

## Combined Graduate Level Examination 2024 Tier I

Exam Date	19/09/2024
Exam Time	4:00 PM - 5:00 PM
Subject	Combined Graduate Level Examination Tier I

### Section : General Intelligence and Reasoning

**Q.1** Four letter-clusters have been given, out of which three are alike in some manner and one is different. Select the letter-cluster that is different.

Note: The odd one out is not based on the number of consonants/vowels or their position in the letter cluster...11

- Ans
- ☒ 1. MOP
  - ☐ 2. NPR
  - ☐ 3. HJL
  - ☐ 4. TVX

**Q.2** What will come in place of the question mark (?) in the following equation, if '+' and '-' are interchanged and 'x' and '÷' are interchanged?

$$69 + 2485 \times 5 - 912 \div 2 = ?$$

- Ans
- ☒ 1. 1396
  - ☐ 2. 1639
  - ☐ 3. 1963
  - ☐ 4. 1936

**Q.3** Select the option in which the numbers share the same relationship as that shared by the given pair of numbers.  
(NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. E.g. 13 – Operations on 13 such as adding/deleting/multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.)

11 : 62  
13 : 64

- Ans
- ☐ 1. 14 : 37
  - ☐ 2. 12 : 92
  - ☒ 3. 16 : 67
  - ☐ 4. 9 : 59

**Q.4** In a certain code language,  
X + Y means 'X is the sister of Y',  
X - Y means 'X is the wife of Y',  
X × Y means 'X is the mother of Y',  
X ÷ Y means 'X is the father of Y'.  
Based on the above, how is H related to L if 'H × I - J ÷ K + L'?

- Ans
- ☐ 1. Father's mother
  - ☐ 2. Father's sister
  - ☐ 3. Mother
  - ☒ 4. Mother's mother

**Q.5** In this question, three statements are given, followed by two conclusions numbered I and II. Assuming the statements to be true, even if they seem to be at variance with commonly known facts, decide which of the conclusion(s) logically follows/follow from the statements.

**Statements:**

Some shirts are pants.

All pants are jackets.

All jackets are trousers.

**Conclusions:**

I. Some trousers are shirts.

II. All jackets are shirts.

**Ans** ☒ 1. Neither conclusion I nor II follows.

☒ 2. Both conclusions I and II follow.

☒ 3. Only conclusion II follows.

☒ 4. Only conclusion I follows.

**Q.6** Which of the following terms will replace the question mark (?) in the given series?  
HDLB, LBPZ, PZTX, ? , XVBT

**Ans** ☒ 1. TVWC

☒ 2. TXXV

☒ 3. TWXC

☒ 4. TWWV

**Q.7** Select the number from the given options to complete the series.  
58, 70, 83, 97, \_\_\_\_

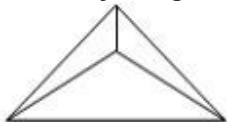
**Ans** ☒ 1. 111

☒ 2. 113

☒ 3. 112

☒ 4. 114

**Q.8** How many triangles are there in the given figure?



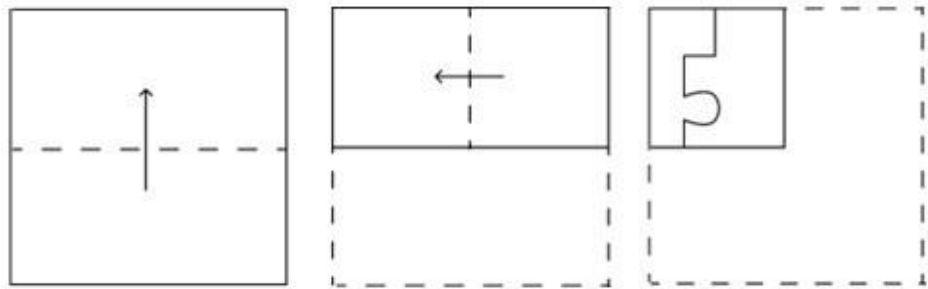
**Ans** ☒ 1. 2

☒ 2. 3

☒ 3. 4

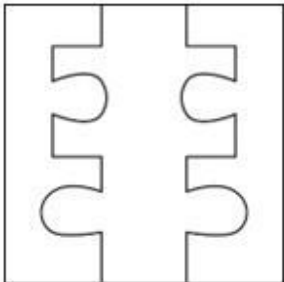
☒ 4. 5

Q.9 A paper is folded and cut as shown below. How will it appear when unfolded?

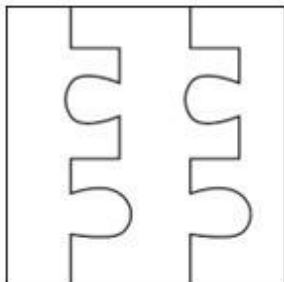


Ans

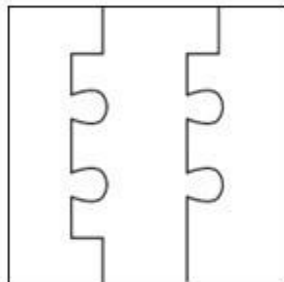
✗ 1.



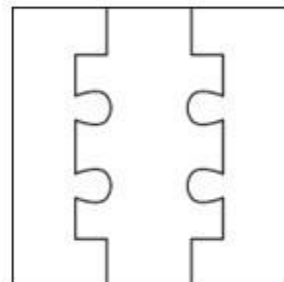
✗ 2.



✗ 3.



✓ 4.



Q.10 Which figure should replace the question mark (?) if the following series were to be continued?

H	V	V	C	H	V	V	O	
S	O	6	6	S	O	↑	R	6
↑		C	H	↑	C	O	H	C
								?

Ans

✓ 1.

H	V
C	6
O	R

✗ 2.

H	V
R	6
C	O

✗ 3.

C	H
R	6
O	V

✗ 4.

H	C
V	O
6	R

Q.11 Select the option that represents the letters that when sequentially placed from left to right in the blanks below will complete the letter series.

I \_ \_ I \_ \_ I \_ J \_

Ans

✗ 1. I J I I J J I

✗ 2. J I I I J J I

✓ 3. J I J I J I I

✗ 4. I I J J J I J

Q.12 Select the triad in which the numbers are related to each other in the same way as the numbers in the following triads.

4-5-41

2-3-13

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

Ans

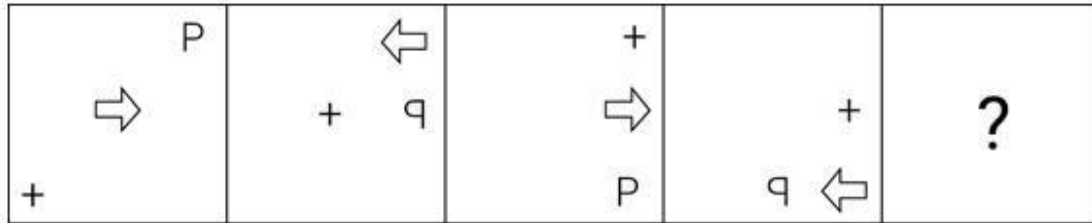
✗ 1. 10-11-211

✗ 2. 7-8-110

✓ 3. 5-6-61

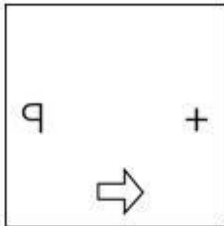
✗ 4. 12-13-213

**Q.13** Identify the figure from among the given options which when put in place of the question mark (?) will logically complete the series.

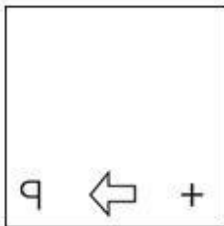


**Ans**

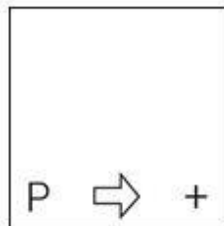
✗ 1.



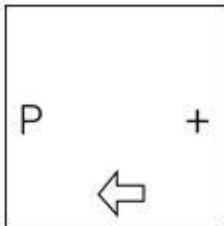
✗ 2.



✓ 3.



✗ 4.



**Q.14** Three of the following four options are alike in a certain way and thus form a group. Which is the one that does NOT belong to that group?

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

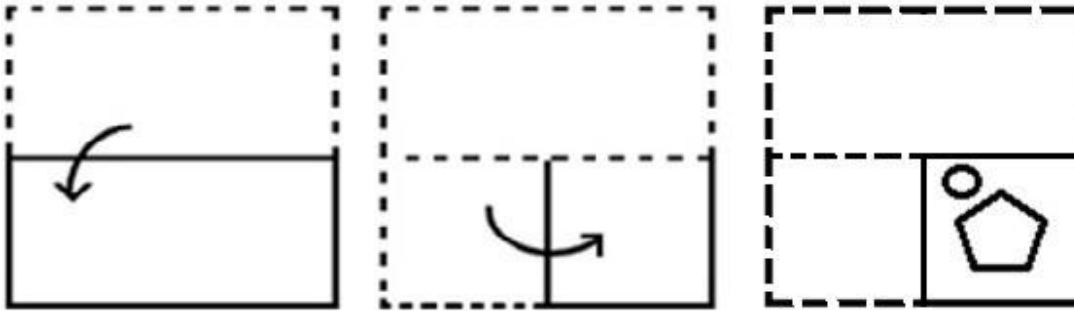
**Ans** ✗ 1.  $56 - 31 = 205$

✗ 2.  $88 - 23 = 245$

✓ 3.  $22 - 13 = 85$

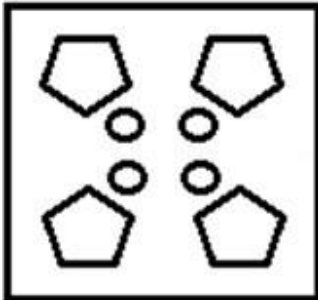
✗ 4.  $18 - 12 = 72$

Q.15 The sequence of folding a piece of paper and the manner in which the folded paper has been cut is shown in the following figures. How would this paper look when unfolded?

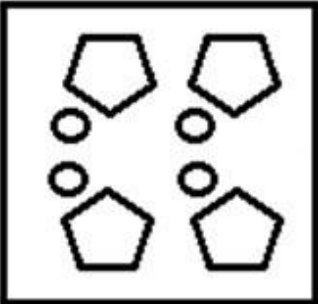


Ans

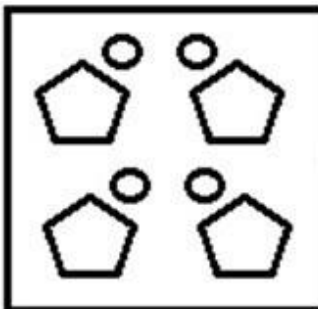
✓ 1.



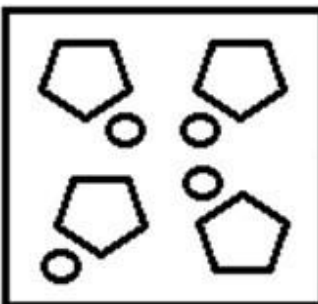
✗ 2.



✗ 3.



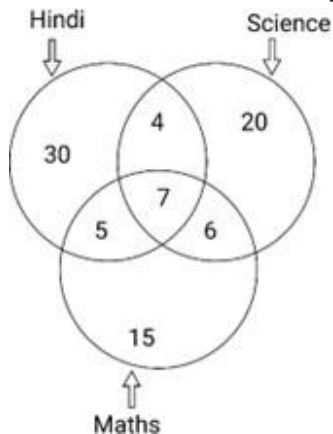
✗ 4.



- Q.16** Select the triad in which the numbers are related in the same way as are the numbers of the given triads.  
(NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. E.g., 13 – Operations on 13 such as adding/deleting/multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.)  
(11, 1, 10)  
(13, 7, 90)

Ans ☒ 1. (3, 6, 23)  
☒ 2. (1, 2, 15)  
☒ 3. (2, 6, 28)  
☒ 4. (4, 5, 19)

- Q.17** Study the given diagram carefully and answer the question that follows. The numbers in different sections indicate the number of students who like particular subjects.



How many students like Hindi and Science both, but NOT Maths?

Ans ☒ 1. 12  
☒ 2. 11  
☒ 3. 4  
☒ 4. 10

- Q.18** Select the word-pair that best represents a similar relationship to the one expressed in the pair of words given below.

(The words must be considered as meaningful English words and must not be related to each other based on the number of letters/number of consonants/vowels in the word.)

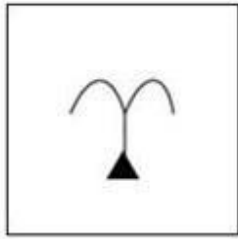
Larva : Insect

Ans ☒ 1. Dog : Animal  
☒ 2. Fox : Vixen  
☒ 3. Fawn : Deer  
☒ 4. Bat : Chick

- Q.19** In a certain code language, 'PANTHER' is written as '0146283' and 'ANOTHER' is written as '2864109'. How will 'O' be written in that language?

Ans ☒ 1. 0  
☒ 2. 8  
☒ 3. 3  
☒ 4. 9

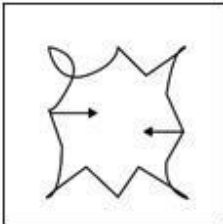
Q.20 Select the option figure in which the given figure (X) is embedded (rotation is NOT allowed).



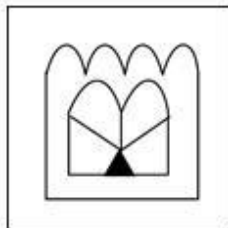
(X)

Ans

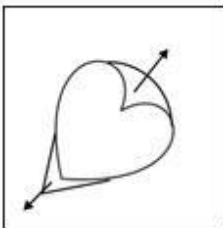
✗ 1.



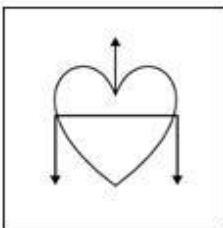
✓ 2.



✗ 3.



✗ 4.



Q.21 In a certain code language, 'CYCLE' is coded as '242241522' and 'FINAL' is coded as '2118132615'. How will 'MUSIC' be coded in that language?

Ans ✗ 1. 146192184

✓ 2. 14681824

✗ 3. 146191824

✗ 4. 1421191824

Q.22 'MPQO' is related to 'KNSQ' in a certain way based on the English alphabetical order. In the same way, 'DGHF' is related to 'BEJH'. To which of the following is 'EINW' related, following the same logic?

Ans ✓ 1. CGPY

✗ 2. BGPX

✗ 3. CHQY

✗ 4. BHQX



**Q.23** What will come in the place of '?' in the following equation, if '+' and '-' are interchanged and 'x' and '÷' are interchanged?  
 $49 \times 7 - 6 \div 8 + 13 =$

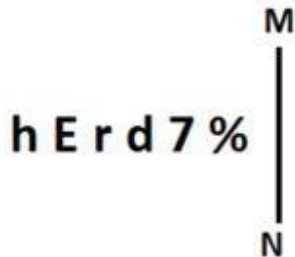
**Ans** ☒ 1. 32

☒ 2. 43

☒ 3. 42

☒ 4. 37

**Q.24** Select the correct mirror image of the given figure when the mirror is placed at MN as shown below.



**Ans** ☒ 1. %7 d r E h

☒ 2. %7 d r E h

☒ 3. %7 d r E h

☒ 4. %7 d r E h

**Q.25** The position of how many letters will remain unchanged if each of the letters in the word 'DRAFTING' is arranged in the English alphabetical order?

**Ans** ☒ 1. One

☒ 2. Two

☒ 3. Three

☒ 4. None

#### Section : General Awareness

**Q.1** Which of the following State governments has launched a scheme 'Ankur' in May 2021 to promote planting of trees in public, wherein people will be awarded for planting and taking care of the saplings?

**Ans** ☒ 1. Bihar

☒ 2. West Bengal

☒ 3. Uttarakhand

☒ 4. Madhya Pradesh

**Q.2** In the Right-Hand Thumb Rule, the thumb is directed towards the direction of:

**Ans** ☒ 1. current

☒ 2. electric field

☒ 3. motion of the conductor

☒ 4. magnetic field

**Q.3** Match the following Sportsman in List I and Award in List II:

LIST I- Sportsman		LIST II-Award	
A	Devendra Jhajharia	i	Padma Shri 2022
B	Sumit Antil	ii	Padma Bhushan 2022
C	Neeraj Chopra	iii	Arjun Award 2021
D	Shikhar Dhawan	iv	Major Dhyan Chand Khel Ratna Award 2021

**Ans** ☒ 1. A-ii, B-i, C-iv, D- iii  
☐ 2. A-iii, B-iv, C-i, D-ii  
☐ 3. A-i, B-iii, C-ii, D-iv  
☐ 4. A-iv, B-i, C-iii, D-ii

**Q.4** Which of the following Articles of the Indian Constitution CANNOT be suspended even during an emergency declared on the grounds of war or external aggression?

**Ans** ☐ 1. Articles 15 and 17  
☒ 2. Articles 20 and 21  
☐ 3. Articles 14 and 16  
☐ 4. Articles 30 and 32

**Q.5** Which of the following is the largest inhabited riverine island in the world?

**Ans** ☐ 1. Peacock  
☒ 2. Majuli  
☐ 3. Bhavani  
☐ 4. Lakshadweep

**Q.6** In which year was the battle of Buxar fought?

**Ans** ☐ 1. 1793  
☐ 2. 1777  
☒ 3. 1764  
☐ 4. 1757

**Q.7** What was the main objective of the Second Green Revolution in India?

**Ans** ☐ 1. Ensuring food security in the western states  
☐ 2. Promoting conventional agricultural practices  
☒ 3. Focusing on holistic development in agriculture  
☐ 4. Increasing the use of chemical fertilizers and pesticides

**Q.8** Who among the following was the youngest recipient of the Sangeetha Kalanidhi awarded by the Music Academy in 1947?

**Ans** ☒ 1. Semmangudi Radhakrishna Srinivasa Iyer  
☐ 2. Ariyakudi Ramanuja Iyengar  
☐ 3. Mallikarjun Bheemarayappa Mansur  
☐ 4. Bhimsen Joshi

**Q.9** In Newlands' Octaves, the properties of lithium and \_\_\_\_\_ were found to be the same.

- Ans**
- ☒ 1. sodium
  - ☐ 2. aluminium
  - ☐ 3. magnesium
  - ☐ 4. beryllium

**Q.10** Which of the following is Fisher's equation of exchange?

- Ans**
- ☒ 1.  $MV = PT$
  - ☐ 2.  $MT = VP$
  - ☐ 3.  $M = S + I$
  - ☐ 4.  $\frac{M}{V} = \frac{T}{P}$

**Q.11** Which web portal was launched by the Department of Telecommunications for sharing information on mobile towers and EMF emission compliance?

- Ans**
- ☐ 1. E-Amrit
  - ☐ 2. Namaste
  - ☒ 3. Tarang Sanchar
  - ☐ 4. PM-Daksh

**Q.12** Which of the following Acts passed under Warren Hastings was also called 'half-loaf system'?

- Ans**
- ☒ 1. Pitt's India Act 1784
  - ☐ 2. Government of India Act 1858
  - ☐ 3. Charter Act 1813
  - ☐ 4. Regulating Act 1773

**Q.13** Which Article of the Indian Constitution mentions that 'The State shall endeavour to promote cottage industries on an individual or co-operative basis in rural areas'?

- Ans**
- ☐ 1. Article 44
  - ☐ 2. Article 49
  - ☒ 3. Article 43
  - ☐ 4. Article 42

**Q.14** Which of the following is the most controversial Article in the Indian Constitution, which provides for President's rule in any state?

- Ans**
- ☐ 1. Article 358
  - ☒ 2. Article 356
  - ☐ 3. Article 360
  - ☐ 4. Article 352

**Q.15** In 1539, the Battle of Chausa was fought between Humayun and \_\_\_\_\_.

- Ans**
- ☐ 1. Ibrahim Lodhi
  - ☒ 2. Sher Shah Suri
  - ☐ 3. Sikandar Suri
  - ☐ 4. Rana Sanga

**Q.16** India hosted the Asian Games in which of the following years?

- Ans**
- ☐ 1. 1954 and 1986
  - ☒ 2. 1951 and 1982
  - ☐ 3. 1951 and 1986
  - ☐ 4. 1954 and 1982

**Q.17** A dense mass of water drops on smoke or dust particles in the lower atmosphere layers is referred to as:

- Ans**
- ☐ 1. mist
  - ☐ 2. blizzard
  - ☐ 3. frost
  - ☒ 4. smog

**Q.18** Sardhana Christian Fair is held in which of the following states?

- Ans**
- ☐ 1. West Bengal
  - ☐ 2. Haryana
  - ☐ 3. Madhya Pradesh
  - ☒ 4. Uttar Pradesh

**Q.19** Ali Akbar Khan was associated with which of the following gharanas?

- Ans**
- ☒ 1. Maihar gharana
  - ☐ 2. Agra gharana
  - ☐ 3. Gwalior gharana
  - ☐ 4. Kirana gharana

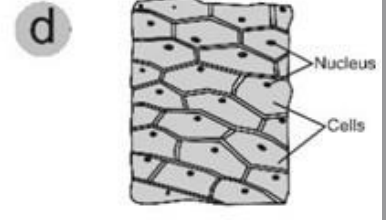
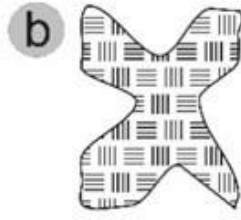
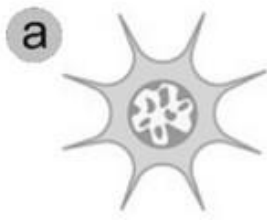
**Q.20** Which of the following movements created regional disparities between large and small farmers in India?

- Ans**
- ☒ 1. Green revolution
  - ☐ 2. Yellow revolution
  - ☐ 3. Pink revolution
  - ☐ 4. Blue revolution

**Q.21** Elelakkaradi dance of Kerala is performed by which of the following tribes?

- Ans**
- ☒ 1. Irular tribe
  - ☐ 2. Kurumba tribe
  - ☐ 3. Adiyar tribe
  - ☐ 4. Mavilan tribe

Q.22 Which of the following illustrations is related to chloroplasts?



- Ans
- ☐ 1. a
  - ☒ 2. c
  - ☐ 3. d
  - ☐ 4. b

Q.23 Who among the following generally used to head the provincial administration under the Mauryas?

- Ans
- ☐ 1. Dandapala
  - ☒ 2. Kumara
  - ☐ 3. Samaharta
  - ☐ 4. Prashasti

Q.24 Bhakti Pradeep Kulkarni is associated with \_\_\_\_\_.

- Ans
- ☐ 1. badminton
  - ☐ 2. kabaddi
  - ☒ 3. chess
  - ☐ 4. cricket

Q.25 Which is the most important protein component in milk, both quantitatively and nutritionally, that accounts for about 80% of the total protein in bovine milk?

- Ans
- ☐ 1. Actin
  - ☐ 2. Albumin
  - ☐ 3. Pepsin
  - ☒ 4. Casein

Section : Quantitative Aptitude

Q.1 In a kite ABCD, longer diagonal BD is drawn. If  $\angle ABD = 54^\circ$  and  $\angle ADB = 50^\circ$ , then what is the measure (in degrees) of the  $\angle DCB$ ?

- Ans
- ☐ 1. 108
  - ☒ 2. 76
  - ☐ 3. 100
  - ☐ 4. 54

Q.2 Three candidates X, Y and Z participated in an election. X got 30% more votes than Y, whereas Z got 25% more votes than Y. X also overtook Z by 5000 votes. If 71% of the voters voted and no invalid votes were cast, then what was the total number of voters in the voting list?

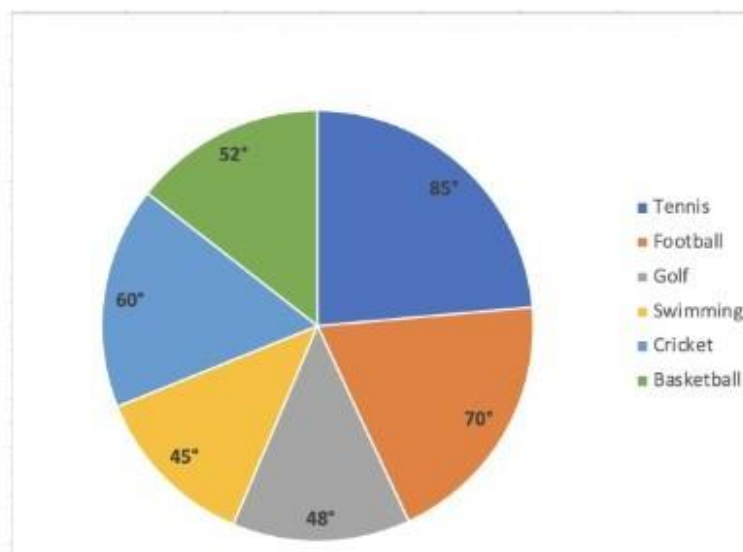
- Ans
- ☒ 1. 5,00,000
  - ☐ 2. 4,05,000
  - ☐ 3. 3,55,000
  - ☐ 4. 4,50,000

**Q.3** The given table shows the number of candidates appeared in an interview for different posts (A, B, C, D, E and F). What is the average number of candidates appearing for the posts C, D, E and F?

Posts	Candidates appearing
A	5500
B	8200
C	8600
D	9900
E	5300
F	5100

- Ans**
- ☒ 1. 7600
  - ☒ 2. 8000
  - ☒ 3. 7225
  - ☒ 4. 7500

**Q.4** The pie-chart below shows the expenditures (in ₹ lakh) of a country on various sports during a particular year. Study the graph carefully and answer the question given below it.



What is the average expenditure (in ₹ lakh) on tennis, golf, swimming, and basketball, if the expenditure on cricket is ₹72 lakh?

- Ans**
- ☒ 1. 138
  - ☒ 2. 44
  - ☒ 3. 69
  - ☒ 4. 120

**Q.5** In a rectangular field, the sum of the length and the breadth is 9 cm and area is 18 cm<sup>2</sup>. If the length is 'a' and breadth is 'b', then find the value of  $(a^2 - ab + b^2)$ .

**Ans**  1. 36

 2. 24

 3. 18

 4. 27

**Q.6** Which of the following numbers is NOT divisible by 8?

**Ans**  1. 7344

 2. 5544

 3. 7497

 4. 4608

- Q.7 The given table shows the expenditure in (in crores ₹) of three companies A, B and C and the percentage profit of these companies in different years. Given that:

$$\text{Income} = \text{Expenditure} + \text{Expenditure} \times \frac{\text{Profit \%}}{100}$$

Years	Company A		Company B		Company C	
	Expenditure	Profit	Expenditure	Profit	Expenditure	Profit
2002	24	50%	20	40%	40	45%
2003	30	45%	15	25%	50	55%
2004	36	40%	25	35%	60	65%
2005	40	60%	35	48%	80	75%

What is the income (in crore ₹) of Company C in the year 2003?

- Ans ☒ 1. 75.7  
☒ 2. 77.5  
☒ 3. 105  
☒ 4. 69.8

- Q.8 If the area of a sector of a circle is  $462 \text{ cm}^2$  and the central angle is  $120^\circ$ , then its radius is \_\_\_\_.

- Ans ☒ 1. 18 cm  
☒ 2. 17 cm  
☒ 3. 21 cm  
☒ 4. 14 cm

- Q.9 The value of  $[15 \div 3 \times 7 - 8 \text{ of } 2 + 6]$  is:

- Ans ☒ 1. 13  
☒ 2. 25  
☒ 3. -29  
☒ 4. 39.5

- Q.10 Two inlet pipes, P1 and P2, can fill a cistern in 20 hours and 30 hours, respectively. They were opened at the same time, but pipe P1 had to be closed 5 hours before the cistern was full. How many hours in total did it take for the two pipes to fill the cistern?

- Ans ☒ 1. 15 hours  
☒ 2. 9 hours  
☒ 3. 12 hours  
☒ 4. 10 hours



Q.11 If  $\tan \theta = \frac{5}{8}$ , then find the value of  $\frac{(1 + \cos \theta)(1 - \cos \theta)}{(1 + \sin \theta)(1 - \sin \theta)}$ .

Ans ☐ 1.  $\frac{5}{64}$

☐ 2.  $\frac{2}{25}$

☒ 3.  $\frac{25}{64}$

☐ 4.  $\frac{64}{25}$

Q.12 Find the gain percentage, given that Anubha sold her scooter for ₹23358 gaining  $\frac{1}{6}$ th of the selling price.

Ans ☐ 1. 25%

☐ 2. 35%

☒ 3. 20%

☐ 4. 30%

Q.13 A thief is spotted by a policeman from a distance of 195 metres. When the policeman starts the chase, the thief also starts running. If the speed of the thief is 22 km/h and that of the policeman is 27 km/h, then how far would the thief have run (in m) before he is overtaken?

Ans ☐ 1. 825

☐ 2. 951

☒ 3. 858

☐ 4. 958

Q.14 For the equations  $ax + (a^2 + 1)y = 4$  and  $4x + ay = a^2$ , which of the following statements is TRUE?

Ans ☐ 1. If  $a = 6$ , then  $x = \frac{325}{28}$ ,  $y = -\frac{25}{28}$  are the solutions.

☐ 2. If  $a = 6$ , then  $x = 48$ ,  $y = 4$  are the solutions.

☐ 3. If  $a = -12$ , then  $x = \frac{325}{28}$ ,  $y = -\frac{25}{28}$  are the solutions.

☒ 4. If  $a = -12$ , then  $x = 48$ ,  $y = 4$  are the solutions.

**Q.15** A cooker is marked at ₹12,500. The dealer allows successive discounts of 6%, 6% and 4% on it. What is the net selling price of the cooker?

**Ans** ☒ 1. ₹10,603.20

☐ 2. ₹10,306

☐ 3. ₹12,230

☐ 4. ₹12,320.60

**Q.16** Pranav borrows a sum of ₹598397 at the rate of 20% per annum simple interest. At the end of the first year, he repays ₹24284 towards return of principal amount borrowed. If Pranav clears all pending dues at the end of the second year, including interest payment that accrued during the first year, how much does he pay (in ₹) at the end of the second year?

**Ans** ☐ 1. 812514

☒ 2. 808615

☐ 3. 818513

☐ 4. 817567

**Q.17** In  $\Delta PQR$ , if  $PT$  is the median, then which of the following is correct?

**Ans** ☐ 1.  $PQ^2 + PR^2 = PT^2 + QR^2$

☒ 2.  $PQ^2 + PR^2 = 2(PT^2 + QT^2)$

☐ 3.  $PQ^2 + PR^2 = 2(PT^2 - QT^2)$

☐ 4.  $PQ^2 + PR^2 = PT^2 + QT^2$

Q.18 Study the given table and answer the question that follows.

The given table shows the number of candidates who appeared (both male and female) in a Public Examination and the percentage of those who qualified in the examination from two states X and Z. Few values are missing in the table (indicated by -----). You will be required to fill them up according to the question.

Year	State X		State Z	
	Number of appeared candidates	Percentage of qualified candidates	Number of appeared candidates	Percentage of qualified candidates
2008	480	70%	-----	70%
2009	560	75%	-----	80%
2010	-----	60%	650	50%
2011	450	89%	720	72%
2012	790	-----	660	-----

The number of appeared candidates from State Z increased by 100% from 2008 to 2009. If the total number of qualified candidates from State Z in 2008 and 2009 together is 552, what is the number of appeared candidates from State Z in 2009?

Ans ☒ 1. 360

☒ 2. 240

☒ 3. 480

☒ 4. 600

Q.19 The total surface area of a closed cube is given as  $1152 \text{ cm}^2$ . What is the length (in cm) of each side of the cube?

Ans ☒ 1.  $9\sqrt{2}$

☒ 2.  $4\sqrt{13}$

☒ 3.  $8\sqrt{3}$

☒ 4.  $8\sqrt{2}$

Q.20 If  $\tan \theta + \cot \theta = 2$ , and  $\theta$  is an acute angle, then the value of  $\theta$  is:

Ans ☒ 1.  $30^\circ$

☒ 2.  $15^\circ$

☒ 3.  $60^\circ$

☒ 4.  $45^\circ$

**Q.21** From a point A, a tangent line is drawn to the circle of radius 7 units. From the same point, a secant is drawn to the circle which cuts the circle at B and C and the point B is near A than C. What is the length of BC in units if the length of the tangent to the circle from point A is 21 units and the length of AB is 14 units?

- Ans
- ☐ 1. 18.5
  - ☐ 2. 16.5
  - ☐ 3. 15.5
  - ☒ 4. 17.5

**Q.22** If A is an acute angle, then  $\sqrt{\frac{1 - \cos A}{1 + \cos A}} + \sqrt{\frac{1 + \cos A}{1 - \cos A}}$  is equal to:

- Ans
- ☒ 1.  $2 \operatorname{cosec} A$
  - ☐ 2.  $2 \cos A$
  - ☐ 3.  $2 \sec A$
  - ☐ 4.  $2 \sin A$

**Q.23** Simplify  $\frac{(25)^4 + 1250 + 1 - (25)^2}{(25)^2 + 25 + 1}$ .

- Ans
- ☐ 1. 602
  - ☒ 2. 601
  - ☐ 3. 603
  - ☐ 4. 604

**Q.24** The ratio of boys to girls initial in a college is 5 : 6. If 40 boys leave the college and 50 girls join the college, the ratio will become 8 : 11. Find the number of girls (initial) in the college.

- Ans
- ☐ 1. 740
  - ☐ 2. 860
  - ☒ 3. 720
  - ☐ 4. 640

**Q.25** A class of 30 students appeared in a test. The average score of 12 students is 62, and that of the rest is 68. What is the average score of the class?

- Ans
- ☐ 1. 63.6
  - ☒ 2. 65.6
  - ☐ 3. 66.6
  - ☐ 4. 64.6

#### Section : English Comprehension

**Q.1** Select the option that can be used as a one-word substitute for the given group of words.  
An utter state of confusion

- Ans
- ☐ 1. Pathos
  - ☐ 2. Engross
  - ☐ 3. Innuendos
  - ☒ 4. Chaos

**Q.2** Select the most appropriate option to substitute the underlined segment in the given sentence.

After reflecting on the matter regarding his boss's selfish attitude, Raju decided to force himself to perform an unpleasant action in a difficult situation in order to resolve the matter.

- Ans**
- ☒ 1. bite the bullet
  - ☐ 2. dodge the bullet
  - ☐ 3. shoot the bullet
  - ☐ 4. ignore the bullet

**Q.3** Identify the INCORRECTLY spelt word in the following sentence and select its correct spelling from the given options.  
The occurrence of this phenomenon is quite rare.

- Ans**
- ☐ 1. occurance
  - ☐ 2. occerence
  - ☒ 3. occurrence
  - ☐ 4. occurance

**Q.4** Select the option that expresses the given sentence in passive voice.

Meenakshi could have sent a reply.

- Ans**
- ☐ 1. A reply could have be sent by Meenakshi.
  - ☒ 2. A reply could have been sent by Meenakshi.
  - ☐ 3. A reply could have sent by Meenakshi.
  - ☐ 4. A reply could have been send by Meenakshi.

**Q.5** Select the option that can be used as a one-word substitute for the given group of words.  
Lack of interest, enthusiasm or concern

- Ans**
- ☐ 1. Sympathy
  - ☒ 2. Apathy
  - ☐ 3. Empathy
  - ☐ 4. Antipathy

**Q.6** Select the most appropriate synonym of the given word.  
Beseech

- Ans**
- ☐ 1. Pamper
  - ☒ 2. Implore
  - ☐ 3. Impart
  - ☐ 4. Bequeath

**Q.7** Select the option that corrects the error in the given sentence.  
She sings good.

- Ans**
- ☐ 1. better
  - ☐ 2. best
  - ☐ 3. goodly
  - ☒ 4. well

**Q.8** Select the **INCORRECTLY** spelt word.

- Ans**
- ☐ 1. Interrupt
  - ☐ 2. Occurrence
  - ☒ 3. Beggining
  - ☐ 4. Cemetery

**Q.9** Parts of a sentence are given below in jumbled order. Select the option that arranges the parts in the correct sequence to form a meaningful sentence.

(P) society benefits from diversity

(Q) enriching cultures and

(O) by fostering understanding and empathy

(R) perspectives from around the world

- Ans**
- ☐ 1. QPRO
  - ☒ 2. POQR
  - ☐ 3. RPOQ
  - ☐ 4. ROQP

**Q.10** Select the most appropriate option that can substitute the underlined segment in the given sentence.

No sooner did Mr. Piyahri Mishra finish his chemistry lecture that the students began to leave.

- Ans**
- ☐ 1. so the students began to leave.
  - ☐ 2. then the students began to leave.
  - ☐ 3. and the students began to leave.
  - ☒ 4. than the students began to leave.

**Q.11** Select the option that can be used as a one-word substitute for the given group of words.

The study of ancient things such as art, graves, ruins etc.

- Ans**
- ☐ 1. Astrology
  - ☒ 2. Archaeology
  - ☐ 3. Geology
  - ☐ 4. Meteorology

**Q.12** Select the term which means the same as the given group of words.

A continuing unpleasant situation, created when one problem causes another problem that then makes the first problem worse

- Ans**
- ☒ 1. Vicious cycle
  - ☐ 2. Round cycle
  - ☐ 3. Repetitive cycle
  - ☐ 4. Enclosed cycle

**Q.13** Select the most appropriate synonym of the given word.  
**Miraculous**

- Ans**
- ☐ 1. Draining
  - ☐ 2. Average
  - ☐ 3. Expected
  - ☒ 4. Incredible

**Q.14** Select the option that expresses the given sentence in passive voice.  
The school will hire new teachers.

- Ans**
- ☐ 1. New teachers will join the school.
  - ☐ 2. The school will be hiring new teachers.
  - ☐ 3. New teachers are hired by the school.
  - ☒ 4. New teachers will be hired by the school.

**Q.15** Select the most appropriate **ANTONYM** of the given word.  
**Absolve**

- Ans**
- ☐ 1. Commend
  - ☒ 2. Accuse
  - ☐ 3. Excuse
  - ☐ 4. Appeal

**Q.16** Select the option that can be used as a one-word substitute for the given group of words.

A person who has supreme power or authority

- Ans**
- ☐ 1. Secular
  - ☒ 2. Sovereign
  - ☐ 3. Diversity
  - ☐ 4. Foreign

**Q.17** Select the most appropriate **ANTONYM** of the given word.

**Appreciate**

- Ans**
- ☐ 1. Depict
  - ☐ 2. Acknowledge
  - ☐ 3. Esteem
  - ☒ 4. Depreciate

**Q.18** Parts of the following sentence have been given as options. Select the option that contains an error.  
In some countries, you are not able to drink until you are 21.

- Ans**
- ☐ 1. In some countries,
  - ☒ 2. able to drink
  - ☐ 3. until you are 21.
  - ☐ 4. you are not

**Q.19** Select the most appropriate option to fill in the blank.  
The US \_\_\_\_\_ building was built in the year 1800.

- Ans**
- ☐ 1. capital
  - ☐ 2. cannibal
  - ☐ 3. captain
  - ☒ 4. capitol

**Q.20** Select the most appropriate synonym of the given word.

**Magnificent**

- Ans**
- ☒ 1. Slow
  - ☒ 2. Sacred
  - ☒ 3. Scared
  - ☒ 4. Splendid

**Comprehension:**

In the following passage, some words have been deleted. Read the passage carefully and select the most appropriate option to fill in each blank.

Augmented reality and virtual reality are two types of reality technologies that either augment or replace a real-world environment with a (1)\_\_\_\_\_ one. In augmented reality, a virtual environment coexists (2)\_\_\_\_\_ the actual world, to be instructive and offer more data about the real world that a user can access without having to search. When a handset is pointed at a piece of malfunctioning (3)\_\_\_\_\_, for example, industrial AR apps might provide rapid troubleshooting information. Virtual reality is a (4)\_\_\_\_\_ environmental simulation that completely replaces the user's surroundings with a totally virtual world. For example, VR may provide a user with a box containing a cartoon (5)\_\_\_\_\_ of Mike Tyson in a virtual boxing ring.

**SubQuestion No : 21**

**Q.21** Select the most appropriate option to fill in blank number 1.

- Ans**
- ☒ 1. simulated
  - ☒ 2. catered
  - ☒ 3. revealed
  - ☒ 4. suffocated

**Comprehension:**

In the following passage, some words have been deleted. Read the passage carefully and select the most appropriate option to fill in each blank.

Augmented reality and virtual reality are two types of reality technologies that either augment or replace a real-world environment with a (1)\_\_\_\_\_ one. In augmented reality, a virtual environment coexists (2)\_\_\_\_\_ the actual world, to be instructive and offer more data about the real world that a user can access without having to search. When a handset is pointed at a piece of malfunctioning (3)\_\_\_\_\_, for example, industrial AR apps might provide rapid troubleshooting information. Virtual reality is a (4)\_\_\_\_\_ environmental simulation that completely replaces the user's surroundings with a totally virtual world. For example, VR may provide a user with a box containing a cartoon (5)\_\_\_\_\_ of Mike Tyson in a virtual boxing ring.

**SubQuestion No : 22**

**Q.22** Select the most appropriate option to fill in blank number 2.

- Ans**
- ☒ 1. with
  - ☒ 2. behind
  - ☒ 3. along
  - ☒ 4. beyond



**Comprehension:**

In the following passage, some words have been deleted. Read the passage carefully and select the most appropriate option to fill in each blank.

Augmented reality and virtual reality are two types of reality technologies that either augment or replace a real-world environment with a (1)\_\_\_\_\_ one. In augmented reality, a virtual environment coexists (2)\_\_\_\_\_ the actual world, to be instructive and offer more data about the real world that a user can access without having to search. When a handset is pointed at a piece of malfunctioning (3)\_\_\_\_\_, for example, industrial AR apps might provide rapid troubleshooting information. Virtual reality is a (4)\_\_\_\_\_ environmental simulation that completely replaces the user's surroundings with a totally virtual world. For example, VR may provide a user with a box containing a cartoon (5)\_\_\_\_\_ of Mike Tyson in a virtual boxing ring.

**SubQuestion No : 23**

**Q.23** Select the most appropriate option to fill in blank number 3.

**Ans** ☒ 1. equipment

☐ 2. arsenal

☐ 3. outfit

☐ 4. baggage

**Comprehension:**

In the following passage, some words have been deleted. Read the passage carefully and select the most appropriate option to fill in each blank.

Augmented reality and virtual reality are two types of reality technologies that either augment or replace a real-world environment with a (1)\_\_\_\_\_ one. In augmented reality, a virtual environment coexists (2)\_\_\_\_\_ the actual world, to be instructive and offer more data about the real world that a user can access without having to search. When a handset is pointed at a piece of malfunctioning (3)\_\_\_\_\_, for example, industrial AR apps might provide rapid troubleshooting information. Virtual reality is a (4)\_\_\_\_\_ environmental simulation that completely replaces the user's surroundings with a totally virtual world. For example, VR may provide a user with a box containing a cartoon (5)\_\_\_\_\_ of Mike Tyson in a virtual boxing ring.

**SubQuestion No : 24**

**Q.24** Select the most appropriate option to fill in blank number 4.

**Ans** ☒ 1. comprehensive

☐ 2. conclusive

☐ 3. transgressive

☐ 4. reprehensive

**Comprehension:**

In the following passage, some words have been deleted. Read the passage carefully and select the most appropriate option to fill in each blank.

Augmented reality and virtual reality are two types of reality technologies that either augment or replace a real-world environment with a (1)\_\_\_\_\_ one. In augmented reality, a virtual environment coexists (2)\_\_\_\_\_ the actual world, to be instructive and offer more data about the real world that a user can access without having to search. When a handset is pointed at a piece of malfunctioning (3)\_\_\_\_\_, for example, industrial AR apps might provide rapid troubleshooting information. Virtual reality is a (4)\_\_\_\_\_ environmental simulation that completely replaces the user's surroundings with a totally virtual world. For example, VR may provide a user with a box containing a cartoon (5)\_\_\_\_\_ of Mike Tyson in a virtual boxing ring.

**SubQuestion No : 25**

**Q.25** Select the most appropriate option to fill in blank number 5.

**Ans** ☐ 1. glossary

☐ 2. network

☒ 3. rendition

☐ 4. resistance