

CUET (UG) Question Paper - 2023

National Testing Agency

11th JUNE 2023 – SHIFT 2

Section - III (General Test)

General Instructions:

Marking scheme of the test:

- (a) There are 60 questions asked in the section - III. But there are 50 questions to be attempted in the section - III.
- (b) Correct answer or the most appropriate answer will be given five marks (+5).
- (c) Any incorrect option marked will be given minus one mark (-1).
- (d) Unanswered/Marked for review will be given no mark (0).

1. In a certain language 'AUSTRALIA' is written as @\$!#^@*?@. Then "STRAIT" in that code language can be written as

- (A) !#^@?# (B) !#@^?#
(C) !#^?@# (D) !#^?@?

Ans. Option (A) is correct.

Explanation:

According to the question,
The codes for every individual letter are provided as follows:

A - @ A - @
U - \$ L - *
S - ! I - ?
T - # A - @
R - ^

Hence, STRAIT would be written as !#^@?#.

2. Mirror image of word 'TRIUMPHS' is:

- (A) 2HPMUIRT (B) SHPMUIRT
(C) SPMIURT (D) STRIUMPH

Ans. Option (A) is correct.

Explanation:

Given word: 'TRIUMPHS'

Logic:

In the mirror image left becomes right and right becomes left. Hence, 2HPMUIRT

3. Which award is India's highest gallantry award?

- (A) Mahavir Chakra (B) Vir Chakra
(C) Param Vir Chakra (D) Bharat Ratan

Ans. Option (C) is correct.

Explanation: Param Vir Chakra (PVC) is India's highest gallantry award. It is awarded for displaying distinguished acts of valour during war-time. It was instituted on 26th Jan 1950. It has plain purple coloured ribbon and the medal is circular in shape and made of bronze. On the medal, there are four replicas of 'Indra's Vajra' with the State emblem and on the reverse side 'Param Vir Chakra' both in Hindi and English with two lotus flowers is written. MahaVir Chakra (MVC) is the second highest military decoration and is awarded for acts of

conspicuous gallantry in the presence of the enemy, whether on land, at sea or in the air.

Vir Chakra is the third highest gallantry award after PVC and MVC. It was established by the President of India on 26th January 1950.

Bharat Ratna is the highest civilian award of the country. It was instituted on 2nd January 1954 and is conferred in recognition of 'exceptional service/performance of the highest order', without distinction of race, occupation, position, or sex.' The first recipients of this award are- C. Rajagopalachari, Sarvepalli Radhakrishnan, and CV Raman.

4. Match List - I with List - II.

List - I Scientific Instruments		List - II Uses	
(1)	Barometer	(I)	To examine internal parts of body
(2)	Calorimeter	(II)	Measures electrical power
(3)	Dynamometer	(III)	Measures atmospheric pressure
(4)	Endoscope	(IV)	Measures quantities of heat

Choose the correct answer from the options given below:

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

Ans. Option (D) is correct.

Explanation:

Scientific Instruments	Uses
Barometer	Measures atmospheric pressure
Calorimeter	Measures quantities of heat
Dynamometer	Measures electrical power
Endoscope	To examine internal parts of body

5. Dudhwa National Park is situated in?
 (A) Mysore, Karnataka
 (B) Shivpuri, M.P.
 (C) Lakhimpur Kheri, U.P.
 (D) Garo Hills, Meghalaya

Ans. Option (C) is correct.

Explanation: Dudhwa National Park is located in Lakhimpur Kheri district, Uttar Pradesh. It is located along the Indo-Nepal border and covers an area of 490 square kilometers. In the earlier 20th century, it was used as a hunting ground by the British rulers. It was declared as a wildlife sanctuary by the government of Uttar Pradesh in 1958. It was upgraded to a national park in the year 1977 and was also declared a tiger reserve in 1987, as the area was found to have a significant population of Bengal tigers. It is a home to beautiful grasslands, dense forests, and water bodies.

6. From a point P on the ground the angle of elevation of the top of 10 m high building is 30°. A flag is hoisted at the top of the building and the angle of elevation of the top of the flagstaff from the point P is 45°. Length of the flagstaff is:

(Take $\sqrt{3} = 1.732$)

- (A) 7 m (B) 7.24 m (C) 7.56 m (D) 7.32 m

Ans. Option (D) is correct.

Explanation:

Let the length of flag = l

In the triangle DBC,

$$\tan 30^\circ = \frac{10}{BC}$$

$$\Rightarrow \frac{1}{\sqrt{3}} = \frac{10}{BC}$$

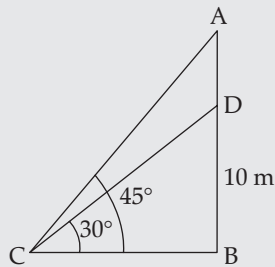
$$\Rightarrow BC = 10\sqrt{3}$$

Now in $\triangle ABC$,

$$\tan 45^\circ = \frac{10+l}{BC}$$

$$\Rightarrow 10\sqrt{3} = 10 + l$$

$$\Rightarrow l = 10(1.732 - 1) = 7.32 \text{ m}$$



7. Which of the following is not among the first recipients of 'Bharat Ratna' (1954)?

- (A) C. Rajagopalachari (B) Dr. S. Radhakrishnan
 (C) C. V. Raman (D) Bhagwan Das

Ans. Option (D) is correct.

Explanation: Bharat Ratna is highest civilian award of the country. It was instituted on 2nd January 1954 and is conferred in recognition of 'exceptional service/performance of the highest order', without distinction of race, occupation, position, or sex.

It was awarded for the first time in the year 1954 and there were three recipients:

- I. **C. Rajagopalachari:** The last Governor-General of the Dominion of India and the former Chief Minister of Tamil Nadu.

II. **Sarvepalli Radhakrishnan:** Second President and the first Vice President of India

III. **CV Raman:** Physicist and Nobel Prize laureate

Bhagwan Das was awarded Bharat Ratna in the year 1955. He was an Indian Theosophist and public figure.

8. Match List - I with List - II.

List - I		List - II	
(1)	Manometer	(I)	Measures very high temperature
(2)	Micrometer	(II)	Measures small sub-division of scale
(3)	Pyrometer	(III)	Measures the pressure of gases
(4)	Vernier	(IV)	Measures distances/angles

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

(A) (1)-(III), (2)-(IV), (3)-(I), (4)-(II)

(B) (1)-(II), (2)-(III), (3)-(IV), (4)-(I)

(C) (1)-(I), (2)-(III), (3)-(II), (4)-(IV)

(D) (1)-(IV), (2)-(III), (3)-(II), (4)-(I)

Ans. Option (A) is correct.

Explanation:

List I	List II
Manometer	Measures pressure of gases
Micrometer	Measure distance/angles
Pyrometer	Measure high temperature
Vernier	Measure small sub-division of scale

9. Which statement(s) is/are true about Article 19?

(A) Freedom of speech and expression

(B) Right to Education

(C) Right to Equality

(D) Right to Constitutional Remedy

Choose the **most appropriate** answer from the options given below:

(A) (a) and (b) only

(B) (b) and (c) only

(C) (c) and (d) only

(D) (a) only

Ans. Option (D) is correct.

Explanation: Article 19 of the Indian constitution guarantees fundamental rights related to freedom of speech and expression. It consists of following rights that protect various aspects of freedom of speech and expression.

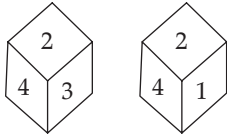
Article 19(1)(a): Freedom of Speech and Expression

Article 19(1)(b): Freedom to Assemble Peacefully

Article 19(1)(c): Freedom to Form Associations or Unions

Article 19(1)(d): Freedom to Move Freely
Article 19(1)(e): Freedom to Reside and Settle
Article 19(1)(g): Freedom of profession, occupation, trade or business
 Initially, there were seven rights under the Article 19 of Indian constitution. However, the right to acquire, hold and dispose property was omitted by the 44th constitutional amendment act 1978.
 The fundamental rights in India are mentioned in Article 12-35 of Part III of the Indian constitution. These are the basic civil liberties for the citizens to lead a good life. The six fundamental rights of the Indian constitution are:
 I. Right to Equality (Article 14-18)
 II. Right to Freedom (Article 19-22)
 III. Right against Exploitation (Article 23-24)
 IV. Right to Freedom of Religion (Article 25-28)
 V. Cultural and Educational Rights (Article 29-30)
 VI. Right to Constitutional Remedies (Article 32)

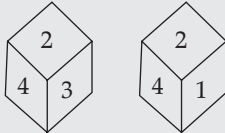
10. Which number will appear on the face opposite to 1?



- (A) 6 (B) 4 (C) 5 (D) 3

Ans. Option (D) is correct.

Explanation:



Logic:

Since, 2 and 4 are common on both sides, hence 3 will be opposite to 1.

11. The difference between two numbers is 4 and their average is 6. The product of these numbers is:

- (A) 24 (B) 12 (C) 32 (D) 48

Ans. Option (C) is correct.

Explanation:

Let the numbers be x and y .
 According to the question,
 $x - y = 4$ (1)

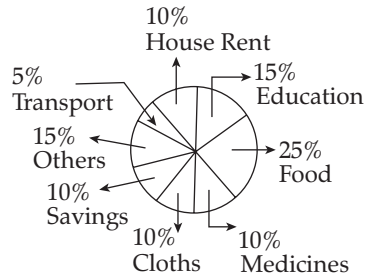
and $\frac{x + y}{2} = 6$
 $\Rightarrow x + y = 12$ (2)

By equation (1) and (2),

$x = 8$ and $y = 4$

So, product = $8 \times 4 = 32$

12. In pie-chart shown here, what are the expenditures on food and house rent (in rupees), if total monthly expenditure is ₹ 50,000?



- (A) 16,000 (B) 17,500 (C) 16,500 (D) 17,000

Ans. Option (B) is correct.

Explanation:

Given that,

Total expenditure = ₹ 50,000

So, the expenditure on food and house rent

$$= 50000 \times \left(\frac{25 + 10}{100} \right) = ₹ 17500$$

13. 'An Area of Darkness' book is written by _____?

- (A) Louis Fischer (B) James Harriot
 (C) V. S. Naipaul (D) Adam Smith

Ans. Option (C) is correct.

Explanation:

Author	Book
VS Naipaul	An Area of Darkness, A House for Mr Biswas, In a Free State
Louis Fischer	The God That Failed, The Life of Mahatma Gandhi, Life of Lenin
James Herriot	Yorkshire Dales, All Creatures Great and Small,
Adam Smith	The Theory of Moral Sentiments and An Inquiry into the Nature and Causes of the Wealth of Nations

14. A is twice as good a workman as B and together they finish a piece of work in 14 days. The number of days that A alone will take to finish the work is:

- (A) 11 (B) 21 (C) 28 (D) 42

Ans. Option (B) is correct.

Explanation:

According to the question,

Ratio of Efficiency of A and B = 2 : 1

Let total work = $14(2 + 1) = 42$ unit

So, time taken by A alone to finish the work

$$= \frac{42}{2} = 21 \text{ days.}$$

15. Which fraction among $\frac{2}{3}$, $\frac{4}{5}$, $\frac{7}{11}$, $\frac{1}{3}$ is largest?

- (A) $\frac{2}{3}$ (B) $\frac{7}{11}$ (C) $\frac{4}{5}$ (D) $\frac{1}{3}$

Ans. Option (C) is correct.

Explanation:

$$\text{Given fractions} = \frac{2}{3}, \frac{4}{5}, \frac{7}{11}, \frac{1}{3}$$

$$\text{LCM of denominators} = 3 \times 5 \times 11 = 165$$

$$\text{Now fractions} = \frac{110}{165}, \frac{132}{165}, \frac{105}{165}, \frac{55}{165}$$

$$\text{So, the largest fraction is } \frac{132}{165} \text{ or } \frac{4}{5}$$

16. For the data 11, 15, 13, 12, 10, 8, 11, 7, 15, 11, 13, 7, 11, which of the following is true?

- (A) Mean = Median = Mode
 (B) Mean > Median > Mode
 (C) Mean > Mode = Median
 (D) Mean < Median < Mode

Ans. Option (C) is correct.

Explanation:

Given numbers = 11, 15, 13, 12, 10, 8, 11, 7, 15, 11, 13, 7, 11

Ascending order of given numbers = 7, 7, 8, 10, 11, 11, 11, 12, 13, 13, 15, 15

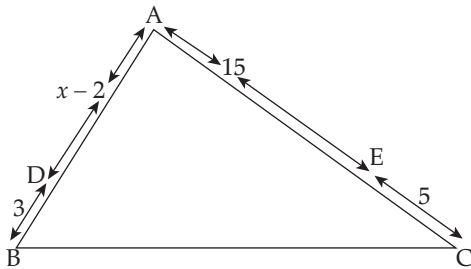
$$\text{Mean of numbers} = \frac{\text{Sum of numbers}}{13} = \frac{144}{13}$$

Median of numbers = 11 (Mid number of given data)

Mode of numbers = 11 (Most frequent number in given data)

So, mean > mode = Median

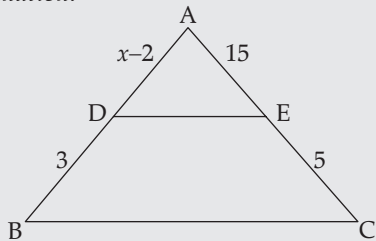
17. In the given figure $DE \parallel BC$, the value of x is:



- (A) 12 (B) 11 (C) 10 (D) 9

Ans. Option (B) is correct.

Explanation:



By using thale's theorem,

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

$$\Rightarrow \frac{x-2}{3+x-2} = \frac{15}{15+5}$$

$$\Rightarrow 20x - 40 = 15 + 15x$$

$$\Rightarrow 5x = 55 \Rightarrow x = 11$$

18. One Horse-Power is equals to (1 H.P.) _____ Watts.

- (A) 726 watt (B) 706 watt
 (C) 746 watt (D) 736 watt

Ans. 18. Option (D) is correct.

Explanation:

1 Horsepower is equal to 736 Watts. Horse Power is the unit to measure Power and is represented as hp. It usually represents the output of engines or motors. Watt is the SI unit of power and is represented by 'W'.

19. Which option will represent the venn diagram of Dogs, Pets, Cats:

- (A) (B) (C) (D)

Ans. Option (A) is correct.

Explanation: Dogs and cats may also be pets. So, venn diagram will be as shown below:



20. The most appropriate increasing order (height-wise) of the mountain peaks is?

- (1) Kanchanjunga (2) Makalu
 (3) Dhaulagiri I (4) Manaslu I
 (5) Annapurna I

Choose the **most appropriate** answer from the options below:

- (A) (1), (2), (4), (3), (5)
 (B) (5), (4), (3), (2), (1)
 (C) (1), (2), (3), (4), (5)
 (D) (5), (4), (1), (2), (3)

Ans. Option (B) is correct.

Explanation:

Mountain Peak	Location	Height
Kanchanjunga	Taplejung District, Nepal and Mangan district, Sikkim, India	8,586 m
Makalu	Border of Nepal and Tibet	8463 m
Dhaulagiri I	Dhaulagiri mountain range of Nepal Himalayas.	8167 m

Manaslu I	Manang and Gorkha Districts, Nepal.	8163 m
Annapurna I	Gandaki province, Nepal	8091 m

21. At what angle the hour hand and minute hand of a clock are inclined at 15 minutes past 5?

- (A) $58\frac{1}{2}^\circ$ (B) 64° (C) $67\frac{1}{2}^\circ$ (D) $72\frac{1}{2}^\circ$

Ans. Option (C) is correct.

Explanation:

Time = 15 minutes past 5

$$\text{Angle} = \theta = \frac{[60 \times \text{hour} - 11 \times \text{minutes}]}{2}$$

And another angle = $(360 - \theta)^\circ$

Hence,

$$\theta = \frac{[60 \times 5 - 11 \times 15]}{2} = (135/2)^\circ = 67.5$$

And another angle = $(360 - \theta)^\circ = (360 - 67.5)^\circ = 292.5^\circ$ Or $[67\frac{1}{2}^\circ]$

22. _____ book is written by Khuswant Singh.

- (A) Kagaz te Canvas (B) Sakharam Binder
(C) Burial at Sea (D) Unhappy India

Ans. Option (C) is correct.

Explanation:

Author	Book
Amrita Pritam	Kagaz te Canvas
Vijay Tendulkar	Sakharam Binder
Khushwant Singh	Burial at Sea
Lala Rai	Unhappy India

23. The difference between the cost price and the selling price of an article is ₹ 240. If the profit is 20%, then the selling price is:

- (A) ₹ 1200 (B) ₹ 1240
(C) ₹ 1440 (D) ₹ 1600

Ans. Option (C) is correct.

Explanation:

Let the cost price of the article = ₹x

According to the question,

$$\frac{120}{100} \times x - x = 240$$

$$\Rightarrow 20x = 240 \times 100 \Rightarrow x = 1200$$

$$\text{So, selling price} = 1200 \times \frac{120}{100} = 1440$$

24. In a certain code language 'it bit pit' means 'I am student', 'it mit pit' means 'I am poet', which of the following means 'poet'?

- (A) it (B) mit (C) pit (D) bit

Explanation:

it bit pit = I am student

it mit pit = I am poet

From above statements, it pit = I am

Hence, mit is the code for poet.

Ans. Option (B) is correct.

25. **Direction:** KLM Ltd. bank is recruiting senior manager for its 10 branches in Bangalore. There are some requirements for any willing candidate to fulfill; else he/she will be rejected.

The following condition must be satisfied by the applicant:

- The candidate must have passed class 12th with minimum 60 % marks.
- The candidate must have scored minimum 55 % marks in graduation.
- The candidate must have scored minimum 60 % marks in MBA.
- The candidate age must be between 25 years and 35 years as on 1st March 2018.

Question: Which option is correct for Amit, if Amit was born on 11th of July 1987. He obtained 65 % in graduation. He scored 66 % marks in MBA?

- (A) If the data provided are inadequate to take a decision
(B) If the Amit is to be selected
(C) If the Amit is not to be selected
(D) If the case is referred to HR Manager

Ans. Option (A) is correct.

Explanation:

There is no data about the percentage of Amit's 12th class. Hence, the data provided are inadequate to make a decision.

26. Two numbers are in the ratio 3 : 5. If 10 is added to each number, then the ratio becomes 5 : 7. Find the numbers.

- (A) 30, 50 (B) 45, 60 (C) 15, 25 (D) 36, 60

Ans. Option (C) is correct.

Explanation:

Let the numbers be 3x and 5x. According to the question,

$$\frac{3x + 10}{5x + 10} = \frac{5}{7}$$

$$\Rightarrow 21x + 70 = 25x + 50 \Rightarrow 4x = 20 \Rightarrow x = 5$$

So the numbers = 3×5 and $5 \times 5 = 15$ and 25

27. A point on the y-axis which is equidistant from the points A(6, 5) and B(-4, 3) is:

- (A) (0, 9) (B) (0, -9) (C) (9, 0) (D) (0, 6)

Ans. Option (A) is correct.

Explanation:

Let P(0, y) be any point on y axis.

Let Point A = (6, 5)

and Point B = (-4, 3)

Then PA = PB

$$\Rightarrow (6 - 0)^2 + (5 - y)^2 = (-4 - 0)^2 + (3 - y)^2$$

$$\Rightarrow 36 + 25 - 10y + y^2 = 16 + 9 - 6y + y^2$$

$$\Rightarrow 61 - 10y = 25 - 6y$$

$$\Rightarrow 4y = 36 \Rightarrow y = 9$$

So, point P = (0, 9)

28. Who among the following was not the Vice-President of India?
 (A) V. V. Giri (B) B. D. Jatti
 (C) K. R. Narayan (D) Sarojini Naidu

Ans. Option (D) is correct.

Explanation:

Sarojini Naidu was an Indian poet and political activist. She is fondly called as 'Nightingale of India.' She served as the governor of Uttar Pradesh. She was the first Indian woman to be president of the Indian National Congress and to be appointed governor of a state. Some of her famous works include 'In the Bazaars of Hyderabad', 'The Golden Threshold' and 'The Bird of Time' etc.

VV Giri was the fourth President of India from 1969-74. He was the third Vice-President of India. He was honoured with Bharat Ratna posthumously.

BD Jatti was the fifth vice-President of India from 1974 to 1979. He also served as the acting President of India from 11th February to 25th July 1977. He was the Chief Minister of Karnataka from 1958 to 62.

KR Narayanan was the tenth president and ninth vice-president of India.

29. Match List - I with List - II. (Match the Respiratory Organs of Animal)

List - I Shorts Cuts Keys		List - II Description	
(1)	Ctrl + B	(I)	Open existing document
(2)	F1	(II)	Left alignment
(3)	Ctrl + L	(III)	Bold
(4)	Ctrl + O	(IV)	Help

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

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

Ans. Option (A) is correct.

Explanation:

Shortcut Keys	Description
Ctrl + B	Bold
F1	Help
Ctrl + L	Left alignment
Ctrl + O	Open existing document

30. The fourth proportional to 5, 8, 15 is:
 (A) 18 (B) 24 (C) 19 (D) 20

Ans. Option (B) is correct.

Explanation:

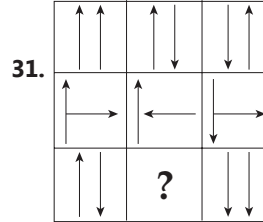
Given numbers = 5, 8, 15

let fourth number = x

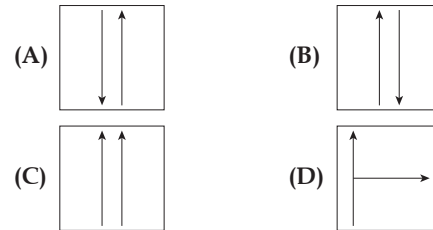
Using, $A : B = C : D$

$$\Rightarrow 5 : 8 = 15 : x \Rightarrow \frac{5}{8} = \frac{15}{x}$$

$$\Rightarrow 5x = 15 \times 8 \Rightarrow x = 24$$

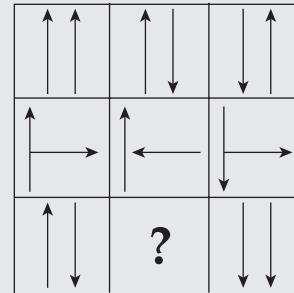


In the above figure, What will replace '?' mark?



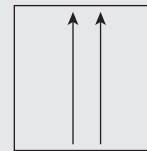
Ans. Option (C) is correct.

Explanation:



Logic:

2nd arrow is rotated by 90 degrees. Hence,



32. A certain sum on $13\frac{1}{2}\%$ per annum simple interest

amounts to ₹ 2502.50 in 4 years. Find the sum.

- (A) ₹ 1500 (B) ₹ 1625
 (C) ₹ 1650 (D) ₹ 1720

Ans. Option (B) is correct.

Explanation:

Given:

$$\text{Rate of interest} = 13\frac{1}{2}\% = \frac{27}{2}\%$$

Total amount = ₹ 2502.5

Time = 4 years.

Let the principal amount = ₹P

$$\text{Using, SI} = \frac{PRT}{100}$$

$$(2502.5 - P) = \frac{P \times 27 \times 4}{2 \times 100}$$

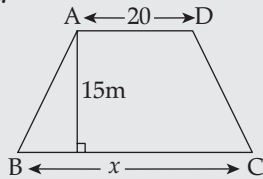
$$\Rightarrow 2502.5 = 1.54P \Rightarrow P = 1625$$

Hence, principal amount ₹1625

33. The distance between two parallel sides of a trapezium is 15 m and its area is 480 m². If one of the parallel sides is 20 m long, then length of the other side is:
 (A) 42 m (B) 44 m (C) 40 m (D) 46 m

Ans. Option (B) is correct.

Explanation:



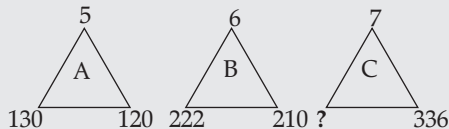
Given that area of trapezium = 480m²
 Using, area = $\frac{1}{2}$ (sum of Parallel sides) × height
 $\Rightarrow 480 = \frac{1}{2} \times (20 + x) \times 15$
 $\Rightarrow 20 + x = 64 \Rightarrow x = 44$

34.
 What would come at question (?) mark place?
 (A) 343 (B) 329 (C) 350 (D) 366

Ans. Option (C) is correct.

Explanation:

Given that:



Logic:

$$120 + (5 \times 2) = 130$$

$$210 + (6 \times 2) = 222$$

$$336 + (7 \times 2) = 350$$

35. Which among the following statements are not correct?

- (A) Raman Research Institute ___ Bengaluru
 (B) National Chemical Laboratories ___ Pune
 (C) Solid State Physics Laboratory ___ Delhi
 (D) National Physical Laboratories ___ Mumbai
 (E) Regional Research Laboratories ___ Delhi

Choose the **most appropriate** answer from the options below:

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

Ans. Option (D) is correct.

Explanation:

Name	Location	Head
Raman Research Institute	Bengaluru, Karnataka	Tarun Souradeep
National Chemical Laboratory (NCL)	Pune, Maharashtra	Ashish Lele
Solid State Physics Laboratory (SSPL)	Delhi	Dr. Seema Vinayak
National Physical Laboratory	New Delhi	Prof. Dr. Venu Gopal Achanta

36. The smallest five digit number which is exactly divisible by 12, 15 and 18 is:
 (A) 10000 (B) 10020 (C) 10080 (D) 10260

Ans. Option (B) is correct.

Explanation:

If a five digit number is divisible by 12, 15 and 18. Then it must be divisible by 4, 9 and 5. From given options, only (3) and (4) are divisible by 9, as there sum of digits is 9. Here, option (3) has smaller number of four digit and also divisible by 4 and 5.

37. Who is the winner of French Open 2021 men's single title:

- (A) Daniil Medvedev (B) Novak Djokovic
 (C) Stefanos Tsitsipas (D) Rafael Nadal

Ans. Option (A) is correct.

Explanation:

Nigar Shaji was the project director of Aadiya L1, a satellite dedicated to the comprehensive study of the Sun. It has 7 distinct indigenously developed payloads. It was launched on 2nd September 2023 from Satish Dhawan Space Centre, Shriharikota,

Andhra Pradesh. Aditya in Sanskrit means the Sun. L1 here refers to Lagrange Point 1 of the Sun-Earth system. L1 is a location in space where the gravitational forces of two celestial bodies, such as the Sun and Earth, are in equilibrium. This allows an object placed there to remain relatively stable with respect to both celestial bodies. It is India's first mission to the sun.

ISRO chief- Sreedhara Panicker Somanath
 Chandrayaan 3 Mission director-S. Mohanakumar
 Chandrayaan 3 Project director-Palanivel Veeramuthuvel

38. The sum of the numerator and the denominator of a fraction is 11. If 1 is added to the numerator and 2 is subtracted from the denominator, it becomes $\frac{2}{3}$. The fraction is:

- (A) $\frac{5}{6}$ (B) $\frac{6}{5}$ (C) $\frac{3}{8}$ (D) $\frac{8}{3}$

Ans. Option (C) is correct.

Explanation:

Let the denominator and numerator of given number are x and y
According to the question,
 $x + y = 11$ (1)
and $\frac{x+1}{y-2} = \frac{2}{3} \Rightarrow 3x - 2y = -7$ (2)
from equation (1) and (2),
 $x = 3, y = 8$
So, fraction = $\frac{3}{8}$

39. If English alphabets are written in the backward order, then which is the 7th letter to the right of K?

(A) A (B) B (C) C (D) D

Ans. Option (D) is correct.

Explanation:

Writing the series backward order

N	M	L	K	J	I	H	G	F	E	D	C	B	A
---	---	---	---	---	---	---	---	---	---	---	---	---	---

Hence,

D is the 7th letter to the right of K.

40. RTGS stands for

- (A) Revised Time Gross Settlement
(B) Revised Time Global Settlement
(C) Real Time Gross Settlement
(D) Real Time Global Survey

Ans. Option (C) is correct.

Explanation:

RTGS stands for Real Time Gross Settlement. It is an online payment system of RBI in which there is continuous and real-time settlement of fund-transfers, individually on a transaction-by-transaction basis. This system is available

by-transaction basis. This system is available $24 \times 7 \times 365$ basis and is primarily meant for large value transactions. However, the minimum amount for RTGS settlement is ₹ 2,00,000/- with no upper or maximum ceiling.

41. RTI (Right to Information) act came into force on?

- (A) October, 2005 (B) December, 2004
(C) October, 2003 (D) December, 2006

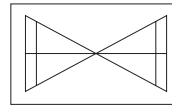
Ans. Option (A) is correct.

Explanation:

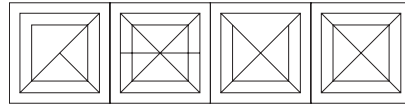
The RTI Act was enacted by the Indian Parliament on 15th June 2005, and it came into effect on 12th October 2005. It ensures that citizens have the right to access information held by public authorities and government departments, which in turn promote transparency and reduce corruption. However, there are some government organisations that are not in the ambit of RTI due to the nature of information they are handling.

According to the Constitution of India, RTI is not included as a Fundamental Right. However, it protects and is implicit in Freedom of Expression and Speech under Article 19(1)(a) and Right to Life and Personal Liberty under Article 21 of the Constitution.

42. In the following question, figure (A) is embedded in any one of the four alternative figures (A), (B), (C), (D). Find the alternative which contains (A) as its part.



(A)



(1)

(2)

(3)

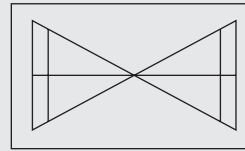
(4)

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

Ans. Option (B) is correct.

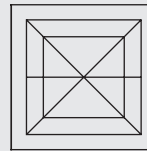
Explanation:

Given diagram:



Logic:

Follow the pattern and the symmetry. Hence,



43. What is the value of $\left(1 - \frac{1}{n}\right) + \left(1 - \frac{2}{n}\right) + \left(1 - \frac{3}{n}\right) + \dots$ upto n terms?

- (A) $\frac{1}{n}$ (B) $\frac{2}{n}$
(C) $\frac{n(n-1)}{2}$ (D) $\frac{n-1}{2}$

Ans. Option (D) is correct.

Explanation:

Sum of given series.

$$\begin{aligned} &= \left(1 - \frac{1}{n}\right) + \left(1 - \frac{2}{n}\right) + \left(1 - \frac{3}{n}\right) + \dots \text{ till } n \text{ term} \\ &= (1 + 1 + 1 \dots \text{ till } n \text{ terms}) - \left(\frac{1}{n} + \frac{2}{n} + \frac{3}{n} + \dots \text{ n terms}\right) \\ &= n - \frac{1}{n}(1 + 2 + 3 + \dots \text{ n terms}) \\ &= n - \frac{1}{n} \times \frac{n(n+1)}{2} = n - \frac{(n+1)}{2} \Rightarrow = \frac{n-1}{2} \end{aligned}$$

44. Find the distance covered by a man who walked for 15 minutes at a speed of 3 km/h.

- (A) 700 m (B) 750 m
(C) 600 m (D) 1200 m

Ans. Option (B) is correct.

Explanation:

Given that,
Speed of a man = $\frac{3\text{km}}{h} = 3 \times \frac{5}{18} \text{m/s}$
Time = 15 min = $15 \times 60 \text{s}$.
Using, distance = Speed \times time
Distance = $3 \times \frac{5}{18} \times 15 \times 60$
Hence, required distance = 750 m

45. Ram ranks 7th from the top and 26th from bottom in a class. How many students are there in the class?
(A) 31 (B) 32 (C) 33 (D) 34

Ans. Option (B) is correct.

Explanation:

Given that Ram's rank is 7th from top and 26th from bottom.
So, total number of students in class
= (7 + 26) - 1 = 33 - 1 = 32

46. A train running at a speed of 45 km/h crosses a 100 m long platform in 60 seconds. The time taken by the train to cross an electric pole is:
(A) 52 seconds (B) 8 seconds
(C) 1 minute (D) 1 minute 2 seconds

Ans. Option (A) is correct.

Explanation:

Given that speed of train = 45 km/h
 $= 45 \times \frac{5}{18} \text{m/s}$
Length of platform = 100 m
time taken = 60 s.
Let the length of train = l
Using, distance = Speed \times time
 $\Rightarrow (100 + l) = 45 \times \frac{5}{18} \times 60 \Rightarrow l = 650 \text{m}$
So, time taken by train to cross the pole = $\frac{650}{45 \times \frac{5}{18}} = \frac{650 \times 18}{45 \times 5} \text{seconds} = 52 \text{seconds}$

47. Which word cannot be formed by using the letters of the given word?
LEGALIZATION
(A) Alert (B) Alegation
(C) Gallant (D) Natal

Ans. Option (A) is correct.

Explanation:

Given word:
LEGALIZATION
R is not present in LEGALIZATION. Hence, ALERT cannot be formed.

48. A's weight is 25 % of that of B and 40 % of that of C. What percentage of C's weight is B's weight?

- (A) 120 % (B) 150 % (C) 160 % (D) 200 %

Ans. Option (C) is correct.

Explanation:

Let the weight of A, B and C one x, y and z kg respectively.
According to the question,
 $x = \frac{25}{100}y = \frac{y}{4} \Rightarrow \frac{x}{y} = \frac{1}{4}$ (1)
and $x = \frac{40}{100}z = \frac{2}{5}z \Rightarrow \frac{x}{z} = \frac{2}{5}$ (2)
From equation (1) and (2)
 $x : y : z = 2 : 8 : 5$
required percentage = $\frac{8}{5} \times 100 = 160\%$

49. If 'GIVE' is written as 'VIEG' and 'OVER' is written as 'EVRO'. Then how will 'DISK' be written in the same code?
(A) SIDK (B) KISD (C) KDSI (D) SIKD

Ans. Option (D) is correct.

Explanation:

Given that:
GIVE = VIEG
OVER = EVRO
So, DISK = SIKD

50. Who discovered 'Harappa Civilization' in 1921?
(A) B. D. Banerjee (B) R. D. Banerjee
(C) John Marshal (D) Dayaram Sahni

Ans. Option (D) is correct.

Explanation:

Harappa was discovered by archeologist Dayaram Sahni in 1921. Harappa civilisation is also known as the Indus Valley Civilization.
It is one of the oldest civilisations of the world and is believed to have existed from approximately 3300 BCE to 1300 BCE. Some of the famous cities of Harappa civilisation are Harappa, Lothal, Dholavira, Mohenjodaro, and Kalibangan and these were found near the Indus River in the Sindh (Sind) region. The civilisation is known for developing the first accurate system of standardised measures and weights.

51. From a solid cylinder whose height is 2.4 cm and diameter is 1.4 cm, a conical cavity of same height and same diameter is carved out. The total surface area of the remaining solid is:

$\left(\text{Use } \pi = \frac{22}{7} \right)$

- (A) 18 cm² (B) 17.6 cm² (C) 17 cm² (D) 16.7 cm²

Ans. Option (B) is correct.

Explanation:

Given that:
height of cylinder = 2.4 cm
diameter of cylinder = 1.4 cm
or radius of cylinder = 0.7 cm
Slant height of cone = $\sqrt{(2.4)^2 + (0.7)^2}$

$$\begin{aligned}
 &= \sqrt{6.25} = 2.5 \\
 &\text{So required Surface area} \\
 &= 2\pi rh + \pi rl + \pi r^2 \\
 &= \pi r(2 \times 2.4 + 2.5 + 0.7) \\
 &= \frac{22}{7} \times 0.7(8) = 17.6 \text{ cm}^2
 \end{aligned}$$

52. Venus planet is known as?

- (A) Morning star (B) Winter star
(C) Evening star (D) Red planet

Choose the most appropriate answer from the options given below:

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

Ans. Option (B) is correct.

Explanation:

Venus is also known as morning and evening star as it is the first celestial body that appears in the sky before sunrise and appears just after sunset. It is the second planet from the sun and is Earth's closest planetary neighbor. It's one of the four inner, terrestrial (or rocky) planets, and it's often called Earth's twin because it's similar in size and density.

Mars is called as the Red planet as it has iron oxide on its surface which gives it a reddish appearance. Mars is the fourth planet from the sun and is dusty, cold, desert world with a very thin atmosphere.

53. A game consists of tossing a coin 3 times. Hanif wins if all the tosses give the same result. What is the probability that he loses the game?

- (A) $\frac{1}{2}$ (B) $\frac{3}{4}$ (C) $\frac{1}{3}$ (D) $\frac{2}{3}$

Ans. Option (B) is correct.

Explanation:

Given that, coin is tossed 3 times and Hanif will win if all the tosses give same result.
Cases in Hanif's favour = [H, H, H], (T, T, T)
Total cases = 8

$$\text{So, required probability} = \frac{(8-2)}{8} = \frac{6}{8} = \frac{3}{4}$$

54. If the cost price of 12 pens is equal to the selling price of 8 pens, then what is the gain percent?

- (A) $33\frac{1}{3}\%$ (B) 50% (C) $66\frac{2}{3}\%$ (D) 70%

Ans. Option (B) is correct.

Explanation:

According to the question, 12 C.P = 8 S.P.

$$\Rightarrow \frac{\text{C.P.}}{\text{S.P.}} = \frac{8}{12} \Rightarrow \frac{\text{C.P.}}{\text{S.P.}} = \frac{2}{3}$$

$$\begin{aligned}
 \therefore \text{Required profit percentage} &= \frac{(3-2)}{2} \times 100 \\
 &= 50\%
 \end{aligned}$$

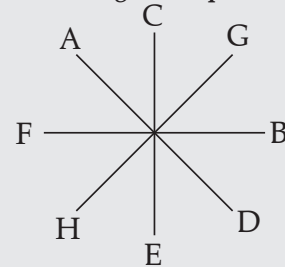
55. A, B, C, D, E, F, G and H are sitting around in an octagonal enclosed group facing the center. B is sitting between D and G. H is to the immediate left of E who sits beside D. F is sitting between A and H. Who is sitting third to the left of E?

- (A) A (B) B (C) G (D) H

Ans. Option (A) is correct.

Explanation:

According to the question:



So, A is sitting 3rd to the left of E.

56. Which gland in human body is called master gland?

- (A) Thyroid gland (B) Mucous gland
(C) Pituitary gland (D) Digestive gland

Ans. Option (C) is correct.

Explanation:

Pituitary gland is referred as the 'master' gland of the body as it controls the functions of many of the other endocrine glands in the body. It is a pea sized gland attached to the hypothalamus of the human brain. It is also known as Hypophysis. Some of the hormones secreted by the gland are

- I. **Human Growth Hormone (HGH):** Growth and repair of all cells
- II. **AdrenoCorticoTropic Hormone (ACTH):** Influences the adrenal gland to release of Cortisol or the 'stress hormone'.
- III. **Luteinising Hormone (LH) and Follicle-Stimulating Hormone (FSH):** Control the sexual and reproductive characteristics in males and females.
- IV. **Prolactin (PRL):** Produce breast milk
- V. **Melanocyte-Stimulating Hormone (MSH):** Stimulation of the production of melanin by skin and hair.
- VI. **Antidiuretic Hormone (ADH):** Controls the water balance of the body by affecting reabsorption of water by the kidneys
- VI. **Oxytocin:** Uterine contraction and production of milk.

57. Ram starts walking in the north direction. Which of the following option will bring him going southward?

- (A) Two consecutive right turns
(B) One right turn and then one left turn
(C) Three consecutive left turns
(D) One left turn and then one right turn

Ans. Option (A) is correct.

Explanation:
According to the question:

Start
 So, two consecutive right turns will bring him going southwards.

58. Which number should replace the question mark?

53	87	61
62	89	54
32	?	12

(A) 54 (B) 53 (C) 44 (D) 20

Ans. Option (B) is correct.

Explanation:
Given that:

53	87	61
62	89	54
32	?	12

Logic:
 53 is the correct answer

59. Which should replace the question mark

$$(4.25 + 2.75)^2 + ? = 5^3 - (9 \times 8)$$

(A) 3 (B) 4 (C) 5 (D) 6

Ans. Option (B) is correct.

Explanation:
Given:

$$(4.25 + 2.75)^2 + ? = 5^3 - (9 \times 8)$$

$$\Rightarrow 7^2 + ? = 125 - 72 \Rightarrow ? = 4$$

60. Indian Air Force day is celebrated on _____?

- (A) 13th September
- (B) 3rd December
- (C) 13th August
- (D) 8th October

Ans. Option (D) is correct.

Explanation:

Days	Date
International Day of Persons with Disabilities	3 rd December
World Organ Donation Day	13 th August
Indian Air Force Day	8 th October

