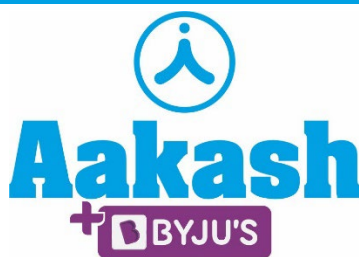


22/05/2023



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## Answers & Solutions

Time : 60 min.

M.M. : 250

### for CUET UG-2023 (General Test)

#### IMPORTANT INSTRUCTIONS:

1. The duration of this test is 60 minutes.
2. The test contains 60 questions out of which 50 questions need to be attempted.
3. Marking Scheme of the test:
  - a. Correct answer or the most appropriate answer: Five marks (+5)
  - b. Any incorrect option marked will be given minus one mark (–1).
  - c. Unanswered/Marked for Review will be given no mark (0).

#### Choose the correct answer :

1. Choose the **most appropriate** alternative word

Influenza : Virus : : Typhoid : \_\_\_\_ ?

- |              |              |
|--------------|--------------|
| (1) Parasite | (2) Protozoa |
| (3) Bacteria | (4) Bacillus |

#### Answer (3)

**Sol.** Influenza is an infectious respiratory condition caused by influenza virus. Similarly, typhoid is caused by bacteria.

This can lead to high fever and vomiting.

2. **Statement :** Most jeans in that shop are expensive.  
Choose the correct option which logically follow the above statement.

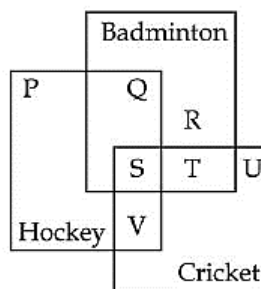
- |   |
|---|
| (1) There are no cheap jeans available in that shop |
| (2) Handloom jeans in that shop are cheap           |
| (3) There are cheap jeans also in that shop         |
| (4) Some jeans in that shop are expensive           |

#### Answer (3)

**Sol.** Statement stated that most jeans are expensive, not all.

So there are cheap jeans also available in shop.

3. The given diagram represents people who play Hockey, Cricket and Badminton. See the diagram and find out those people who play all the three games?



- |           |               |
|-----------|---------------|
| (1) T + U | (2) P + Q + R |
| (3) Q + R | (4) S         |

**Answer (4)**

**Sol.** Only 'S' is common in all three games.

So only 'S' plays all three games.

4. Who is the Author of "India—The mother of Democracy"?

- (1) Sashi Tharoor
- (2) Vikram Seth
- (3) Dr. Bajrang Lal Gupta
- (4) Dharmendra Pradhan

**Answer (4)**

**Sol.** Union Education and Skill Development Minister Shri Dharmendra Pradhan released the book "India—The Mother of Democracy" which was prepared by Indian Council of Historical Research (ICHR).

From the options given, the most appropriate answer may be suggested in the form of Dharmendra Pradhan while others have no association with the book.

Hence, the answer will be (4).

i.e., Dharmendra Pradhan.

5. The last day of a century cannot be either

- (A) Tuesday
- (B) Thursday
- (C) Saturday
- (D) Sunday

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

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

**Answer (3)**

**Sol.** 100 years contain 5 odd days. So last day will be Friday.

200 years contain 10 odd days = 3 odd days = Wednesday.

300 years contain 15 odd days = 1 odd day = Monday.

400 years contain 6 odd days = Saturday.

So, last day of century cannot be Tuesday, Thursday or Saturday.

6. Arrange the following Revolutionary Organisation in Chronological order :

- (A) Hindustan Socialist Republican Association
- (B) Abhinav Bharat
- (C) Hindustan Republican Association
- (D) Indian Independence League
- (E) Ghadar Party

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

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

**Answer (1)**

**Sol.**

	Organisations	Founding Year
A -	Hindustan Socialist Republican Association	1928
B -	Abhinav Bharat	1904
C -	Hindustan Republican Association	1924
D -	Indian Independence League (First Part)	1920's
E -	Ghadar Party	1913

Thus, (B), (E), (D), (C), (A) is correct option.

7. In how many years will a sum of Rs. 800 become Rs. 926.10 at 10% per annum compounded semi-annually?

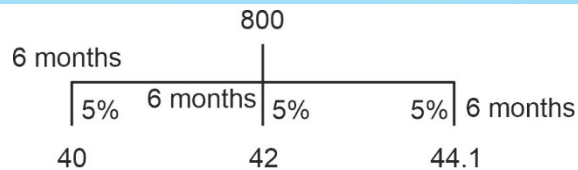
- (1)  $2\frac{1}{2}$
- (2)  $1\frac{1}{2}$
- (3) 1
- (4) 3

**Answer (2)**

**Sol.** Principle = ₹ 800

Amount = ₹ 926.10

Interest = 926.10 – 800 = 126.10



$$800 \times 5\% = 40$$

$$(800 + 40) \times 5\% = 42$$

$$(800 + 40 + 42) \times 5\% = 44.1$$

$$\text{Total } 40 + 42 + 44.1 = 126.1$$

$\Rightarrow$  So it takes  $1\frac{1}{2}$  years.

8. Find the missing term?

1, 6, 15, \_\_?\_\_, 45, 66, 91

(1) 28

(2) 27

(3) 26

(4) 25

**Answer (1)**

**Sol.** 1, 6, 15, \_\_, 45, 66, 91  
 $+5 \quad +9 \quad +13 \quad +17 \quad +21 \quad +25$

So  $15 + 13 = 28$

9. If the points A(6, 1), B(8, 2), C(9, 4) and D(7, k) are the vertices of a parallelogram taken in order, then find the value of k.

(1) 3

(2) 5

(3) 7

(4) 9

**Answer (1)**

**Sol.** We know that diagonals of parallelogram bisect each other. So coordinates of the mid-point of diagonal AC are same as the coordinates of the mid-point of diagonal BD.

$$\left(\frac{6+9}{2}, \frac{1+4}{2}\right) = \left(\frac{8+7}{2}, \frac{2+k}{2}\right)$$

$$\left(\frac{15}{2}, \frac{5}{2}\right) = \left(\frac{15}{2}, \frac{2+k}{2}\right)$$

$$\frac{5}{2} = \frac{2+k}{2}$$

$$k = 3.$$

10. In an examination, the average marks of the entire class was 70. If average marks scored by 10% of the students was 95 and average marks scored by other 20% of the students was 20, then what was the average marks of the remaining students of the class? (Correct to one decimal place)

(1) 78.7%

(2) 80.2%

(3) 80.7%

(4) 82.5%

**Answer (3)**

**Sol.** Let number of students in class = 100

Total marks of 100 students =  $100 \times 70 = 7000$

10% students average marks = 95

Sum of their marks =  $95 \times 10 = 950$ .

20% students average marks = 20

Sum of their marks =  $20 \times 20 = 400$ .

Total marks of remaining students

$$= 7000 - (950 + 400)$$

$$= 5650$$

$$\text{Required average} = \frac{5650}{70} = 80.71 = 80.7\%$$

11. Alka is older than Mala, Gopal is older than Mala, but Younger than Alka. Kapil is younger than Ram and Mala. Mala is older than Ram. Whose age is exactly in the middle of all the five?

(1) Alka

(2) Mala

(3) Gopal

(4) Ram

**Answer (2)**

**Sol.** Alka > Mala ... (1)

Alka > Gopal > Mala ... (2)

Mala > Ram > Kapil ... (3)

Compile equations (1), (2) and (3)

Alka > Gopal > Mala > Ram > Kapil

↓  
Middle

12. How many numbers from 1 to 100 are there each of which is not only Exactly divisible by 4 but also has 4 as a digit?

(1) 21

(2) 20

(3) 7

(4) 10

**Answer (3)**

**Sol.** The number from 1 to 100 which are divisible by 4.

4, 8, 12, 16, 20, 24, 28, 32, 36, 40, 44, 48, 52, 56, 60, 64, 68, 72, 76, 80, 84, 88, 92, 96, 100.

But each number should have 4 as its digit

4, 24, 40, 44, 48, 64, 84

So there are 7 such numbers.

**13.** MGNREGA stands for:

- (1) Mahatma Gandhi National Regular Employment Generating Act
- (2) Mahatma Gandhi National Regional Employment Guarantee Act
- (3) Mahatma Gandhi National Rural Employment Guarantee Act
- (4) Mahatma Gandhi National Rural Regular Employee Guarantee Act

**Answer (3)**

**Sol.** MGNREGA stands for Mahatma Gandhi National Rural Employment Guarantee Act which was enacted in 2005 aims to guarantee right to work.

**14.** Out of the following which is the largest exporter of cotton textile in the world?

- (1) U.S.A
- (2) China
- (3) Japan
- (4) India

**Answer (1)**

**Sol.** Largest exporter of cotton textile in the world is USA.

**15.** If  $a, b, c$  are in G.P and  $a^{\frac{1}{x}} = b^{\frac{1}{y}} = c^{\frac{1}{z}}$ , then which one of the following is correct?

- (1)  $2x = y + z$
- (2)  $x^2 = yz$
- (3)  $\frac{1}{x} + \frac{1}{z} = \frac{2}{y}$
- (4)  $2y = x + z$

**Answer (4)**

**Sol.**  $a^{\frac{1}{x}} = b^{\frac{1}{y}} = c^{\frac{1}{z}} = k$

$a = k^x, b = k^y, c = k^z$

as  $a, b, c$  are in G.P

$$\Rightarrow b^2 = ac$$

$$\Rightarrow (k^y)^2 = k^x \cdot k^z$$

$$\Rightarrow k^{2y} = k^{x+z}$$

$$\Rightarrow 2y = x + z$$

**16.** If ROAST is coded as PQYUR in a certain language, then how will SLOPPY be coded in that language?

- (1) RANNMQ
- (2) QNMRNA
- (3) NRMNQA
- (4) MRNAQN

**Answer (2)**

**Sol.**

18	15	1	19	20	16	17	25	21	20
R	O	A	S	T	P	Q	Y	U	R
					-2				
						+2			
							-2		
								+2	
									-2

So,

19	12	15	16	16	25				
S	L	O	P	P	Y	Q	N	M	R
						-2			
							+2		
								-2	
									+2

**17.** 8 men or 12 women can do a work in 10 days. In how many days can 4 men and 4 women do the same work?

- (1) 10
- (2) 12
- (3) 16
- (4) 20

**Answer (2)**

**Sol.**  $8m \rightarrow 12w$

$$1m = \frac{12}{8}w = \frac{3}{2}w$$

$$12w \times 10 = (4m + 4w)x$$

$$120w = \left( 4 \times \frac{3}{2}w + 4w \right) \times x$$

$$120w = 10w \times x$$

$$\frac{120}{10} = x$$

$$x = 12 \text{ days.}$$

18. Heavy water,  $D_2O$  have molecular mass of \_\_\_\_\_.

- (1) 20 (2) 18  
(3) 22 (4) 24

**Answer (1)**

**Sol.** Heavy water  $D_2O$  have molecular mass of 20.0276 gm/mol. While its molecular weight is 0276 gm/mol.

19. Boric acid is used as an \_\_\_\_\_.

- (1) Antipyretic  
(2) Analgesic  
(3) Antiseptic  
(4) Catalytic agent

**Answer (3)**

**Sol.** Boric acid is used as an Antiseptic

20. A die is thrown twice. What is the probability that the number in the second throw is higher than the number in the first throw?

- (1)  $\frac{5}{36}$   
(2)  $\frac{2}{9}$   
(3)  $\frac{5}{12}$   
(4)  $\frac{7}{12}$

**Answer (3)**

**Sol.** Total outcomes = 36.

Let first consider the event 'Getting same value' =  $\frac{6}{36} = \frac{1}{6}$

So, probability of getting different value on rolling a dice twice =  $1 - \frac{1}{6} = \frac{5}{6}$  of these, getting bigger value in 2<sup>nd</sup> throw and getting bigger value in first throw are equally likely.

Hence both these probabilities =  $\frac{1}{2} \times \frac{5}{6} = \frac{5}{12}$

21. Match List – I with List – II.

List – I Books		List – II Authors	
(A)	Death of a City	(I)	Maulana Abul Kalam Azad
(B)	Arthashastra	(II)	Lala Lajpat Rai
(C)	Unhappy India	(III)	Amrita Pritam
(D)	India Wins Freedom	(IV)	Kautilya

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

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

**Answer (2)**

**Sol.**

List – I Books		List – II Authors	
(A)	Death of a City	(III)	Amrita Pritam
(B)	Arthashastra	(IV)	Kautilya
(C)	Unhappy India	(II)	Lala Lajpat Rai
(D)	India Wins Freedom	(I)	Maulana Abul Kalam Azad

22. In certain code, 253 means 'books are old', 546 means 'man is old' and 378 means 'Buy good books' what stand for 'are' in the code?

- (1) 2 (2) 5  
(3) 6 (4) 4

**Answer (1)**

**Sol.** 1. 2 5 3 → books are old.

2. 5 4 6 → man is old.

3. 3 7 8 → Buy good books.

from (1) & (3) books = 3

from (1) & (2) old = 5

So code for "are" is 2.

23. If 1<sup>st</sup> January 2007 was Monday then what day of the week lies on 1<sup>st</sup> January 2008?

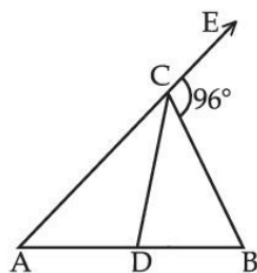
- (1) Tuesday (2) Monday  
(3) Wednesday (4) Sunday

**Answer (1)**

**Sol.**  $\left. \begin{array}{l} 1^{\text{st}} \text{ January 2007} \rightarrow \text{Monday} \\ 1^{\text{st}} \text{ January 2008} \rightarrow \text{Tuesday} \end{array} \right\} + 1$

When we go from simple year to simple year or leap year (before feb.) then only one day will be increased.

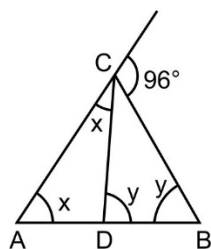
24. In the given figure, if  $AD = CD = BC$ , then the  $\angle CDB$  is:



- (1)  $64^\circ$  (2)  $84^\circ$   
(3)  $32^\circ$  (4)  $16^\circ$

**Answer (1)**

**Sol.**



$$\angle ECB = \angle CAB + \angle CBA$$

$$96^\circ = x + y$$

$$x + y = 96^\circ$$

$$\text{In } \triangle CAD$$

$$\Rightarrow x + y = y$$

$$\Rightarrow y = 2x$$

$$\Rightarrow 3x = 96$$

$$\Rightarrow x = 32$$

$$\Rightarrow \angle CDB = 2 \times 32 = 64^\circ$$

25. Who discovered electron?

- (1) J.J. Thomson  
(2) Louis Pasteur  
(3) J.D. Watson  
(4) Edward Jennet

**Answer (1)**

**Sol.** Electron was discovered by J.J. Thomson. He suggested that electrons are necessary constituents of all atoms.

26. A shirt bought for Rs. 270 is marked at 8% higher than the cost price and sold at 10% discount. What is the selling price (in Rs.) of the shirt?

- (1) 260 (2) 262.44  
(3) 267.44 (4) 270

**Answer (2)**

**Sol.** Let C.P = ₹100

Then,

MP	CP	S.P
108	100	97.2

$\xrightarrow{+8\%}$        $\xrightarrow{-10\%}$

CP is ₹270 given

$$\text{So, SP} = \frac{270}{100} \times 97.2$$

$$= 262.44$$

27. If L stands for +, M stands for −, N stands for ×, P stands for ÷, then  $14 \text{ N } 10 \text{ L } 42 \text{ P } 2 \text{ M } 8 = ?$

- (1) 248 (2) 25  
(3) 153 (4) 216

**Answer (3)**

**Sol.** A.T.Q

$$14 \times 10 + 42 \div 2 - 8$$

Using BODMAS

$$\Rightarrow 14 \times 10 + 21 - 8$$

$$\Rightarrow 140 + 21 - 8$$

$$\Rightarrow 161 - 8 = 153$$

28. 260 kg rice is divided in three parts such that the first part is 5 kg more than the second part and its ratio with the third part is 1 : 3. The three parts (in kg) respectively are

- (1) 53, 108, 99                      (2) 53, 149, 58  
(3) 53, 49, 158                      (4) 53, 48, 159

**Answer (4)**

**Sol.** Let 1<sup>st</sup> part = x, then 2<sup>nd</sup> part = x – 5

Ratio of 1<sup>st</sup> and 3<sup>rd</sup> = 1 : 3

So, 3<sup>rd</sup> part = 3x

A.T.Q

$$x + x - 5 + 3x = 260$$

$$x = 53$$

So, 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> part = 53, 49 and 159.

29. India is the \_\_\_\_\_ largest country (in term of Area) in the world.

- (1) Fifth                                  (2) Eighth  
(3) Seventh                              (4) Second

**Answer (3)**

**Sol.**

Countries		Area	
(1)	Russia	—	17098242 km <sup>2</sup>
(2)	Canada	—	9984670 km <sup>2</sup>
(3)	China	—	9706961 km <sup>2</sup>
(4)	United States	—	9372610 km <sup>2</sup>
(5)	Brazil	—	8515767 km <sup>2</sup>
(6)	Australia	—	7692024 km <sup>2</sup>
(7)	India	—	3287590 km <sup>2</sup>

30. What is the median of the following data?

1, 0, 2, 4, 1, 2, 1, 1, 2, 5, 5, 0, 1, 2, 3

- (1) 0                                      (2) 1  
(3) 2                                      (4) 3

**Answer (3)**

**Sol.** Arrange all the digits in ascending order.

0, 0, 1, 1, 1, 1, 1, 1, 2, 2, 2, 2, 3, 4, 5, 5

$$= \frac{n+1}{2} = \frac{15+1}{2} = 8^{\text{th}} \text{ digit which is 2.}$$

31. Which is not an example of epithelial tissue?

- (1) Cartilage                              (2) Gland  
(3) Skin                                      (4) Intestine

**Answer (1)**

**Sol.** Cartilage is a connective tissue while others are epithelial tissue.

32. In the morning a man is standing facing North. In which direction will his shadow be formed?

- (1) East                                      (2) West  
(3) North                                      (4) South

**Answer (2)**

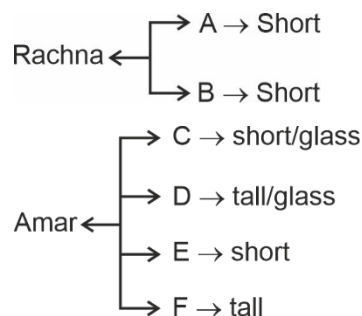
**Sol.** In morning sun is in east, so shadow be formed on west.

33. Six students A, B, C, D, E and F are sitting on the ground. A and B belong to Rachna's house, while the rest belong to Amar's house. D and F are tall, while others are short. C & D are wearing glasses, while others are not wearing. Which girl of Amar house is tall and wearing glasses?

- (1) B    (2) C  
(3) D    (4) A

**Answer (3)**

**Sol.**



So, only D is only one who is tall and wearing glass and also belongs to Amar's house.

34. The average of two numbers is 56. If 4 is added to the smaller number, then the ratio of the new number to the other number is 1 : 3. What is the smaller number?

- (1) 27 (2) 25  
(3) 35 (4) 87

**Answer (2)**

**Sol.** Sum of two numbers =  $56 \times 2 = 112$

$$x > y$$

A.T.Q

$$\frac{x+y}{y} = \frac{1}{3}$$

$$\Rightarrow 3x + 12 = y$$

$$x = \frac{y-12}{3} \quad \dots(i)$$

Using x value

$$\frac{y-12}{3} + y = 112$$

$$\boxed{y = 87} \quad \dots(ii)$$

Using (ii) in (i)

$$x = 25$$

35. The area of a right-angled triangle is numerically 30 times its height. How long is its base?

- (1) 80 units  
(2) 85 units  
(3) 60 units  
(4) 75 units

**Answer (3)**

**Sol.** Area of right-angle triangle =  $\frac{ab}{2}$

$$\therefore a = \text{perpendicular/height}$$

$$b = \text{base}$$

A.T.Q.

$$\frac{ab}{2} = 30a$$

$$ab = 60a$$

$$b = \frac{60a}{a}$$

$$b = 60 \text{ units}$$

36. Match List-I with List-II

List I Scientists		List II Research Area/Discoveries	
(A)	Homi Jehangir Bhabha	(I)	Number theory
(B)	Srinivasa Ramanujan	(II)	Aerospace
(C)	Jagdish Chander Bose	(III)	Nuclear physics
(D)	Vikram Sarabhai	(IV)	Measurement of plant growth

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

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

**Answer (3)**

**Sol.**

List I Scientists		List II Research Area/Discoveries	
(A)	Homi Jehangir Bhabha	(III)	Nuclear physics
(B)	Srinivasa Ramanujan	(I)	Number theory
(C)	Jagdish Chander Bose	(IV)	Measurement of plant growth
(D)	Vikram Sarabhai	(II)	Aerospace

37. Match List – I with List – II.

List – I Nicknames		List – II Cities	
(A)	Silver City	(I)	Udaipur
(B)	Lake City	(II)	Jamshedpur
(C)	Steel City	(III)	Jodhpur
(D)	Blue City	(IV)	Cuttack

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

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

Answer (3)

Sol.

List – I Nicknames		List – II Cities	
(A)	Silver City	(IV)	Cuttack
(B)	Lake City	(I)	Udaipur
(C)	Steel City	(II)	Jamshedpur
(D)	Blue City	(III)	Jodhpur

38. Match List – I with List – II.

	List – I Name of Battles		List – II Between
(A)	Battle of Buxar	(I)	Ashoka and Kings of Kalinga
(B)	Battle of Samugarh	(II)	Sirajuddaula and English Forces
(C)	Battle of Plassey	(III)	Aurangzeb and Imperial Forces
(D)	Kalinga War	(IV)	Joint Forces of Muslim and English Forces

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

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

Answer (2)

Sol.

List – I Name of Battles		List – II Between	
(A)	Battle of Buxar	(IV)	Joint Forces of Muslim and English Forces
(B)	Battle of Samugarh	(III)	Aurangzeb and Imperial Forces
(C)	Battle of Plassey	(II)	Sirajuddaula and English Forces
(D)	Kalinga War	(I)	Ashoka and Kings of Kalinga

39. Which state or Union territories has higher life expectancy?

- (1) Punjab
- (2) Uttar Pradesh
- (3) Madhya Pradesh
- (4) Uttarakhand

Answer (4)

Sol. Life expectancy among given states.

	Male	Female	Average
Punjab	71.9	76	= 73.95
Uttar Pradesh	66.9	69.1	= 68
Madhya Pradesh	66.7	70.5	= 68.6
Uttarakhand	71.2	76.9	= 74.

40. A fraction becomes  $\frac{6}{5}$  when 5 is added to its numerator and becomes  $\frac{1}{2}$  when 4 is added to its denominator. The fraction is:

- (1)  $\frac{8}{9}$  (2)  $\frac{7}{10}$   
(3)  $\frac{7}{8}$  (4)  $\frac{6}{11}$

**Answer (2)**

**Sol.** Let the original fraction by  $\frac{x}{y}$ .

$$\frac{x+5}{y} = \frac{6}{5} \Rightarrow 5x + 25 = 6y \Rightarrow 5x - 6y = -25 \quad \dots(1)$$

$$\frac{x}{y+4} = \frac{1}{2} \Rightarrow 2x = y + 4 \Rightarrow 2x - y = 4 \quad \dots(2)$$

Subtracting (2) from (1)

$$x = 7 \quad \dots(3)$$

Using (3) in (2)

$$y = 10$$

$$\text{So, fraction is} = \frac{7}{10}$$

41. The base radius of a cylinder is 5 m more than its height. If the curved surface area of the cylinder is  $792 \text{ m}^2$ , then what is the volume of the cylinder (in  $\text{m}^3$ ) (Use  $\pi = \frac{22}{7}$ ) ?

- (1) 5306 (2) 5244  
(3) 5544 (4) 5462

**Answer (3)**

**Sol.** Let height =  $x$  m

$$\text{Then radius} = (x + 5) \text{ m}$$

$$\text{Curved surface area of cylinder} = 2\pi rh = 729 \text{ m}^2$$

$$\Rightarrow 2 \times \frac{22}{7} \times (x+5) \times x$$

$$\Rightarrow \frac{396 \times 7}{22} = x^2 + 5x$$

$$\Rightarrow x^2 + 5x = 126 \Rightarrow x^2 + 5x - 126 = 0$$

$$x = 9 \text{ m and } x = -14 \text{ m} \therefore \text{height cannot be negative.}$$

$$\text{So height is 9 m, then radius} = 14 \text{ m}$$

$$\text{So volume is } \pi r^2 h = \frac{22}{7} \times 14 \times 14 \times 9 = 5544 \text{ m}^3$$

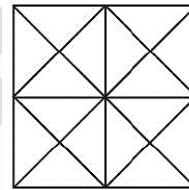
42. Bharatpur Bird Sanctuary is located in Rajasthan is also known as \_\_\_\_?

- (1) Kakadev National Park  
(2) Keoladeo National Park  
(3) Jaldapara National Park  
(4) Kanha National Park

**Answer (2)**

**Sol.** Bharatpur Bird Sanctuary is located in Rajasthan. It is also known as Keoladeo National Park.

43. Find the number of triangles and squares in the given figure.



- (1) 40 triangles, 12 squares  
(2) 36 triangles, 12 squares  
(3) 44 triangles, 10 squares  
(4) 14 triangles, 16 squares

**Answer (3)**

**Sol.** By observation.

44. Who was the founder of "Indian National Congress"?

- (1) Lala Lajpat Rai  
(2) Pt. Jawahar Lal Nehru  
(3) Mahatma Gandhi  
(4) A.O. Hume

**Answer (4)**

**Sol.** Indian National Congress was formed by A.O Hume with active support of Indian Nationalist on 28<sup>th</sup> December 1885 at Gokuldas Tejpal Sanskrit Congress in Bombay with 72 delegates in attendance.

45. How many times the hands of a clock are at right angle in a day?

- (1) 24 (2) 48  
(3) 44 (4) 22

**Answer (3)**

**Sol.** Clock's hands make 22 times right angle in 12 hours and 44 times in a day.

46. What will replace '?' in the given figure?

+	-	-	×
÷	×	+	÷
?	×	÷	
	-	+	

- (1) 

÷	+
×	-

 (2) 

+	-
÷	×
- (3) 

÷	+
+	-

 (4) 

-	×
÷	+

**Answer (1)**

**Sol.** By observation

47. How much simple interest will a sum of Rs. 4800 earn at  $10\frac{1}{2}\%$  per annum in 2 years 3 months?

- (1) Rs. 918  
(2) Rs. 1134  
(3) Rs. 1234  
(4) Rs. 1256

**Answer (2)**

**Sol.**  $P = 4800$

$$R = 10\frac{1}{2}\% = \frac{21}{2}\%$$

$$T = 2 \text{ years } 3 \text{ months} = \frac{9}{4}$$

$$S.I = \frac{P \times R \times T}{100}$$

$$= \frac{4800 \times 21 \times 9}{2 \times 4 \times 100} = \text{Rs } 1134$$

48. Match List - I with List - II.

List - I		List - II	
(A)	Archery	(I)	P.V. Sindhu
(B)	Hockey	(II)	Geeta Phogat
(C)	Wrestling	(III)	Pargat Singh
(D)	Badminton	(IV)	Deepika Kumari

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

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

**Answer (4)**

**Sol.**

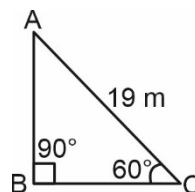
List - I		List - II	
(A)	Archery	(IV)	Deepika Kumari
(B)	Hockey	(III)	Pargat Singh
(C)	Wrestling	(II)	Geeta Phogat
(D)	Badminton	(I)	P.V. Sindhu

49. A ladder leaning against a wall makes an angle of  $60^\circ$  with the ground. If the length of the ladder is 19 m, then what is the distance of the foot of the ladder from the wall?

- (1) 7.5 m  
(2) 8 m  
(3) 8.5 m  
(4) 9.5 m

**Answer (4)**

**Sol.**



Let AC be ladder and AB be wall and BC is ground

$$\cos 60^\circ = \frac{BC}{AC}$$

$$\frac{1}{2} = \frac{BC}{19}$$

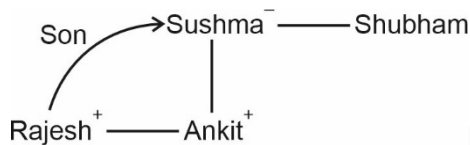
$$BC = 9.5 \text{ m}$$

50. Rajesh is the brother of Ankit. Sushma is the sister of Shubham. Ankit is the son of Sushma. How is Rajesh related to Sushma?

- (1) Father (2) Brother  
(3) Son (4) Nephew

**Answer (3)**

**Sol.**



51.  $\frac{256 \times 256 \times 256 - 144 \times 144 \times 144}{256 \times 256 + 256 \times 144 + 144 \times 144}$  is equal to:

- (1) 122 (2) 112  
(3) 400 (4) 312

**Answer (3)**

**Sol.**  $\frac{(a^3 - b^3)}{(a^2 - ab + b^2)} = a + b$

So value is =  $256 + 144 = 400$

52. Jamshedpur is situated at the bank of \_\_\_\_\_ river.

- (1) Godavari (2) Damodar  
(3) Subarnarekha (4) Soan

**Answer (3)**

**Sol.** Jamshedpur is situated at the bank of Subarnarekha River.

53. In an examination, 96% of the students passed and 500 students failed. How many students appeared in the examination?

- (1) 14000 (2) 12500  
(3) 12000 (4) 13500

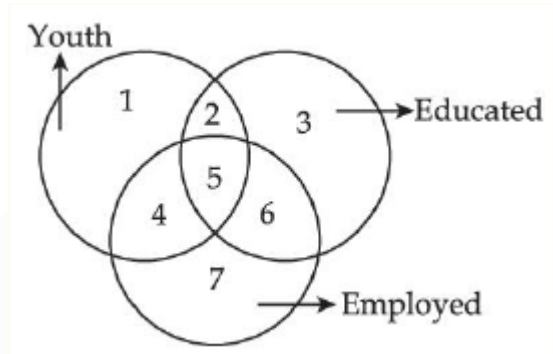
**Answer (2)**

**Sol.** Let total students = 100%

Pass = 96% then fail = 4% = 500 (given)

$$100\% = \frac{500}{4} \times 100 = 12,500$$

54. Study the below diagram and identify the Region representing youth who are employed but not educated?



- (1) 4 only (2) 5 and 6  
(3) 7 only (4) 3 only

**Answer (1)**

**Sol.** Youth who are employed but not educated is represented by 4 only.

55. Two boys A and B start at the same time to ride from Delhi to Meerut, 60 km away. A rides 4 km/h slower than B. B reaches Meerut and at once turns back meeting A at a place 12 km from Meerut. Find the speed of A.

- (1) 6 km/h  
(2) 8 km/h  
(3) 12 km/h  
(4) 4 km/h

**Answer (2)**

**Sol.** A's speed =  $(x - 4)$  km/h

B's speed =  $x$  km/h

According to question

$$\frac{72}{x} = \frac{48}{x - 4}$$

$$x = 12$$

$$\text{A's speed} = 12 - 4 = 8 \text{ kmph}$$

56. Host country of G - 20 Summit in 2023 is \_\_\_\_\_.

- (1) Indonesia
- (2) India
- (3) Italy
- (4) Japan

**Answer (2)**

**Sol.** India is the host country of G - 20 Summit in 2023.

G - 20 Summit will be held in New Delhi.

57. On dividing 15968 by a certain number, the quotient is 89 and the remainder is 37. Find the sum of the digits of the divisor.

- (1) 12
- (2) 19
- (3) 17
- (4) 21

**Answer (3)**

**Sol.** Dividend = Divisor  $\times$  Quotient + remainder

$$15968 = x \times 89 + 13$$

$$x = \frac{15931}{89}$$

$$x = 179$$

$$\text{Sum of digits} = 1 + 7 + 9 = 17$$

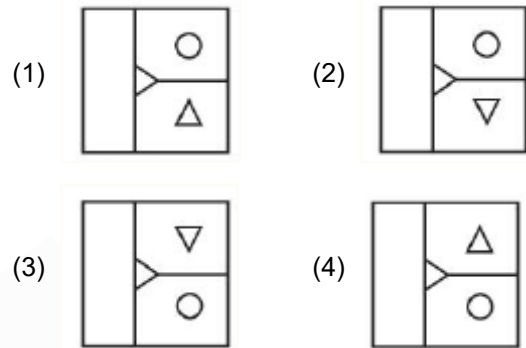
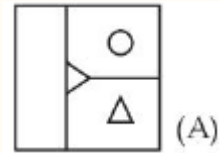
58. Out of the given options, find out the odd one that does not belong to the group.

- (1) Square
- (2) Circle
- (3) Rectangle
- (4) Triangle

**Answer (2)**

**Sol.** All other, except circle has corners.

59. In the following question, choose the **most appropriate** water image from alternatives (1), (2), (3) and (4) of the figure (A)



**Answer (3)**

**Sol.** By observation.

60. Nearest planet to the earth is \_\_\_\_\_.

- (1) Venus
- (2) Mercury
- (3) Jupiter
- (4) Saturn

**Answer (1)**

**Sol.** (1) Distance of Venus from Earth

$$= 71.9 \text{ million km}$$

(2) Distance of Mercury from Earth

$$= 198.63 \text{ million km}$$

(3) Distance of Jupiter from Earth

$$= 801.89 \text{ million km}$$

(4) Distance of Saturn from Earth

$$= 1.3718 \text{ billion km}$$

Hence, correct answer is Venus.