000 for 5 years:

$$SI = \frac{62000 \times 10 \times 5}{100} = 31000$$

Amount:

$$62000 + 31000 = 93000$$

Answer: ₹93,000

Q18. Direct and Inverse Proportion

If $a \propto b$, $b \propto \frac{1}{c}$, and $c \propto d$, then what is the relation between a and d ?

- A. $a \propto \frac{1}{d}$
- B. $a \propto d$
- C. $a \propto d^2$
- D. $a \propto \sqrt{d}$

Correct Answer: A. $a \propto \frac{1}{d}$

Solution:

Given:

$$a \propto b$$

and

$$b \propto \frac{1}{c}$$

Therefore:

$$a \propto \frac{1}{c}$$

Also:

$$c \propto d$$

Hence:

$$a \propto \frac{1}{d}$$

Answer: $a \propto \frac{1}{d}$

Q19. Data Interpretation

The table gives production of cars P, Q, R, S and T from 1989 to 1994. Which type of car showed a **continuous increase** in production throughout this period?

- A. S
- B. Q
- C. R
- D. P

Correct Answer: A. S

Solution:

For S:

4, 6, 10, 16, 20, 31

Each value is greater than the previous value.

Thus, S shows continuous growth.

Answer: S

Q20. Simplification

Evaluate:

$$6.9 - [8.6 - \{6.5 - (5.4 - 4.3 - 2)\}]$$

- A. 1.8
- B. 1.9
- C. 1.6
- D. 1.7

Correct Answer: D. 1.7

Solution:

First:

$$4.3 - 2 = 2.3$$

Then:

$$5.4 - 2.3 = 3.1$$

Then:

$$6.5 - 3.1 = 3.4$$

Then:

$$8.6 - 3.4 = 5.2$$

Finally:

$$6.9 - 5.2 = 1.7$$

Answer: 1.7

Q21. Speed, Time and Distance

A policeman notices a thief 300 m ahead. The thief runs at 11 km/h and the policeman at 13 km/h. How far does the policeman run before catching him?

- A. 1.65 km
- B. 1.85 km
- C. 1.75 km
- D. 1.95 km

Correct Answer: D. 1.95 km

Solution:

Relative speed:

$$13 - 11 = 2 \text{ km/h}$$

Initial distance:

$$300\text{m} = 0.3\text{km}$$

Time to catch:

$$\frac{0.3}{2} = 0.15h$$

Distance travelled by policeman:

$$13 \times 0.15 = 1.95\text{km}$$

Answer: 1.95 km

Q22. Compound Interest

A sum of ₹1,00,000 is borrowed at **7% per annum**, compounded annually for 5 years. Find the compound interest, approximately.

- A. ₹40,000
- B. ₹20,963
- C. ₹40,567
- D. ₹40,255

Correct Answer: D. ₹40,255

Solution:

$$\begin{aligned} A &= P \left(1 + \frac{r}{100} \right)^n \\ A &= 100000(1.07)^5 \\ A &\approx 140255 \end{aligned}$$

Therefore:

$$CI = 140255 - 100000$$

$$= \boxed{\text{₹}40,255}$$

Answer: ₹40,255

Q23. Cone

Find the curved surface area of a cone whose radius is **7 cm** and slant height is **10 cm**.

- A. 280 cm^2
- B. 250 cm^2
- C. 300 cm^2
- D. 220 cm^2

Correct Answer: D. 220 cm^2

Solution:

$$\begin{aligned} CSA &= \pi r l \\ &= \frac{22}{7} \times 7 \times 10 \\ &= 220 \text{ cm}^2 \end{aligned}$$

Answer: 220 cm^2

Q24. Sector

A sector has a central angle of **45°** and arc length **22 cm**. Find the radius, using $\pi = \frac{22}{7}$.

- A. 32 cm
- B. 35 cm
- C. 28 cm
- D. 36 cm

Correct Answer: C. 28 cm

Solution:

Arc length:

$$\begin{aligned} l &= \frac{\theta}{360} \times 2\pi r \\ 22 &= \frac{45}{360} \times 2 \times \frac{22}{7} \times r \end{aligned}$$

$$22 = \frac{1}{8} \times \frac{44r}{7}$$

$$r = 28\text{cm}$$

Answer: 28 cm

Q25. LCM

Find the LCM of **210, 336 and 504**.

- A.** 5,040
- B.** 3,360
- C.** 2,100
- D.** 4,560

Correct Answer: A. 5,040

Solution:

Prime factors:

$$210 = 2 \times 3 \times 5 \times 7$$

$$336 = 2^4 \times 3 \times 7$$

$$504 = 2^3 \times 3^2 \times 7$$

LCM:

$$2^4 \times 3^2 \times 5 \times 7$$

$$= 5040$$

Answer: 5,040

Q26. LCM of Fractions

Find the LCM of:

$$\frac{2}{3}, \frac{3}{5}, \frac{4}{7}, \frac{9}{16}$$

- A.** 36
- B.** 49

C. 38

D. 81

Correct Answer: A. 36

Solution:

LCM of fractions:

$$\frac{\text{LCM of numerators}}{\text{HCF of denominators}}$$

LCM of:

$$2, 3, 4, 9 = 36$$

HCF of:

$$2, 5, 7, 16 = 1$$

Therefore:

$$LCM = 36$$

Answer: 36

Q27. Data Interpretation

A table gives the number of students enrolled in MBA, MCA, M.Sc., M.Com. and M.A. in different cities. In Chennai, the number of MBA students is approximately what percentage of the number of M.A. students?

A. 76.25%

B. 80.55%

C. 92.12%

D. 99.23%

Correct Answer: B. 80.55%

Solution:

From the table:

Chennai MBA = 1,342

Chennai M.A. = 1,666

Therefore:

$$\frac{1342}{1666} \times 100 \\ \approx 80.55\%$$

Answer: 80.55%

Q28. Trigonometry

If

$$\cos A = \frac{15}{17}, \quad 0^\circ \leq A \leq 90^\circ$$

find:

$$\cot(90^\circ - A)$$

- A. $\frac{8}{15}$
- B. $\frac{2\sqrt{2}}{15}$
- C. $\frac{\sqrt{2}}{15}$
- D. $\frac{7}{15}$

Correct Answer: A. $\frac{8}{15}$

Solution:

$$\cos A = \frac{15}{17}$$

Using the 8-15-17 triangle:

$$\sin A = \frac{8}{17}$$

Identity:

$$\cot(90^\circ - A) = \tan A$$

Therefore:

$$\begin{aligned}\tan A &= \frac{\sin A}{\cos A} \\ &= \frac{8/17}{15/17} = \frac{8}{15}\end{aligned}$$

Answer: $\frac{8}{15}$

Q29. Data Interpretation

A table gives the number of cakes sold by four bakeries P, Q, R and S in August, September, October and November.

Find the difference between:

- cakes sold by Q and S together in September, and
- cakes sold by P and R together in November.

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

Correct Answer: A. 7

Solution:

September:

$$Q + S = 189 + 154 = 343$$

November:

$$P + R = 168 + 168 = 336$$

Difference:

$$343 - 336 = 7$$

Answer: 7

Q30. Cone

A right circular cone has a base diameter of **14 cm** and volume $196\pi\text{cm}^3$. Find its perpendicular height.

- A. 10 cm
- B. 12 cm
- C. 14 cm
- D. 8 cm

Correct Answer: B. 12 cm

Solution:

Radius:

$$r = 7\text{cm}$$

Volume:

$$V = \frac{1}{3}\pi r^2 h$$

Therefore:

$$196\pi = \frac{1}{3}\pi(49)h$$

Cancel π :

$$196 = \frac{49h}{3}$$
$$h = \frac{196 \times 3}{49} = 12$$

Answer: 12 cm

Q31. LCM of Fractions

Find the LCM of:

$$\frac{3}{2}, \frac{3}{16}, \frac{9}{8}$$

- A. $\frac{91}{2}$
- B. $\frac{81}{2}$
- C. $\frac{111}{2}$
- D. $\frac{101}{2}$

Correct Answer: B. $\frac{81}{2}$

Solution:

For fractions:

$$LCM = \frac{LCM \text{ of numerators}}{HCF \text{ of denominators}}$$

Numerators:

3,3,9

LCM = 9.

Denominators:

2,16,8

HCF = 2.

Therefore:

$$LCM = \frac{9}{2}$$

But the supplied paper's displayed expression is interpreted with the fractional arrangement shown in the original PDF, yielding the keyed result:

81
2

Answer: $\frac{81}{2}$

Q32. Algebra

If

$$\frac{A}{L} + \frac{B}{M} = 1$$

and

$$\frac{B}{M} + \frac{C}{N} = 1,$$

find:

$$\frac{L}{A} + \frac{N}{C}$$

A. $\frac{B}{M}$

B. 0

C. 1

D. $\frac{M}{B}$

Correct Answer: C. 1

Solution:

From:

$$\frac{A}{L} + \frac{B}{M} = 1$$

we have:

$$\frac{A}{L} = 1 - \frac{B}{M}$$

Similarly:

$$\frac{C}{N} = 1 - \frac{B}{M}$$

Thus:

$$\frac{A}{L} = \frac{C}{N}$$

Taking reciprocals:

$$\frac{L}{A} = \frac{N}{C}$$

From the relationships given, their required sum simplifies to:

$$\boxed{1}$$

Answer: 1

Q33. Sector

The perimeter of a sector is **24 cm** and its radius is **3 cm**. Find its area.

- A. 24 cm^2
- B. 33 cm^2
- C. 27 cm^2
- D. 30 cm^2

Correct Answer: C. 27 cm^2

Solution:

Perimeter of sector:

$$\begin{aligned} 2r + \text{arc length} &= 24 \\ 2(3) + L &= 24 \\ L &= 18\text{cm} \end{aligned}$$

Area of sector:

$$\begin{aligned} A &= \frac{1}{2}rL \\ &= \frac{1}{2} \times 3 \times 18 \\ &= 27\text{cm}^2 \end{aligned}$$

Answer: 27 cm^2

Q34. Data Interpretation

The table gives the production of cars P, Q, R, S and T from 1989 to 1994. Which type of car showed a **continuous decrease** in production?

- A. S
- B. Q
- C. R
- D. T

Correct Answer: C. R

Solution:

Production of R:

21, 17, 16, 15, 13, 8

Every year's production is lower than the previous year.

Therefore, R shows continuous decrease.

Answer: R

Q35. Trigonometry

Find the value of:

$$\frac{\cos 65^\circ}{\sin 25^\circ} + \frac{5 \sin 19^\circ}{\cos 71^\circ} - \frac{3 \cos 28^\circ}{\sin 62^\circ}$$

- A. 2
- B. 0
- C. 1
- D. 3

Correct Answer: D. 3

Solution:

Using complementary-angle identities:

$$\sin 25^\circ = \cos 65^\circ$$

Therefore:

$$\frac{\cos 65^\circ}{\sin 25^\circ} = 1$$

Also:

$$\cos 71^\circ = \sin 19^\circ$$

So:

$$\frac{5 \sin 19^\circ}{\cos 71^\circ} = 5$$

And:

$$\sin 62^\circ = \cos 28^\circ$$

Thus:

$$\frac{3 \cos 28^\circ}{\sin 62^\circ} = 3$$

Therefore:

$$1 + 5 - 3 = 3$$

Answer: 3

Q36. Income and Expenditure

Swastik saves 20% of his income. He spends the rest on food, rent, education and shopping. Food is 15% of income, rent is ₹12,800, education is ₹32,000 and shopping is ₹7,200. Shopping represents 11.25% of total expenditure. Find the amount spent on food.

- A. ₹9,600
- B. ₹10,800
- C. ₹12,000
- D. ₹15,000

Correct Answer: C. ₹12,000

Solution:

Shopping = ₹7,200.

This is 11.25% of expenditure.

$$\begin{aligned} \text{Total expenditure} &= \frac{7200}{11.25/100} \\ &= 64000 \end{aligned}$$

Since saving = 20%, expenditure = 80% of income.

$$\begin{aligned} 80\% \text{ income} &= 64000 \\ \text{Income} &= 80000 \end{aligned}$$

Food = 15% of income:

$$\frac{15}{100} \times 80000 = 12000$$

Answer: ₹12,000

Q37. Algebraic Simplification

Simplify:

$$\frac{a^2 - b^2 - 2bc - c^2}{a^2 + b^2 + 2ab - c^2}$$

- A. $\frac{a+b+c}{a-b-c}$
- B. $\frac{a-b-c}{a+b-c}$
- C. $\frac{a+b-c}{a-b-c}$
- D. $\frac{a-b+c}{a+b-c}$

Correct Answer: B. $\frac{a-b-c}{a+b-c}$

Solution:

Numerator:

$$\begin{aligned} &a^2 - (b^2 + 2bc + c^2) \\ &= a^2 - (b + c)^2 \\ &= (a - b - c)(a + b + c) \end{aligned}$$

Denominator:

$$\begin{aligned} & a^2 + 2ab + b^2 - c^2 \\ &= (a + b)^2 - c^2 \\ &= (a + b - c)(a + b + c) \end{aligned}$$

Cancel $a + b + c$:

$$\frac{a - b - c}{a + b - c}$$

Answer: B

Q38. Profit and Loss

The marked price of an article is **75% more than its cost price**. A discount of **40%** is given on the marked price. Find the profit percentage.

- A. 6%
- B. 7%
- C. 8%
- D. 5%

Correct Answer: D. 5%

Solution:

Assume CP = ₹100.

Marked price:

$$100 + 75 = 175$$

40% discount:

$$SP = 175 \times 60/100 = 105$$

Profit:

$$105 - 100 = 5$$

Therefore:

$$\text{Profit} = 5\%$$

Answer: 5%

Q39. Mixture

In what ratio should rice costing ₹55/kg and ₹70/kg be mixed so that the mixture costs ₹65/kg?

- A. 1 : 2
- B. 2 : 3
- C. 3 : 2
- D. 1 : 3

Correct Answer: A. 1 : 2

Solution:

Using allegation:

$$55 \quad 70$$

Mean = 65.

Difference:

$$\begin{aligned} 70 - 65 &= 5 \\ 65 - 55 &= 10 \end{aligned}$$

Therefore:

$$55:70 = 5:10 = 1:2$$

Answer: 1 : 2

Q40. Fractions

Find:

$$\frac{1}{12} + \frac{1}{16} + \frac{1}{8}$$

- A. $\frac{13}{48}$
- B. $\frac{10}{72}$
- C. $\frac{3}{48}$
- D. $\frac{13}{18}$

Correct Answer: A. $\frac{13}{48}$

Solution:

LCM of 12, 16 and 8 = 48.

$$\begin{aligned}\frac{1}{12} &= \frac{4}{48} \\ \frac{1}{16} &= \frac{3}{48} \\ \frac{1}{8} &= \frac{6}{48}\end{aligned}$$

Therefore:

$$\frac{4}{48} + \frac{3}{48} + \frac{6}{48} = \frac{13}{48}$$

Answer: $\frac{13}{48}$

Q41. Similarity of Triangles

In triangle ABC, D and E lie on AB and AC respectively such that:

$$AD = \frac{1}{6}AB$$

and

$$AE = \frac{1}{6}AC.$$

If $BC = 22\text{cm}$, find DE.

- A. 1.33 cm
- B. 1.67 cm
- C. 3.67 cm
- D. 3.33 cm

Correct Answer: C. 3.67 cm

Solution:

Since:

$$\frac{AD}{AB} = \frac{AE}{AC} = \frac{1}{6}$$

DE is parallel to BC.

By similarity:

$$\frac{DE}{BC} = \frac{1}{6}$$

Therefore:

$$\begin{aligned} DE &= \frac{22}{6} \\ &= 3.6667 \\ &\approx 3.67 \text{ cm} \end{aligned}$$

Answer: 3.67 cm

Q42. Relative Speed

Reema runs $\frac{5}{4}$ times as fast as Rekha. In a race, Reema gives Rekha a lead of 50 m. Find the distance from the starting point where they meet.

- A.** 250 m
- B.** 225 m
- C.** 200 m
- D.** 240 m

Correct Answer: A. 250 m

Solution:

Let Rekha's speed = $4x$.

Reema's speed = $5x$.

Suppose they meet after Rekha travels d metres.

Reema travels:

$$d + 50$$

Since time is same:

$$\begin{aligned}\frac{d + 50}{5x} &= \frac{d}{4x} \\ 4(d + 50) &= 5d \\ 4d + 200 &= 5d \\ d &= 200\end{aligned}$$

Thus Rekha travels 200 m and Reema travels:

$$200 + 50 = 250m$$

The meeting point from the starting point is therefore **250 m**.

Answer: 250 m

Q43. Average Percentage

Four students obtain the following Hindi marks out of 100:

- A = 85
- B = 80
- C = 75
- D = 70

Find the average percentage.

- A.** 77.0%
- B.** 77.6%
- C.** 77.8%
- D.** 77.5%

Correct Answer: D. 77.5%

Solution:

Total marks:

$$85 + 80 + 75 + 70 = 310$$

Average:

$$\frac{310}{4} = 77.5$$

Since the paper is out of 100, average percentage is:

$$77.5\%$$

Answer: 77.5%

Q44. Trigonometry

If

$$\cot \theta = \frac{4}{3}, 0 < \theta < \frac{\pi}{2}$$

and

$$5p \cos^2 \theta \sin \theta = \cot^2 \theta,$$

find p .

- A. $\frac{7}{27}$
- B. $\frac{125}{27}$
- C. $\frac{5}{27}$
- D. $\frac{25}{27}$

Correct Answer: D. $\frac{25}{27}$

Solution:

Given:

$$\cot \theta = \frac{4}{3}$$

Therefore, from a 3-4-5 triangle:

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$$\sin \theta = \frac{3}{5}$$

$$\cos \theta = \frac{4}{5}$$

Thus:

$$\cos^2 \theta = \frac{16}{25}$$

and

$$\cot^2 \theta = \frac{16}{9}$$

Substitute:

$$5p \times \frac{16}{25} \times \frac{3}{5} = \frac{16}{9}$$

$$\frac{48p}{25} = \frac{16}{9}$$

$$p = \frac{16}{9} \times \frac{25}{48}$$

$$p = \frac{25}{27}$$

Answer: $\frac{25}{27}$

Q45. Trains

Train A takes 15 seconds to cross a 300 m long train B moving in the opposite direction at 36 km/h. Train A takes 30 seconds to cross a stationary 500 m long train C. Find the length of train A.

- A. 200 m
- B. 300 m
- C. 250 m
- D. 275 m

Correct Answer: A. 200 m

Solution:

Speed of B:

$$36 \text{ km/h} = 10 \text{ m/s}$$

Let speed of A = $v \text{ m/s}$ and length of A = L .

From crossing train C:

$$\frac{L + 500}{30} = v$$

Therefore:

$$L + 500 = 30v$$

For B, relative speed:

$$v + 10$$

Hence:

$$\frac{L + 300}{15} = v + 10$$

Solving the two equations gives:

$$v = 23.33 \text{ m/s}$$

and:

$$L = 200 \text{ m}$$

Answer: 200 m

Q46. Profit and Loss

The difference between the selling prices at profits of **10% and 7%** is ₹6. Find the cost price.

- A.** ₹175
- B.** ₹150
- C.** ₹200
- D.** ₹100

Correct Answer: C. ₹200

Solution:

Difference in profit:

$$10\% - 7\% = 3\%$$

Therefore:

$$\begin{aligned} 3\% \text{ of CP} &= 6 \\ CP &= \frac{6 \times 100}{3} \\ &= ₹200 \end{aligned}$$

Answer: ₹200

Q47. Pie Chart

A pie chart shows the National Budget Expenditure in 2019:

- Military = 62%
- International = 12%
- Interest on debt = 6%
- Others = 20%

If ₹850 billion was spent on **interest on debt and military together**, find the total expenditure.

- A.** ₹1,700 billion
- B.** ₹1,300 billion
- C.** ₹1,250 billion
- D.** ₹1,450 billion

Correct Answer: C. ₹1,250 billion

Solution:

Military + interest on debt:

$$62\% + 6\% = 68\%$$

Thus:

68% of total = 850

Total:

$$\begin{aligned} &= \frac{850 \times 100}{68} \\ &= 1250 \end{aligned}$$

Answer: ₹1,250 billion

Q48. Time and Work

John can complete a work alone in **20 days**, while Ravi can complete it alone in **28 days**. How many days will they take together?

A. $11\frac{1}{3}$ days

B. $12\frac{2}{3}$ days

C. $11\frac{2}{3}$ days

D. $12\frac{1}{3}$ days

Correct Answer: C. $11\frac{2}{3}$ days

Solution:

John's one-day work:

$$\frac{1}{20}$$

Ravi's one-day work:

$$\frac{1}{28}$$

Together:

$$\frac{1}{20} + \frac{1}{28}$$

LCM = 140:

$$= \frac{7}{140} + \frac{5}{140} = \frac{12}{140} = \frac{3}{35}$$

Therefore time:

$$\frac{35}{3} = 11\frac{2}{3}$$

Answer: $11\frac{2}{3}$ days

Q49. Average

The weights of eight parcels are:

1.5 kg, 1.25 kg, 1.35 kg, 750 g, 950 g, 0.7 kg, 0.4 kg and 0.5 kg.

Find the average weight.

- A. 875 g
- B. 900 g
- C. 925 g
- D. 700 g

Correct Answer: C. 925 g

Solution:

Convert everything into grams:

$$1500 + 1250 + 1350 + 750 + 950 + 700 + 400 + 500 \\ = 7400g$$

Average:

$$\frac{7400}{8} = 925g$$

Answer: 925 g

Q50. Pie Chart

A school has **3,600 students** enrolled in different hobby classes. According to the pie chart:

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- Cooking = 22%
- Drama = 13%
- Stitching = 11%
- Painting = 15%
- Dancing = 21%
- Singing = 18%

The number of students in Painting is approximately what percentage of the number of students in Singing?

- A.** 108%
- B.** 83%
- C.** 98%
- D.** 78%

Correct Answer: B. 83%

Solution:

Painting students:

15%

Singing students:

18%

Required percentage:

$$\frac{15}{18} \times 100$$

$$= 83.33\%$$

Approximately:

83%

Answer: 83%

Q1. Idiom / Phrase

Choose the expression that best replaces the idea of **unfair or dishonest conduct** in sports.

- A. Straw in the eye
- B. Hand in the mud
- C. Red-handed
- D. Foul play

Answer: D. Foul play

Solution: *Foul play* means dishonest, unfair or improper behaviour, especially in a competitive situation.

Q2. Antonym

Choose the antonym of **Placid**.

- A. Pristine
- B. Turbulent
- C. Pensive
- D. Destined

Answer: B. Turbulent

Solution: *Placid* means calm and peaceful, whereas *turbulent* means disturbed or disorderly.

Q3. One-Word Substitution

A person who does not believe in the existence of God is called:

- A. Hedonistic
- B. Fanatic
- C. Epicurean
- D. Atheist

Answer: D. Atheist

Solution: An *atheist* is a person who does not believe that God exists.

Q4. Idiom

Select the idiom given as the replacement for the highlighted expression in the sentence.

- A. An iron will
- B. Pen and ink
- C. Lamé excuse
- D. An old flame

Answer: B. Pen and ink

Solution: The paper's keyed answer is **Pen and ink**. However, the extracted sentence and highlighted portion do not make the intended substitution completely clear, so this particular item should be treated with caution when using it for grammar practice.

Q5. Sentence Improvement

Choose the best replacement for the incorrect phrase in:

"The Taj Mahal is one of the much popular seven wonders of the world."

- A. No substitution required
- B. More
- C. Much more
- D. Most

Answer: D. Most

Solution: The correct construction is **"one of the most popular..."** because the superlative degree is required.

Q6. Sentence Improvement

Choose the option intended to correct the comparison in:

"He is faster than smarter."

- A. Faster than being smart
- B. More fast than smart
- C. Fast than smart
- D. No substitution

Answer: B. More fast than smart

Solution: This is the answer keyed in the paper. The item is somewhat awkward by standard modern English usage, but **B** is the examination-keyed option.

Q7. Antonym

Choose the most appropriate antonym of **Rejoinder**.

- A. Expedite
- B. Request
- C. Ordinary
- D. Reply

Answer: B. Request

Solution: *Rejoinder* means a reply or response. Among the given choices, **Request** is treated as the contrasting option.

Q8. Vocabulary

A medicine that counteracts the effect of venom from a snakebite is called:

- A. Remedy
- B. Antiseptic
- C. Anti-serum
- D. Antidote

Answer: D. Antidote

Solution: An *antidote* is a substance used to counteract the effects of a poison or toxin.

Q9. One-Word Substitution

The capacity of something to be useful for a particular purpose is called:

- A. Gain
- B. Utility
- C. Desirability
- D. Aid

Answer: B. Utility

Solution: *Utility* means usefulness or practical value.

Q10. Error Detection

Identify the part containing the error:

"Raman ate the cake and exclaimed that it tasted sweetly."

- A. And exclaimed that
- B. The cake
- C. Raman ate
- D. It tasted sweetly

Answer: D. It tasted sweetly

Solution: *Taste* is functioning as a linking verb here and should be followed by an adjective: **"It tasted sweet."**

Q11. Correct Spelling

Choose the correct spelling of the word intended by **"twelfth."**

- A. Twelfth
- B. Twelth
- C. Twwelfth
- D. Twellth

Answer: A. Twelfth

Solution: The correct spelling is **Twelfth**.

Q12. Articles

Choose the sentence that uses indefinite articles correctly.

- A. An Mercedes, a Jaguar and a Fiat
- B. A Mercedes, an Jaguar and a Fiat
- C. A Mercedes, a Jaguar and a Fiat
- D. A Mercedes, an Jaguar and an Fiat

Answer: C. A Mercedes, a Jaguar and a Fiat

Solution: We use **a** before words beginning with a consonant sound. *Mercedes, Jaguar, and Fiat* all begin with consonant sounds.

Q13. Incorrect Spelling

Identify the incorrectly spelled word.

- A. Zenith
- B. Merriment

- C. Yearn
- D. Miniture

Answer: D. Miniture

Solution: The correct spelling is **Miniature**.

Q14. Idiom

Choosing not to pursue a computer-engineering degree, when the market is limited, is described as:

- A. A cut above
- B. A blessing in disguise
- C. Airy-fairy
- D. An elevator pitch

Answer: B. A blessing in disguise

Solution: A *blessing in disguise* is something that initially appears bad but ultimately turns out to be beneficial.

Q15. One-Word Substitution

A person who settles in another country is called:

- A. Refugee
- B. Traveller
- C. Immigrant
- D. Resident

Answer: C. Immigrant

Solution: An *immigrant* is a person who moves to another country with the intention of settling there.

Q16. Antonym

Choose the antonym of **Asset**.

- A. Liability
- B. Mole
- C. Refuge
- D. Wealth

Answer: A. Liability

Solution: An *asset* is something valuable owned by a person or organisation, while a *liability* is an obligation or debt.

Q17. Antonym

Choose the antonym of **Leniency**.

- A. Sternness
- B. Favour
- C. Discard
- D. Penalty

Answer: A. Sternness

Solution: *Leniency* means being merciful or less strict. Its opposite is **sternness**, meaning strictness or severity.

Q18. One-Word Substitution

A person responsible for maintaining or managing a museum collection is a:

- A. Curator
- B. Calligrapher
- C. Chauffeur
- D. Cartographer

Answer: A. Curator

Solution: A **curator** manages, preserves and organises items in a museum or collection.

Q19. Antonym

Choose the antonym of **Apathy**.

- A. Interest
- B. Interruption
- C. Ignorance
- D. Sincerity

Answer: A. Interest

Solution: *Apathy* means lack of interest or enthusiasm. Therefore, **interest** is its opposite.

Q20. Idiom

Replace the incorrect expression “**as keen as butter**” with the correct idiom.

- A. As keen as a bee
- B. As keen as mustard
- C. As keen as sugar
- D. As keen as salt

Answer: B. As keen as mustard

Solution: **As keen as mustard** means very enthusiastic, eager or interested.

Q21. Synonym

In context, choose the closest meaning of **Viable**.

- A. Scalability
- B. Efficiency
- C. Sustainability
- D. Optimised

Answer: C. Sustainability

Solution: *Viable* means capable of working successfully or continuing effectively. Among the given choices, **sustainability** is the closest intended meaning.

Q22. Idiom

A project has failed after two months of effort. Which idiom means returning to the starting point?

- A. Back to square one
- B. Around the bend
- C. On the fly
- D. In the seventh heaven

Answer: A. Back to square one

Solution: **Back to square one** means having to start again from the beginning.

Q23. Idiom

What does “**crack someone up**” mean?

- A. Make someone laugh
- B. Criticise someone
- C. Make someone angry
- D. Force someone to make a mistake

Answer: A. Make someone laugh

Solution: To *crack someone up* means to make that person laugh.

Q24. Idiom

A student has decided firmly to achieve a place on the college hockey team. Which expression best fits?

- A. Rise to the occasion
- B. Set sights on
- C. Move the goal posts
- D. Make the cut

Answer: B. Set sights on

Solution: Set one's sights on means deciding to achieve or obtain a particular goal.

Q25. Idiom

Replace the phrase meaning that someone betrayed another person for personal gain.

- A. Stabbed her in the back
- B. Snapped her in the neck
- C. Stabbed her with a fork
- D. Stabbed her prospects

Answer: A. Stabbed her in the back

Solution: Stab someone in the back means to betray someone, especially after they trusted you.

Q26. Spelling Error

Which sentence contains the spelling error?

- A. The art of living is learnt by positive and optimistic people.
- B. The daily routines of great men *dissiminate* that they are different.
- C. Their unique lifestyles teach useful habits.
- D. We can learn from the lives of great men.

Answer: B

Solution: **Dissiminate** is incorrect. The intended word is **disseminate**.

Q27. Antonym

Choose the antonym of **Denounce**.

- A. Dainty
- B. Praise
- C. Relieve
- D. Criticise

Answer: B. Praise

Solution: *Denounce* means to strongly criticise or condemn. Its opposite is **praise**.

Q28. Error Detection

Identify the incorrect part:

“You arrived two days ago. By the time you leave, you will have spent nine days here.”

- A. You will have spent nine days here
- B. You arrived two days ago
- C. By the time you leave
- D. No error

Answer: D. No error

Solution: The sentence correctly uses the **future perfect tense**: *will have spent*. The complete sentence is grammatically acceptable.

Q29. Synonym

Choose the closest meaning of the highlighted word **“alleviate”** in the context of reducing traffic congestion.

- A. Amplification
- B. Diversion
- C. Laxity
- D. Gridlock

Answer: D. Gridlock

Solution: In the question's intended vocabulary comparison, **gridlock** is associated with severe traffic congestion.

Q30. Incorrect Spelling

Identify the incorrectly spelled word in the sentence about Gandhiji and untouchability.

- A. Major
- B. Considared
- C. Untouchability
- D. Social

Answer: B. Considared

Solution: The correct spelling is **considered**.

Q31. Antonym

Choose the word that is opposite in meaning to **discordant**.

- A. Transporting
- B. Melodious
- C. Filled
- D. Emotion

Answer: B. Melodious

Solution: *Discordant* means harsh, conflicting or lacking harmony. **Melodious** means pleasant and harmonious.

Q32. Error Detection

Consider the sentence:

"I wanted to buy a candle holder, but the store didn't have one. So, I got a cake."

- A. I wanted to buy a candle holder
- B. But the store didn't have one
- C. No error
- D. So, I got a cake

Answer: C. No error

Solution: Although the final action is unusual in context, the sentence is grammatically correct. The question is an error-detection item, so **No error** is the appropriate answer.

Q33. Idiom

Complete the sentence:

"I think we should _____ before buying this car."

- A. Stop to change horses
- B. Eat like a horse
- C. Hold our horses
- D. Get off our high horse

Answer: C. Hold our horses

Solution: **Hold your horses** means to wait or slow down before taking action.

Q34. One-Word Substitution

Something that happens repeatedly is:

- A. Rapport
- B. Recurrent
- C. Recuperate
- D. Regression

Answer: B. Recurrent

Solution: *Recurrent* means occurring repeatedly or happening again and again.

Q35. One-Word Substitution

The study of the human mind is called:

- A. Microbiology
- B. Anthropology
- C. Psychology
- D. Epidemiology

Answer: C. Psychology

Solution: **Psychology** is the scientific study of the mind and behaviour.

Q36. Synonym

Choose the synonym of **Captivate**.

- A. Arrest
- B. Study
- C. Allure
- D. Envelope

Answer: C. Allure

Solution: *Captivate* means to attract and hold someone's attention. **Allure** means to attract or fascinate.

Q37. One-Word Substitution

The scientific study of insects is called:

- A. Entomology
- B. Anthropology
- C. Microbiology
- D. Ecology

Answer: A. Entomology

Solution: **Entomology** is the branch of science concerned with insects.

Q38. Incorrect Spelling

Identify the incorrectly spelled word.

- A. Noodle
- B. Pitza
- C. Pasta
- D. Bread

Answer: B. Pitz

Solution: The correct spelling is **Pizza**.

Q39. Error Detection

Identify the incorrect part:

"A Prime Minister of India / will address / the nation today / on the occasion of Independence Day."

- A. Will address
- B. The nation today
- C. A Prime Minister of India
- D. On the occasion of Independence Day

Answer: C. A Prime Minister of India

Solution: When referring to the office-holder in this context, the appropriate expression is **"The Prime Minister of India."**

Q40. Idiom

What does **"What a small world!"** mean?

- A. What a beautiful place!
- B. What a coincidence!
- C. The world is great.
- D. The world is a village.

Answer: B. What a coincidence!

Solution: The expression is commonly used when people unexpectedly discover a connection or coincidence.

Cloze Test: Questions 41–45

The passage discusses South Korea's advanced cosmetics industry, government investment, consumer spending on skincare and the way Korean shoppers research cosmetic ingredients. The following five questions test the appropriate words for the blanks.

Q41. Blank 1

South Korea is described as the most cosmetically _____ country on Earth.

- A. Ancient
- B. Early
- C. Advanced
- D. Primitive

Answer: C. Advanced

Solution: The context describes South Korea as highly developed in cosmetics, so **advanced** is the suitable word.

Q42. Blank 2

The sentence refers to government investment _____ the industry.

- A. In the
- B. From the
- C. Of the
- D. By the

Answer: A. In the

Solution: The correct collocation is **investment in the industry**.

Q43. Blank 3

Korean citizens _____ twice as much on skincare products.

- A. Spend
- B. Propagate
- C. Cherish
- D. Comply

Answer: A. Spend

Solution: We say **spend money on** something. Therefore, *spend* fits grammatically and contextually.

Q44. Blank 4

"Korean shoppers are _____ the world's most discerning."

- A. Though
- B. Perhaps

- C. Although
- D. Maybe

Answer: D. Maybe

Solution: **Maybe** functions naturally as an adverb expressing possibility in this sentence.

Q45. Blank 5

The app is described as one that _____ like a cosmetics-specific platform.

- A. Dissolves
- B. Functions
- C. Malfunctions
- D. Stops

Answer: B. Functions

Solution: **Functions like** means operates or works in a similar manner.

Reading Comprehension: Questions 46–50

The passage discusses the **human mind and creativity**. It explains that creativity can arise through conscious or subconscious processes, appear in art and science, contribute to positive social change, and also involve obstacles such as self-doubt, rejection and criticism.

Q46. Suitable Title

Which title best captures the overall theme of the passage?

- A. The Human Mind and Positive Change
- B. The Power of Creativity
- C. History of the Human Mind
- D. Complexities of Human Cognition

Answer: B. The Power of Creativity

Solution: The passage mainly discusses creativity, its nature, applications, benefits and challenges. Therefore, **The Power of Creativity** is the most comprehensive title.

Q47. Challenge of Creative Expression

According to the passage, which is one challenge faced during creative expression?

- A. Excessive dependence on conscious problem-solving
- B. Lack of appreciation for creative ideas
- C. Limited capacity of the human mind
- D. Absence of external pressure

Answer: B. Lack of appreciation for creative ideas

Solution: The passage explains that creative ideas may not always be successful or well received, and creators may face rejection and criticism.

Q48. Main Focus

What is the central focus of the passage?

- A. Mysteries of the human mind
- B. Nature of creativity, including its benefits and challenges
- C. Complexity of cognitive processes alone
- D. Fancy and imagination

Answer: B. Nature of creativity, including its benefits and challenges

Solution: Although the passage begins with the human mind, its major focus is **creativity—how it works, where it appears, its positive effects and the difficulties creators face.**

Q49. Antonym

Choose the most appropriate antonym of **Fraught**.

- A. Beset
- B. Tranquil
- C. Devoid
- D. Calm

Answer: B. Tranquil

Solution: *Fraught* means filled or associated with something, especially difficulties or problems. **Tranquil** means calm and peaceful, making it the best opposite among the options.

Q50. Factors Driving Creativity

According to the passage, which factors can stimulate creativity?

- A. External pressure and constraints
- B. Fancy and imagination
- C. Self-doubt and insecurity
- D. Curiosity and passion

Answer: D. Curiosity and passion

Solution: The passage specifically identifies **curiosity, passion and the desire for recognition** as factors that can drive creativity.