

CUET UG (GAT) - 20 May 2025 Shift 1

General Aptitude Test

Question1

Which one of the following gland is responsible for the secretion of growth hormones?

1. Pineal Gland
2. Pituitary Gland
3. Thyroid Gland
4. Adrenal Gland

Options:

A.

1

B.

2

C.

3

D.

4

Answer: B

Solution:

The **growth hormone (GH)** is secreted by the **pituitary gland** (specifically the anterior pituitary).

Correct answer: **2. Pituitary Gland**

Question2

In an A.P. if m^{th} term is n and the n^{th} term is m , where $m \neq n$, find the p^{th} term.

1. $n + m + p$
2. $m - p$
3. $n + m - 1$
4. $n + m - p$

Options:

A.

1

B.

2

C.

3

D.

4

Answer: D

Solution:

Given:

$$T_m = a + (m - 1)d = n \quad \dots(1)$$

$$T_n = a + (n - 1)d = m \quad \dots(2)$$

Subtract (2) from (1):

$$(a + (m - 1)d) - (a + (n - 1)d) = n - m$$

$$(m - n)d = n - m$$

$$d = -1$$

Substitute $d = -1$ in (1):

$$a + (m - 1)(-1) = n$$

$$a - m + 1 = n$$

$$a = n + m - 1$$

Now find T_p :

$$T_p = a + (p - 1)d$$

$$= (n + m - 1) + (p - 1)(-1)$$

$$= n + m - 1 - p + 1$$

$$= n + m - p$$

 **Final Answer:**

4. $n + m - p$

Question3

The base radius of a cone is 21 cm and the height is 28cm, then, which of the following is/ are correct?

(A) Slant height = 35 cm

(B) Slant height = 33 cm

(C) Volume = 12936 cm^3

(D) Curved Surface Area = 2310 cm^2

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

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

Options:

A.

1

B.

2

C.

3

D.

4

Answer: C

Solution:

Given:

$$r = 21 \text{ cm}, h = 28 \text{ cm}$$

1. Slant height:

$$l = \sqrt{r^2 + h^2} = \sqrt{21^2 + 28^2} = \sqrt{1225} = 35$$

☒ (A) correct

☐ (B) wrong

2. Volume:

$$\begin{aligned} V &= \frac{1}{3}\pi r^2 h = \frac{1}{3}\pi \cdot 441 \cdot 28 = 4116\pi \\ &= 4116 \times \frac{22}{7} = 12936 \end{aligned}$$

☒ (C) correct

3. Curved Surface Area:

$$\begin{aligned} CSA &= \pi r l = \pi \cdot 21 \cdot 35 = 735\pi \\ &= 735 \times \frac{22}{7} = 2310 \end{aligned}$$

☒ (D) correct

☒ Final Answer:

Option 3 → (C), (D) and (A) only

Question4

Who among the following is best known as the Chief Architect of the Indian Atomic Energy Program ?

1. C.V. Raman
2. Homi Jehangir Bhabha
3. Meghnad N. Saha
4. Vikram Sarabhai

Options:

A.

1

B.

2

C.

3

D.

4

Answer: B

Solution:

The title “**Chief Architect of the Indian Atomic Energy Program**” is associated with:

Homi Jehangir Bhabha

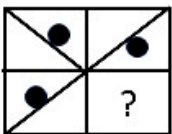
He is regarded as the **father of India’s nuclear program**.

Correct answer:

2. Homi Jehangir Bhabha

Question5

Select the figure from the options, which when placed in the blank space would complete the given pattern.



Options:

A.

1

B.

2

C.

3

D.

4

Answer: A

Solution:



Question6

The angle of elevation of the top of an unfinished tower at a distance of 75m from its base is 30° . How much higher must the tower be raised so that the angle of elevation of its top at the same point may be 60° ?

1. $20\sqrt{3} \text{ m}$
2. $50\sqrt{3} \text{ m}$
3. 30 m
4. 60 m

Options:

A.

1

B.

2

C.

3

D.

4

Answer: B

Solution:

Distance from base = 75 m

Initial height:

$$\tan 30^\circ = \frac{h_1}{75} = \frac{1}{\sqrt{3}}$$

$$h_1 = \frac{75}{\sqrt{3}} = 25\sqrt{3}$$

Final height:

$$\tan 60^\circ = \frac{h_2}{75} = \sqrt{3}$$

$$h_2 = 75\sqrt{3}$$

Increase in height:

$$h_2 - h_1 = 75\sqrt{3} - 25\sqrt{3} = 50\sqrt{3}$$

✓ Final Answer:

2. $50\sqrt{3}$ m

Question7

Consider the compound interest of the following

(A) The compound interest on Rs 16000 at 20% per annum for 9 months, compounded quarterly is: Rs 2522

(B) The compound interest on Rs 2800 at 10% per annum for 18 months, compounded annually is: Rs 434

Choose the **correct** statement(s) :

1. Only (A)
2. Only (B)
3. Both (A) and (B)
4. Neither (A) nor (B)

Options:

A.

1

B.

2

C.

3

D.

4

Answer: C

Solution:

(A)

Principal = 16000

Rate = 20% p.a. → quarterly $\Rightarrow$ 5% per quarter

Time = 9 months = **3 quarters**

$$A = 16000(1.05)^3 = 16000 \times 1.157625 = 18522$$

$$CI = 18522 - 16000 = 2522$$

✓ (A) is correct

(B)

Principal = 2800

Rate = 10% p.a.

Time = 18 months = 1 year + 6 months

Compounded annually:

Step 1 (1 year):

$$2800 \times 1.1 = 3080$$

Step 2 (next 6 months → simple interest on 3080):

$$SI = 3080 \times 10\% \times \frac{1}{2} = 154$$

$$Amount = 3080 + 154 = 3234$$

$$CI = 3234 - 2800 = 434$$

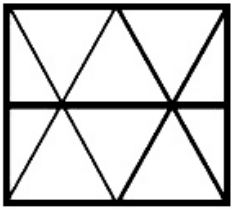
✓ (B) is correct

✓ **Final Answer:**

3. Both (A) and (B)

Question8

How many triangles are there in the following figure ?



1. 18
2. 16
3. 12
4. 20

Options:

A.

1

B.

2

C.

3

D.

4

Answer: A

Solution:

Step 1: Small triangles

Count all smallest unit triangles:

- Top row: 4
 - Bottom row: 4
- Total small = 8

Step 2: Medium triangles

Formed by combining 2 small triangles:

- Top: 3
 - Bottom: 3
- Total = 6

Step 3: Larger triangles

- Across full width (top): 2
 - Across full width (bottom): 2
- Total = 4

Step 4: Total triangles:

$$8 + 6 + 4 = 18$$

Final Answer: **1. 18**

Question9

Sonam ranks 18th from the top and 15th from the bottom in certain examinations. Determine how many students appeared for the examinations ?

- 1. 33
- 2. 34
- 3. 32
- 4. 31

Options:

A.

1

B.

2

C.

3

D.

4

Answer: C

Solution:

Use the formula:

Total students = (Rank from top) + (Rank from bottom) - 1

$$= 18 + 15 - 1 = 32$$

Final Answer: **3. 32**

Question10

Which one among the following is a major relief feature in the Ocean floor ?

1. Mid-Oceanic Ridges
2. Deep Sea Plain
3. Seamount
4. Submarine Canyons

Options:

A.

1

B.

2

C.

3

D.

4

Answer: B

Solution:

Hence, **Deep Sea Plain** They are the largest and most extensive topographic features on Earth, covering more area than any other ocean floor feature and representing the true ocean basin floor **correct**

Question11

Who among the following awardees of the Ramon Magsaysay Award 2024 is a scholar who bridges tradition and modernity by promoting education, social entrepreneurship and culture preservation ?

1. Farhan, Farwiza
2. Phuntsho, Karma
3. Miyazaki Hayao
4. Nguyen Thi Ngoc Phuong

Options:

A.

1

B.

2

C.

3

D.

4

Answer: B

Solution:

The correct answer is:

2. Karma Phuntsho

He is a Bhutanese scholar and founder of the Loden Foundation, known for promoting **education, social entrepreneurship, and preservation of Bhutanese culture**, effectively bridging tradition and modernity.

Question12

Put the following religious teachers in chronological order beginning from the earliest to the latest:

(A) Thondaradippodi Azhwar in Tamil Nadu

(B) Nizamuddin Auliya in Delhi

(C) Basavanna in Karnataka

(D) Sri Chaitanya in Bengal

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

1. (A), (C), (B), (D)

2. (B), (A), (C), (D)

3. (A), (B), (D), (C)

4. (C), (B), (D), (A)

Options:

A.

1

B.

2

C.

3

D.

4

Answer: A

Solution:

To arrange them chronologically, note their approximate time periods:

- (A) **Thondaradippodi Alvar** – 8th–9th century CE
- (C) **Basavanna** – 12th century CE
- (B) **Nizamuddin Auliya** – 13th–14th century CE
- (D) **Chaitanya Mahaprabhu** – 15th–16th century CE

Correct chronological order (earliest → latest):

(A) → (C) → (B) → (D)

Correct answer: Option 1

Question13

A and B can do a piece of work in 12 days. B and C together can do it in 15 days. If A is twice as good a workman as C, find the number of days in which B alone can do the work ?

1. 10 days
2. 20 days
3. 5 days
4. 12 days

Options:

A.

1

B.

2

C.

3

D.

4

Answer: B

Solution:

Let the daily work rates of A, B, and C be a , b , and c .

From the question:

- $a + b = \frac{1}{12}$
- $b + c = \frac{1}{15}$
- $a = 2c$

Step 1: Substitute $a = 2c$ into first equation

$$2c + b = \frac{1}{12}$$

Step 2: Use second equation

$$b + c = \frac{1}{15}$$

Step 3: Subtract equations

$$\begin{aligned}(2c + b) - (b + c) &= \frac{1}{12} - \frac{1}{15} \\ c &= \frac{5 - 4}{60} = \frac{1}{60}\end{aligned}$$

Step 4: Find b

$$\begin{aligned}b + \frac{1}{60} &= \frac{1}{15} = \frac{4}{60} \\ b &= \frac{3}{60} = \frac{1}{20}\end{aligned}$$

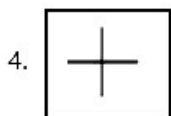
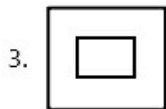
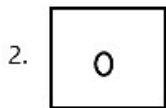
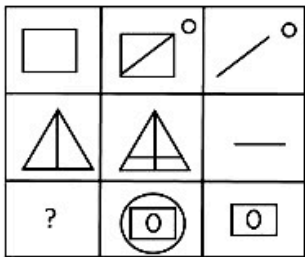
Step 5: Time taken by B alone

$$\text{Time} = \frac{1}{b} = 20 \text{ days}$$

✔ Correct answer: 20 days (Option 2)

Question14

Find out which of the answer figure completes the given matrix and will come in place of ' ? ' :



Options:

A.

1

B.

2

C.

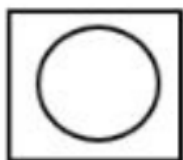
3

D.

4

Answer: A

Solution:



Question15

Match **List-I** with **List-II**

List-I	List-II
(International Organisations)	(Headquarter Location)
(A) World Trade Organisation	(I) New York
(B) International Finance Corporation	(II) Geneva
(C) United Nations Development Programme	(III) Montreal
(D) International Civil Aviation Organisation	(IV) Washington D.C.

Choose the **Correct** Answer from the options given below :

1. (A) - (II), (B) - (IV), (C) - (I), (D) - (III)
2. (A) - (III), (B) - (IV), (C) - (II), (D) - (I)
3. (A) - (II), (B) - (IV), (C) - (III), (D) - (I)
4. (A) - (II), (B) - (I), (C) - (IV), (D) - (III)

Options:

A.

1

B.

2

C.

3

D.

4

Answer: A

Solution:

The correct matches are:

- (A) World Trade Organization → (II) Geneva
- (B) International Finance Corporation → (IV) Washington D.C.
- (C) United Nations Development Programme → (I) New York
- (D) International Civil Aviation Organisation → (III) Montreal

So the correct option is:

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

Question16

Identify the Odd One Out :

1. Hypertension
2. Ulcer
3. Kidney
4. Anaemia

Options:

A.

1

B.

2

C.

3

D.

4

Answer: C

Solution:

The odd one out is:

3. Kidney

Explanation:

- **Hypertension, Ulcer, and Anaemia** are **diseases/medical conditions**.
- **Kidney** is an **organ**, not a disease.

Hence, **Kidney** is the odd one out.

Question17

Rohit walks 30 m straight from his school towards the North, Then he turns left and walks 20 m. He turns left again and walks 10 m. Finally, he turns left and walks 20 m to reach point A. What is the shortest distance between his school and point A.

1. 10 m
2. 20 m
3. 30 m
4. 5 m

Options:

A.

1

B.

2

C.

3

D.

4

Answer: B

Solution:

Let's track Rohit's movement step by step:

1. Starts at school → walks **30 m North**
2. Turns left → walks **20 m West**
3. Turns left → walks **10 m South**
4. Turns left → walks **20 m East** → reaches point A

Net displacement:

- **North-South:** $30 - 10 = 20$ m North
- **East-West:** 20 m West and 20 m East cancel out → 0

So, Rohit is **20 m North** of the starting point.

Shortest distance:

Straight-line distance = **20 m**

Correct answer: 20 m (Option 2)

Question18

Which one among the following schemes was introduced by the Government of India with the objective of universal access to banking facilities, for all households across the country, through a bank branch, or a fixed point business correspondent within a reasonable distance?

1. Pradhan Mantri Mudra Yojana
2. Pradhan Mantri Vyay Vandana Yojana
3. Pradhan Mantri Suraksha Bima Yojana
4. Pradhan Mantri Jan Dhan Yojana

Options:

A.

1

B.

2

C.

3

D.

4

Answer: D

Solution:

The correct answer is **4. Pradhan Mantri Jan Dhan Yojana**.

It was launched to provide **universal access to banking facilities** for households, including access through bank branches and business correspondents.

The others are for different purposes:

- **Pradhan Mantri Mudra Yojana** — loans for small businesses
- **Pradhan Mantri Vaya Vandana Yojana** — pension scheme for senior citizens
- **Pradhan Mantri Suraksha Bima Yojana** — accident insurance

Answer: Pradhan Mantri Jan Dhan Yojana

Question19

Which of the following States of India share land border with Bhutan ?

1. Tripura, Manipur and Mizoram
2. Assam, Arunachal Pradesh, Mizoram
3. Sikkim, Assam, Manipur
4. Sikkim, Assam, Arunachal Pradesh

Options:

A.

1

B.

2

C.

3

D.

4

Answer: D

Solution:

The correct answer is **4. Sikkim, Assam, Arunachal Pradesh**.

India shares its border with **Bhutan** through these states:

- Sikkim
- West Bengal
- Assam
- Arunachal Pradesh

Among the given options, only **Option 4** contains only states that border Bhutan.

Answer: 4. Sikkim, Assam, Arunachal Pradesh

Question20

If ROBUST is coded as QNATRS in a certain language, which word will be coded as ZXCMP?

1. BZEOR
2. AYDNQ
3. YWBLO
4. AWDLQ

Options:

A.

1

B.

2

C.

3

D.

4

Answer: B

Solution:

Observe the pattern:

ROBUST → QNATRS

Compare each letter:

- R → Q (−1)
- O → N (−1)
- B → A (−1)
- U → T (−1)
- S → R (−1)
- T → S (−1)

So, each letter is shifted **one step backward** in the alphabet.

Now reverse this logic for the question:

We need a word whose letters, when shifted **-1**, give **ZXCMP**.

So shift each letter of **ZXCMP +1**:

- $Z \rightarrow A$
- $X \rightarrow Y$
- $C \rightarrow D$
- $M \rightarrow N$
- $P \rightarrow Q$

Thus, the original word is **AYDNQ**.

Correct answer: 2. AYDNQ

Question21

If 3rd December 2000 was Sunday, what day was 3rd January 2001?

1. Tuesday
2. Monday
3. Wednesday
4. Sunday

Options:

A.

1

B.

2

C.

3

D.

4

Answer: C

Solution:

We are given:

- **3 December 2000 = Sunday**
- Find the day on **3 January 2001**

Step 1: Count days between the two dates

From Dec 3, 2000 $\rightarrow$ Jan 3, 2001 = **31 days**

Step 2: Convert days into weeks

$31 \div 7 = 4 \text{ weeks} + \mathbf{3 \text{ extra days}}$

Step 3: Add 3 days to Sunday

- Sunday → Monday (1)
- Tuesday (2)
- **Wednesday (3)**

Final Answer:

Wednesday (Option 3)

Question22

The Jammu and Kashmir Reorganisation Act, which provided for reorganization of the erstwhile State of Jammu and Kashmir into two Union Territories - Jammu and Kashmir, and Ladakh was enacted in which year?

1. 2018
2. 2019
3. 2020
4. 2021

Options:

A.

1

B.

2

C.

3

D.

4

Answer: B

Solution:

The correct answer is **2. 2019**.

The **Jammu and Kashmir Reorganisation Act, 2019** was enacted in **2019**, and it reorganized the former state into the two Union Territories of:

- **Jammu and Kashmir**
- **Ladakh**

Answer: 2019

Question23

How many times in a continuous period of 24 hours, are the 2 hands of an ordinary clock at a right angle ?

1. 25 times
2. 12 times
3. 44 times
4. 48 times

Options:

A.

1

B.

2

C.

3

D.

4

Answer: C

Solution:

In a **12-hour period**, the hour and minute hands form a right angle **22 times**.

So, in **24 hours**:

$$22 \times 2 = 44 \text{ times}$$

Final Answer:

44 times (Option 3)

Question24

Amit and Pankaj are brothers. Rekha is the daughter of Kapil and sister of Amit. How is Pankaj's mother related to Kapil.

1. Sister
2. Wife
3. Sister-in-law
4. Mother

Options:

A.

1

B.

2

C.

3

D.

4

Answer: B

Solution:

Let's break it down:

- Amit and Pankaj are **brothers** → they share the same parents.
- Rekha is **daughter of Kapil** and **sister of Amit** → so Amit is also Kapil's child.
- Since Pankaj is Amit's brother → Pankaj is also Kapil's son.

So, **Kapil is the father of Pankaj.**

Therefore, **Pankaj's mother** must be **Kapil's wife.**

Final Answer: **2. Wife**

Question25

Match **List-I** with **List-II**

List-I	List-II
(Books)	(Authors)
(A) Farewell to Arms	(I) V.S.Naipaul
(B) A Tale of Two Cities	(II) Ernest Hemingway
(C) A House for Mr. Biswas	(III) Arthur Miller
(D) Death of a Salesman	(IV) Charles Dickens

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

1. (A) - (I), (B) - (III), (C) - (II), (D) - (IV)
2. (A) - (II), (B) - (IV), (C) - (I), (D) - (III)
3. (A) - (II), (B) - (III), (C) - (I), (D) - (IV)
4. (A) - (III), (B) - (IV), (C) - (I), (D) - (II)

Options:

A.

1

B.

2

C.

3

D.

4

Answer: B

Solution:

Let's match each book with its correct author:

- (A) A Farewell to Arms → (II) Ernest Hemingway
- (B) A Tale of Two Cities → (IV) Charles Dickens
- (C) A House for Mr Biswas → (I) V. S. Naipaul
- (D) Death of a Salesman → (III) Arthur Miller

Correct matching:

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

Correct answer: Option 2

Question26

What is the period of rise of the Chalukyas in Karnataka and of the Pallavas in Tamil Nadu?

1. 500-600 CE
2. 500-600 BCE
3. 100-200 CE
4. 100-200 BCE

Options:

A.

1

B.

2

C.

3

D.

4

Answer: A

Solution:

The correct answer is **1. 500–600 CE**.

The **Chalukyas** in Karnataka and the **Pallavas** in Tamil Nadu rose to prominence in the **early medieval period**, around **the 6th century CE**.

Answer: 500–600 CE

Question27

Match **List-I** with **List-II**

List-I	List-II
(A) Ramsar Site	(I) Manas
(B) Biosphere Reserve	(II) Orang
(C) Elephant Reserve	(III) Renuka Lake
(D) Tiger Reserve	(IV) Wayanad

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

1. (A) - (II), (B) - (I), (C) - (IV), (D) - (III)
2. (A) - (III), (B) - (I), (C) - (IV), (D) - (II)
3. (A) - (III), (B) - (IV), (C) - (I), (D) - (II)
4. (A) - (I), (B) - (III), (C) - (IV), (D) - (II)

Options:

A.

1

B.

2

C.

3

D.

4

Answer: B

Solution:

Let's match them correctly:

- **(A) Ramsar Site → (III) Renuka Lake** (a well-known Ramsar wetland)

- **(B) Biosphere Reserve** → **(I) Manas** (Manas Biosphere Reserve)
- **(C) Elephant Reserve** → **(IV) Wayanad** (part of Nilgiri Elephant Reserve region)
- **(D) Tiger Reserve** → **(II) Orang** (Orang National Park is a Tiger Reserve)

Correct matching:

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

Correct answer: Option 2

Question28

Put the following Viceroy of India in chronological order beginning from the earliest to the latest?

- (A) Lord Minto II
- (B) Sir John Lawrence
- (C) Lord Wavell
- (D) Lord Linlithgow

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

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

Options:

A.

1

B.

2

C.

3

D.

4

Answer: C

Solution:

Let's arrange them by their tenure as Viceroy of India:

- **(B) John Lawrence – 1864–1869**
- **(A) Lord Minto II – 1905–1910**
- **(D) Lord Linlithgow – 1936–1943**

- (C) Lord Wavell – 1943–1947

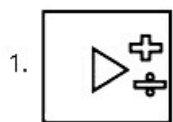
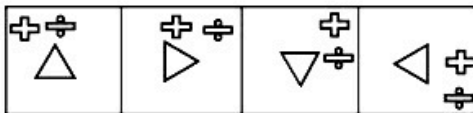
Chronological order (earliest → latest):

(B) → (A) → (D) → (C)

Correct answer: Option 3

Question29

Select a figure from the options which would continue the given series :



Options:

A.

1

B.

2

C.

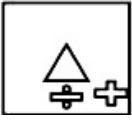
3

D.

4

Answer: C

Solution:



Question30

The focal length of a spherical mirror is equal to:

1. A quarter of its radius of curvature
2. Half of its radius of curvature
3. Three quarters of its radius of curvature
4. Equal to its radius of curvature

Options:

A.

1

B.

2

C.

3

D.

4

Answer: B

Solution:

The relationship between focal length f and radius of curvature R for a spherical mirror is:

$$f = \frac{R}{2}$$

This shows that the focal length is **half of the radius of curvature**.

Final Answer:

- ☒ 2. Half of its radius of curvature

Question31

How many perfect squares lie between 120 and 300?

- 1. 5
- 2. 6
- 3. 7
- 4. 8

Options:

A.

1

B.

2

C.

3

D.

4

Answer: C

Solution:

We need perfect squares **between** 120 and 300.

Step 1: Find nearest square roots

- $\sqrt{120} \approx 10.95 \rightarrow \text{next integer} = 11$
- $\sqrt{300} \approx 17.32 \rightarrow \text{last integer} = 17$

Step 2: Count integers from 11 to 17

Numbers: 11, 12, 13, 14, 15, 16, 17 $\rightarrow$ total **7 numbers**

So, there are **7 perfect squares**:

$11^2, 12^2, \dots, 17^2$

Final Answer:

✔ 7 (Option 3)

Question32

Which of the following satellites of India was launched on January 29, 2025?

1. SPADEX-A
2. SPADEX-B
3. NVS-02
4. GSAT-N2

Options:

A.

1

B.

2

C.

3

D.

4

Answer: C

Solution:

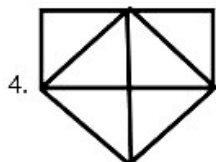
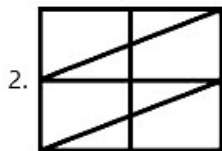
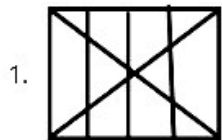
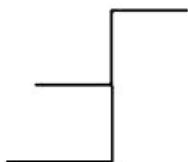
The correct answer is **3. NVS-02**.

NVS-02 is part of India's **Navigation with Indian Constellation (NavIC)** system and was launched by ISRO on **January 29, 2025**.

Final Answer: **NVS-02**

Question33

Select the option in which the given figure is embedded



Options:

A.

1

B.

2

C.

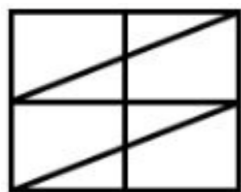
3

D.

4

Answer: B

Solution:



Question34

Match **List-I** with **List-II**

List-I	List-II
Item	Acid
(A) Vinegar	(I) Citric Acid
(B) Orange	(II) Tartaric Acid
(C) Tamarind	(III) Oxalic Acid
(D) Tomato	(IV) Acetic Acid

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

1. (A) - (IV), (B) - (I), (C) - (II), (D) - (III)
2. (A) - (IV), (B) - (I), (C) - (III), (D) - (II)
3. (A) - (I), (B) - (III), (C) - (II), (D) - (IV)
4. (A) - (III), (B) - (I), (C) - (II), (D) - (IV)

Options:

A.

1

B.

2

C.

3

D.

4

Answer: A

Solution:

Let's match each item with its common acid:

- (A) Vinegar → (IV) Acetic Acid
- (B) Orange → (I) Citric Acid
- (C) Tamarind → (II) Tartaric Acid
- (D) Tomato → (III) Oxalic Acid

Correct matching:

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

Correct answer: Option 1

Question35

Which of the following are non-metallic minerals?

- (A) Mica
- (B) Bauxite
- (C) Granite
- (D) Potash

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

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

Options:

A.

1

B.

2

C.

3

D.

4

Answer: A

Solution:

We need to identify **non-metallic minerals**:

- (A) **Mica** → Non-metallic 
- (B) **Bauxite** → Metallic (ore of aluminium) 
- (C) **Granite** → Non-metallic (rock, used as building material) 
- (D) **Potash** → Non-metallic (used in fertilizers) 

Correct combination:

(A), (C) and (D)

Correct answer: Option 1

Question36

Two persons A and B appear in an interview for two vacancies. If the probabilities of their selections are $\frac{1}{4}$ and $\frac{1}{6}$ respectively, then the probability that none of them is selected shall be :

1. $\frac{1}{12}$

2. $\frac{1}{24}$

3. $\frac{5}{12}$

4. $\frac{5}{8}$

Options:

A.

1

B.

2

C.

3

D.

4

Answer: D

Solution:

Given:

- $P(A \text{ selected}) = \frac{1}{4} \Rightarrow P(A \text{ not selected}) = \frac{3}{4}$
- $P(B \text{ selected}) = \frac{1}{6} \Rightarrow P(B \text{ not selected}) = \frac{5}{6}$

Assuming independence, probability that **none is selected**:

$$\frac{3}{4} \times \frac{5}{6} = \frac{15}{24} = \frac{5}{8}$$

Final Answer:

☒ $\frac{5}{8}$ (Option 4)

Question37

A sales agent travels a distance of 50 km in 2 hours and 30 minutes. How much faster, in kilometers per hour, on average, must he travel to make such a trip in $\frac{5}{6}$ hours less time?

1. 40
2. 30
3. 20
4. 10

Options:

A.

1

B.

2

C.

3

D.

4

Answer: D

Solution:

Distance = 50 km

Step 1: Original speed

Time = 2 hours 30 minutes = 2.5 hours

$$\text{Speed}_1 = \frac{50}{2.5} = 20 \text{ km/h}$$

Step 2: New time

Reduced time = $\frac{5}{6}$ hours

$$\text{New time} = 2.5 - \frac{5}{6} = \frac{15 - 5}{6} = \frac{10}{6} = \frac{5}{3} \text{ hours}$$

Step 3: New speed

$$\text{Speed}_2 = \frac{50}{5/3} = 50 \times \frac{3}{5} = 30 \text{ km/h}$$

Step 4: Increase in speed

$$30 - 20 = 10 \text{ km/h}$$

Final Answer:

✓ 10 km/h (Option 4)

Question38

Find the coordinates of the point which divides the line segment joining the points (4,-3) and (8,5) in the ratio 3:1 internally ?

1. (7, 3)
2. (3, 7)
3. (2, -2)
4. (-4, 6)

Options:

A.

1

B.

2

C.

3

D.

4

Answer: A

Solution:

To find the point dividing the line segment internally in the ratio 3 : 1, we use the section formula:

$$\left(\frac{mx_2 + nx_1}{m+n}, \frac{my_2 + ny_1}{m+n} \right)$$

Here:

- $(x_1, y_1) = (4, -3)$
- $(x_2, y_2) = (8, 5)$
- Ratio $m : n = 3 : 1$

Step 1: Apply formula

$$x = \frac{3 \cdot 8 + 1 \cdot 4}{4} = \frac{24 + 4}{4} = 7$$
$$y = \frac{3 \cdot 5 + 1 \cdot (-3)}{4} = \frac{15 - 3}{4} = 3$$

Final Answer:

☒ (7, 3) (Option 1)

Question39

If area of a square is 44 cm^2 , find the area of the circle formed by the same perimeter.

1. 50 cm^2
2. 28 cm^2
3. 56 cm^2
4. 16 cm^2

Options:

A.

1

B.

2

C.

3

D.

4

Answer: C

Solution:

Given:

Area of square = 44 cm^2

Step 1: Find side of square

$$s^2 = 44 \Rightarrow s = \sqrt{44} = 2\sqrt{11}$$

Step 2: Perimeter of square

$$P = 4s = 8\sqrt{11}$$

This equals the circumference of the circle.

Step 3: Use circumference formula

$$2\pi r = 8\sqrt{11} \Rightarrow r = \frac{4\sqrt{11}}{\pi}$$

Step 4: Area of circle

$$\pi r^2 = \pi \left(\frac{4\sqrt{11}}{\pi} \right)^2 = \pi \cdot \frac{16 \cdot 11}{\pi^2} = \frac{176}{\pi}$$

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

$$\frac{176}{\pi} = \frac{176 \times 7}{22} = 56$$

Final Answer:

✔ 56 cm^2 (Option 3)

Question40

If $\sqrt{2}:(1 + \sqrt{3}) :: \sqrt{6}:x$, then x is equal to:

1. $3 + \sqrt{3}$
2. $1 + \sqrt{3}$
3. $\sqrt{3} - 3$
4. $1 - \sqrt{3}$

Options:

A.

1

B.

2

C.

3

D.

Answer: A

Solution:

Given:

$$\sqrt{2} : (1 + \sqrt{3}) :: \sqrt{6} : x$$

This means:

$$\frac{\sqrt{2}}{1 + \sqrt{3}} = \frac{\sqrt{6}}{x}$$

Step 1: Cross multiply

$$x\sqrt{2} = \sqrt{6}(1 + \sqrt{3})$$

Step 2: Solve for x

$$\begin{aligned} x &= \frac{\sqrt{6}(1 + \sqrt{3})}{\sqrt{2}} \\ &= \sqrt{\frac{6}{2}}(1 + \sqrt{3}) = \sqrt{3}(1 + \sqrt{3}) \end{aligned}$$

Step 3: Expand

$$x = \sqrt{3} + 3$$

Final Answer:

☒ $3 + \sqrt{3}$ (Option 1)

Question41

By selling 8 pens for Rs 75, a shopkeeper loses 25%. How many pens should be sold for Rs 372 to earn a 24% profit?

1. 30
2. 18
3. 24
4. 20

Options:

A.

1

B.

2

C.

3

D.

4

Answer: C

Solution:

Let cost price (CP) per pen = x

Step 1: Given loss of 25%

Selling 8 pens for Rs 75 $\Rightarrow$ SP per pen = $75/8$

Loss 25% $\Rightarrow$ SP = 75% of CP

$$\frac{75}{8} = 0.75x = \frac{3}{4}x$$
$$x = \frac{75}{8} \times \frac{4}{3} = 12.5$$

So, CP per pen = Rs 12.5

Step 2: For 24% profit

SP per pen = $1.24 \times 12.5 = 15.5$

Step 3: Number of pens for Rs 372

$$\text{Number of pens} = \frac{372}{15.5} = 24$$

Final Answer:

✔ 24 pens (Option 3)

Question42

Study the table given carefully and choose the correct number option that shall come in place of '?' :

5	14	12
48	135	?
8	9	10

1. 130
2. 70
3. 83
4. 110

Options:

A.

1

B.

2

C.

3

D.

4

Answer: A

Solution:

The table is:

Top row:	5	14	12
Middle row:	48	135	?
Bottom row:	8	9	10

Observe the pattern (column-wise):

Middle number = (Top × Bottom) + Bottom

Check:

- Column 1:
 $5 \times 8 + 8 = 40 + 8 = 48$ ✓
- Column 2:
 $14 \times 9 + 9 = 126 + 9 = 135$ ✓

Apply to Column 3:

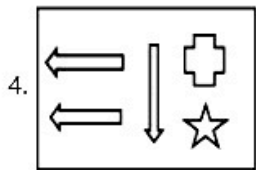
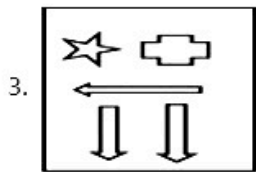
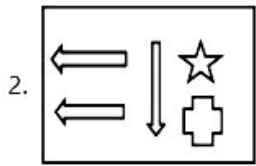
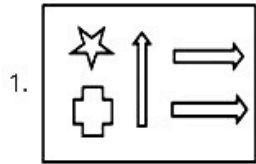
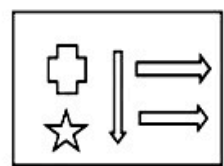
$$12 \times 10 + 10 = 120 + 10 = 130$$

Final Answer:

✓ 130 (Option 1)

Question43

Identify the mirror image of the given figure :



Options:

A.

1

B.

2

C.

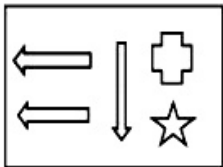
3

D.

4

Answer: D

Solution:



Question44

Which one of the following statement(s) is/are correct?

(A) Every whole number is a natural number.

(B) Every natural number is a whole number.

(C) Every integer is a whole number.

(D) Every rational number is a whole number

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

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

Options:

A.

1

B.

2

C.

3

D.

4

Answer: B

Solution:

Let's evaluate each statement:

- (A) Every whole number is a natural number ❌
Whole numbers include 0, but natural numbers usually start from 1 → so false.
- (B) Every natural number is a whole number ✅
Natural numbers (1, 2, 3, ...) are included in whole numbers (0, 1, 2, ...).

- (C) Every integer is a whole number ✗
Integers include negatives ($-1, -2, \dots$), which are not whole numbers.
- (D) Every rational number is a whole number ✗
Rational numbers include fractions (like $1/2$), not all are whole.

Final Answer: (B) only (Option 2)

Question45

Arrange the following in the increasing order :

- (A) Micrometre
- (B) Centimetre
- (C) Mile
- (D) Kilometre

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

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

Options:

A.

1

B.

2

C.

3

D.

4

Answer: A

Solution:

We need to arrange from **smallest to largest**:

- Micrometre (μm) = 10^{-6} m (very small)
- Centimetre (cm) = 10^{-2} m
- Kilometre (km) = 10^3 m
- Mile $\approx$ 1.6 km (larger than kilometre)

Increasing order:

Micrometre < Centimetre < Kilometre < Mile

Final Answer:

✔ (A), (B), (D), (C) (Option 1)

Question46

If $6x - 10y = 10$ and $\frac{x}{x+y} = \frac{5}{7}$, then $(x-y)$ is equal to:

1. 12
2. 8
3. 6
4. 3

Options:

A.

1

B.

2

C.

3

D.

4

Answer: D

Solution:

We are given:

$$6x - 10y = 10 \quad \text{and} \quad \frac{x}{x+y} = \frac{5}{7}$$

Step 1: Use the ratio

$$\frac{x}{x+y} = \frac{5}{7} \Rightarrow 7x = 5(x+y)$$

$$7x = 5x + 5y \Rightarrow 2x = 5y \Rightarrow x = \frac{5}{2}y$$

Step 2: Substitute into first equation

$$6\left(\frac{5}{2}y\right) - 10y = 10$$

$$15y - 10y = 10 \Rightarrow 5y = 10 \Rightarrow y = 2$$

Step 3: Find x

$$x = \frac{5}{2} \times 2 = 5$$

Step 4: Find $x - y$

$$x - y = 5 - 2 = 3$$

Final Answer:

✔ 3 (Option 4)

Question47

Which among the following are Fundamental Rights as included in Part III of the Constitution of India?

- (A) Equality of opportunity in public employment
- (B) Equal pay for equal work for men and women
- (C) Right of minorities to establish educational institutions
- (D) Right to education

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

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

Options:

A.

1

B.

2

C.

3

D.

4

Answer: C

Solution:

Evaluate each statement under **Part III (Fundamental Rights)**:

- **(A) Equality of opportunity in public employment** 
Comes under **Article 16** (Fundamental Right).
- **(B) Equal pay for equal work for men and women** 
This is a **Directive Principle of State Policy (Article 39)**, not a Fundamental Right.
- **(C) Right of minorities to establish educational institutions** 
Protected under **Article 30** (Fundamental Right).
- **(D) Right to education** 
Included as a Fundamental Right under **Article 21A**.

Final Answer: **(A), (C) and (D) only (Option 3)**

Question48

Match **List-I** with **List-II**

List-I	List-II
(Expression)	(Value)
(A) $\frac{12!}{10!(2!)}$	(I) 110
(B) ${}^nC_2 = 210$, find n.	(II) 136
(C) ${}^6P_3 - {}^5C_2$	(III) 66
(D) If ${}^nC_9 = {}^nC_8$, find ${}^nC_{15}$	(IV) 21

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

1. (A) - (I), (B) - (II), (C) - (III), (D) - (IV)
2. (A) - (II), (B) - (III), (C) - (IV), (D) - (I)
3. (A) - (III), (B) - (IV), (C) - (I), (D) - (II)
4. (A) - (IV), (B) - (I), (C) - (II), (D) - (III)

Options:

A.

1

B.

2

C.

3

D.

4

Answer: C

Solution:

(A) $\frac{12!}{10!(2!)}$

This is:

$$\binom{12}{2} = \frac{12 \times 11}{2} = 66$$

→ (III)

(B) ${}^nC_2 = 210$

$$\frac{n(n-1)}{2} = 210 \Rightarrow n(n-1) = 420$$

$$n = 21$$

→ (IV)

(C) ${}^6P_3 - {}^5C_2$

$${}^6P_3 = 6 \times 5 \times 4 = 120$$

$${}^5C_2 = 10$$

$$120 - 10 = 110$$

→ (I)

(D) If ${}^nC_9 = {}^nC_8$, find ${}^nC_{15}$

Property: $\binom{n}{r} = \binom{n}{r+1} \Rightarrow n = 2r + 1$

$$n = 17$$

$${}^{17}C_{15} = {}^{17}C_2 = 136$$

→ (II)

Final Matching:

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

✓ Correct answer: Option 3



Question49

Identify the odd one out :

1. Jayanta Talukdar
2. Aman Saini
3. Anshu Malik
4. Dola Banerjee

Options:

A.

1

B.

2

C.

3

D.

4

Answer: C

Solution:

Hence, **Option 3: Anshu Malik** Jayanta Talukdar, Aman Saini, and Dola Banerjee are all associated with archery, while Anshu Malik is a wrestler, making her the odd one out **correct**

Question50

Banda, a major city in Uttar Pradesh, is located on the banks of which one of the following rivers?

1. Betwa
2. Ken
3. Son
4. Tapti

Options:

A.

1

B.

2

C.

3

D.

4

Answer: B

Solution:

The correct answer is **2. Ken**.

Banda in Uttar Pradesh is situated on the banks of the **Ken River**.

Answer: Ken
