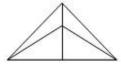
## **Combined Graduate Level Examination 2024 Tier I**

Exam Date	26/09/2024	
Exam Time	9:00 AM - 10:00 AM	
Subject	Combined Graduate Level Examination Tier I	

## Section: General Intelligence and Reasoning

Q.1 How many triangles are there in the given figure?



Ans

**X** 1. 10

**2**. 8

X 3. 11

**X** 4. 9

Q.2 Select the option that can replace the question mark (?) in the following series. OA33, RD36, UG39, XJ42, ?

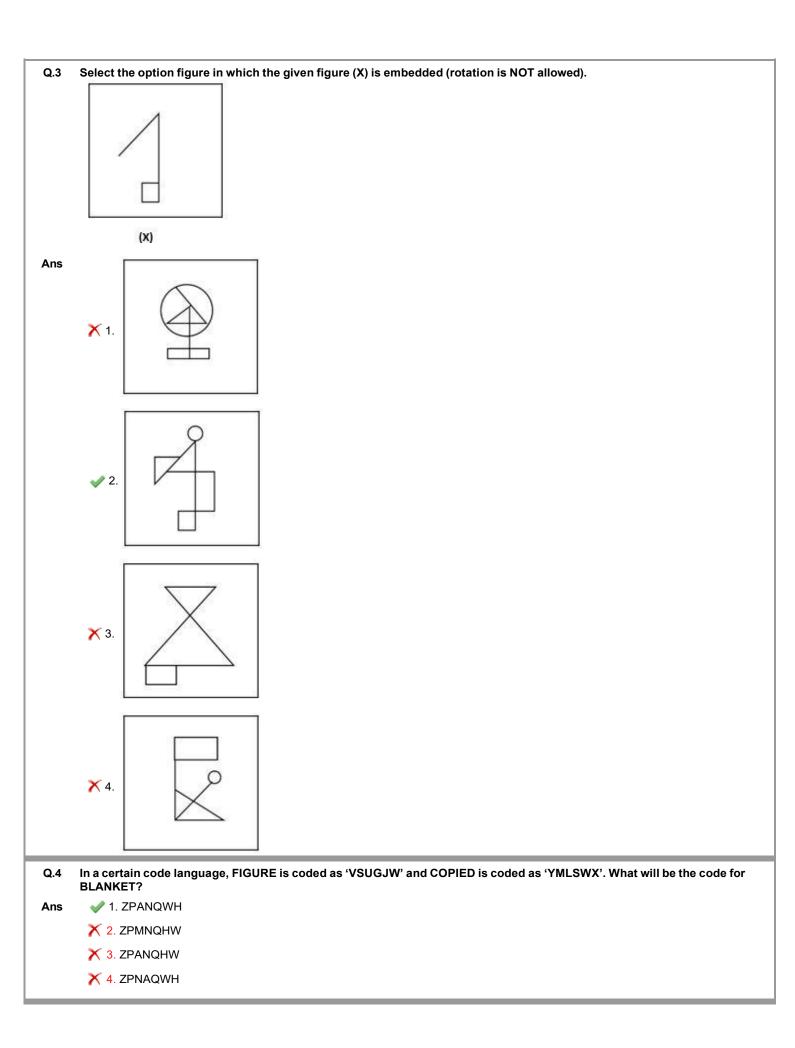
Ans

X 1. CN41

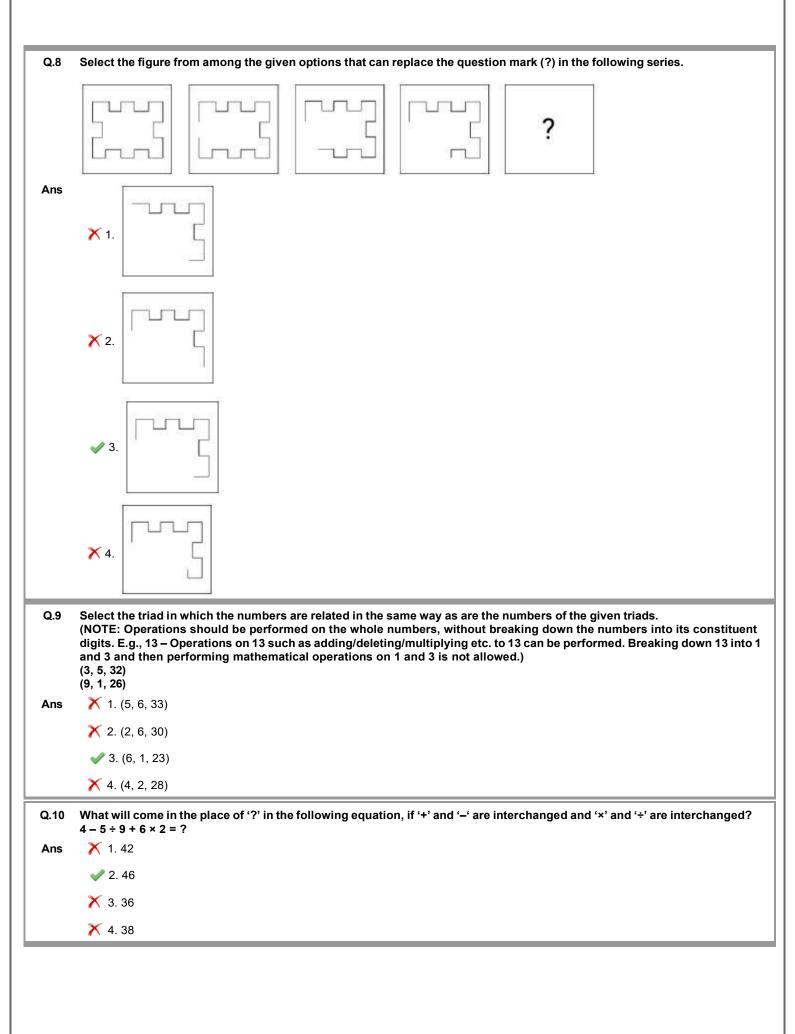
2. AM45

X 3. BO43

X 4. BN44



Q.5	'Simple' is related to 'Basic' in the same way as 'Difficult' is related to ''.
Ans	X 1. Trivial
	× 2. Wrong
	X 3. Imaginary
	√ 4. Complex
Q.6	In a certain code language, 'A + B' means 'A is the son of B'; 'A # B' means 'A is the sister of B'; 'A × B' means 'A is the wife of B'; and, 'A @ B' means 'A is the father of B'.
	Based on the above, how is M related to T if 'M # N @ L × P + T'?
Ans	X 1. Son's wife's sister
	✓ 2. Son's wife's father's sister
	X 3. Son's wife's father
	X 4. Son's wife's father's mother
Q.7	What will come in place of the question mark (?) in the following equation, if '+' and '-' are interchanged and ' $\times$ ' and ' $\div$ ' are interchanged? $229 \div 41 + 502 \times 2 - 44 = ?$
Ans	X 1. 9281
	× 2. 9812
	<b>★</b> 3. 9218
	<b>√</b> 4. 9182



Q.11

Which of the following terms will replace the question mark (?) in the given series? OPOR, NOPS, ?, LMRU, KLSV

Ans

1. MNQT

X 2. MNTQ

X 3. MNQP

X 4. NMQT

Q.12 Select the option that represents the letters that when sequentially placed from left to right in the blanks below will complete the letter series.

 $Y \_ Y \_ Y \_ T \_ Y \_ Y$ 

Ans

X 1. YTYTYT

X 2. TTYYTT

X 4. TYTYTY

Q.13 Select the correct mirror image of the given figure when the mirror is placed at MN.

M e 3 9 h a

Ans

Me E9hg 1X

Me39ha.5>

X 3 6 4 9 E e M

X4. 24689 W

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.)

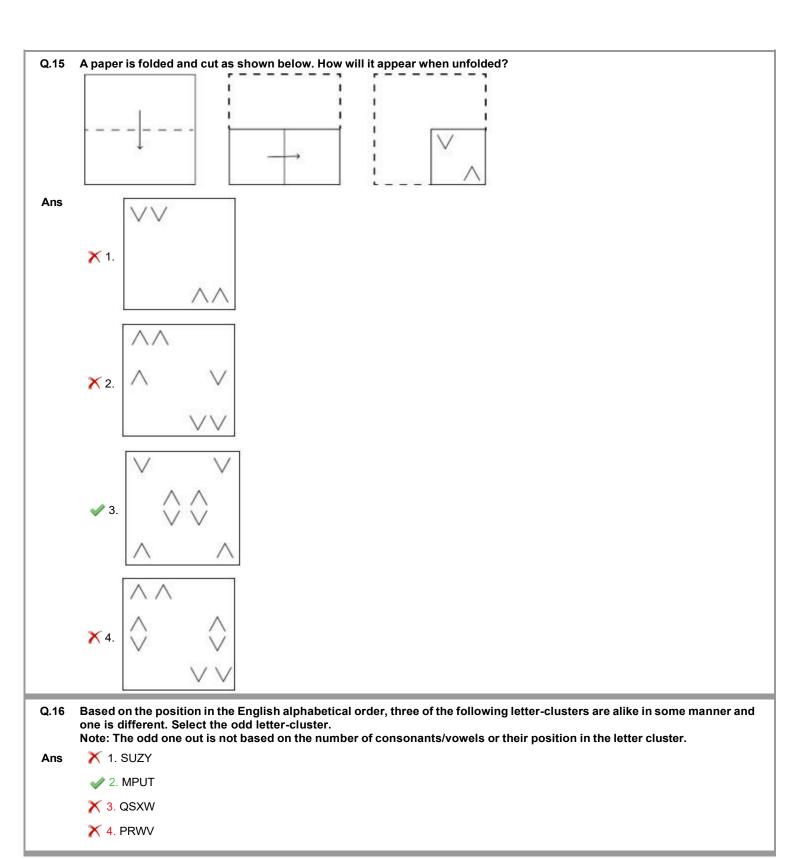
Ans

X 1. 82 - 46 - 10

X 2. 90 - 99 - 108

X 3. 67 – 45 – 23

**✓** 4. 90 − 51 − 13



Q.17 Select the set in which the numbers are related in the same way as are the numbers of the following sets.

(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.)

(108, 12, 9) (114, 19, 6)

Ans

**1.** (136, 17, 8)

**X** 2. (144, 14, 8)

**X** 3. (156, 18, 5)

X 4. (148, 16, 9)

Q.18 Two sets of numbers are given below. In each set of numbers, certain mathematical operation(s) on the first number result(s) in the second number. Similarly, certain mathematical operation(s) on the second number result(s) in the third number and so on. Which of the given options follows the same set of operations as in the given sets?

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

17 - 19 - 16 - 20; 22 - 24 - 21 - 25

Ans

1. 15 – 17 – 14 – 18

X 2. 16 – 18 – 12 – 16

X 3. 11 – 13 – 10 – 15

X 4. 18 - 20 - 16 - 14

Q.19 Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusion(s) logically follow(s) from the statements.

Statements:

All pastries are chocolates.

Some chocolates are cookies.

All cookies are cakes.

Conclusions:

(I) No pastry is a cake.

(II) Some cakes are chocolates.

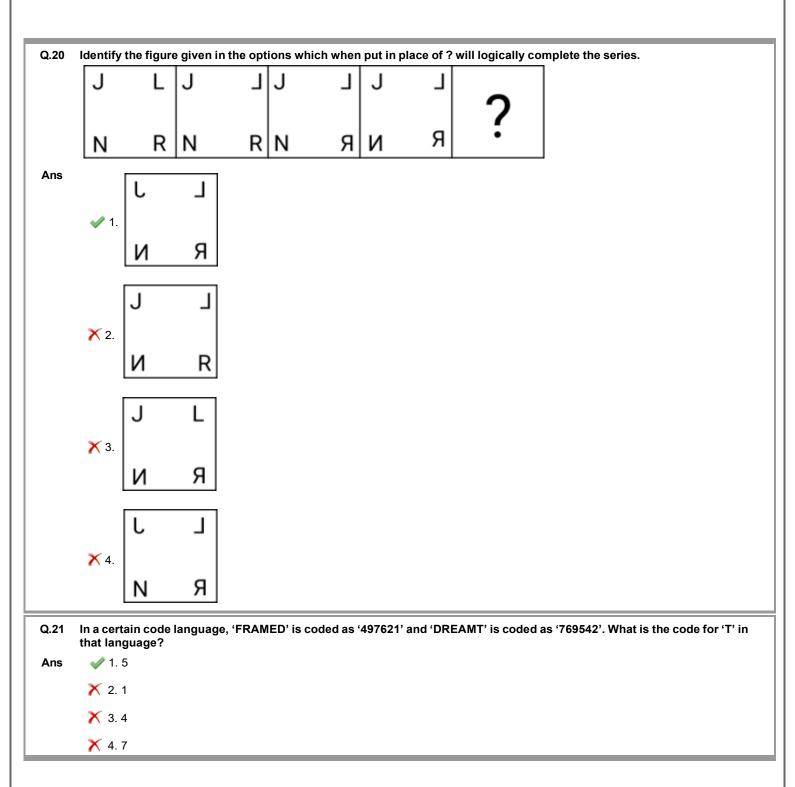
Ans

1. Only conclusion I follows.

2. Both conclusions I and II follow.

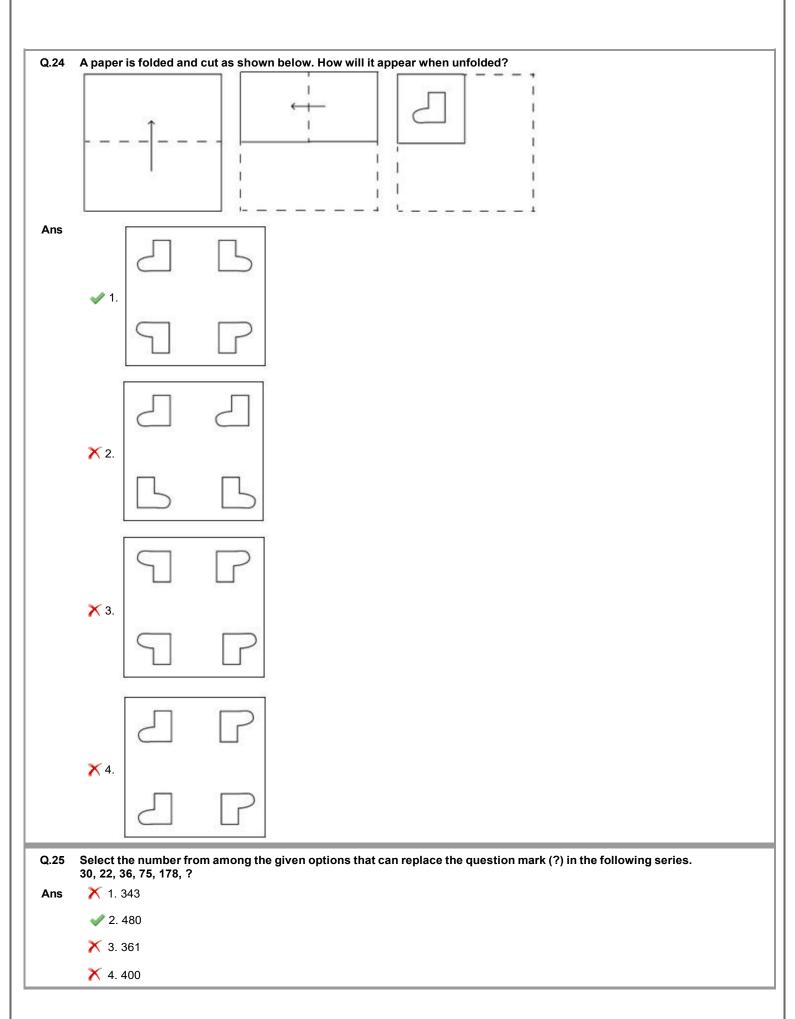
3. Neither conclusion I nor II follows.

4. Only conclusion II follows.



Q.22	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 conclusions logically follows/follow from the statements.  Statements: All red are green. All green are pink. No pink is blue. Conclusions: I. No green is blue. II. Some blue are red.
Ans	★ 1. Only conclusion II follows.
	X 2. Neither conclusion I nor II follows.
	3. Only conclusion I follows.
	X 4. Both conclusions I and II follow.
Q.23	The position of how many letters will remain unchanged if each of the letters in the word 'SPIDER' is arranged in the English
	alphabetical order?
Ans	X 1. Three
	X 2. None

✗ 3. Two✓ 4. One



Ans	Q.1	Which part of Indian Constitution deals with the election of the Vice President?		
X 3. Part VI	Ans	X 1. Part IV		
Q.2 In which of the following games is the 'Baulk Line' used?  Ans		× 2. Part III		
Q.2 In which of the following games is the 'Baulk Line' used?  Ans		X 3. Part VI		
Ans		✓ 4. Part V		
Ans				
X 2. Badminton X 3. Tennis X 4. Kho-Kho  Q.3 Whilch of the following statements is NOT correct?  Ans X 1. Light year is the unit of distance. X 2. Light year is the distance travelled by light in one year. 3. Light year is the unit of time. X 4. Angstrom is unit of length.  Q.4 What is the economic justification for subsidies in the agriculture sector?  Ans X 1. It is mostly used to provide benefits for rich farmers. X 2. It is a part of government expenditure in the service sector. 3. It is an incentive to provide the benefits of advanced technology and decrease the cost of production. X 4. It is used to provide benefits for capital goods producers in agriculture.  Q.5 The Environment (Protection) Act, 1986 empowers the	Q.2			
X 3. Tennis X 4. Kho-Kho  Q.3 Which of the following statements is NOT correct?  Ans X 1. Light year is the unit of distance. X 2. Light year is the unit of lime. X 4. Angstrom is unit of length.  Q.4 What is the economic justification for subsidies in the agriculture sector?  Ans X 1. It is mostly used to provide benefits for rich farmers. X 2. It is a part of government expenditure in the service sector.  Ø 3. It is an incentive to provide the benefits of advanced technology and decrease the cost of production. X 4. It is used to provide benefits for capital goods producers in agriculture.  Q.5 The Environment (Protection) Act, 1986 empowers the to establish authorities charged with the mandate of preventing environmental pollution in all its forms.  Ans X 1. State Government Ø 2. Central Government X 3. Supreme Court X 4. local municipalities  Q.6 Which of the following Articles and Parts of the Indian Constitution deal with the State Legislature?  Ans X 1. Articles 214 to 231 in Part VI Ø 2. Articles 168 to 212 in Part VI A. Articles 79 to 122 in Part V  Q.7 The upper portion of the Earth is known as:	Ans	·		
Ans				
O.3 Which of the following statements is NOT correct?  Ans				
Ans		X 4. Kho-Kho		
X 2. Light year is the distance travelled by light in one year.    3. Light year is the unit of time.  X 4. Angstrom is unit of length.  Q.4 What is the economic justification for subsidies in the agriculture sector?  X 1. It is mostly used to provide benefits for rich farmers.  X 2. It is a part of government expenditure in the service sector.  3. It is an incentive to provide the benefits of advanced technology and decrease the cost of production.  X 4. It is used to provide benefits for capital goods producers in agriculture.  Q.5 The Environment (Protection) Act, 1986 empowers theto establish authorities charged with the mandate of preventing environmental pollution in all its forms.  Ans X 1. State Government  3. Supreme Court  4. Iocal municipalities  Q.6 Which of the following Articles and Parts of the Indian Constitution deal with the State Legislature?  Ans X 1. Articles 214 to 231 in Part VI  3. Articles 243 to 243-0 in Part IX  4. Articles 79 to 122 in Part V  Q.7 The upper portion of the Earth is known as:	Q.3	Which of the following statements is NOT correct?		
<ul> <li></li></ul>	Ans	🗡 1. Light year is the unit of distance.		
<ul> <li>Q.4 What is the economic justification for subsidies in the agriculture sector?</li> <li>Ans</li></ul>		X 2. Light year is the distance travelled by light in one year.		
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Ans		X 4. Angstrom is unit of length.		
<ul> <li>X 2. It is a part of government expenditure in the service sector.</li> <li></li></ul>	Q.4	What is the economic justification for subsidies in the agriculture sector?		
	Ans	↑ 1. It is mostly used to provide benefits for rich farmers.		
Q.5 The Environment (Protection) Act, 1986 empowers the		X 2. It is a part of government expenditure in the service sector.		
Q.5 The Environment (Protection) Act, 1986 empowers the		3. It is an incentive to provide the benefits of advanced technology and decrease the cost of production.		
preventing environmental pollution in all its forms.  Ans		X 4. It is used to provide benefits for capital goods producers in agriculture.		
<ul> <li>✓ 2. Central Government</li> <li>✗ 3. Supreme Court</li> <li>✗ 4. local municipalities</li> </ul> Q.6 Which of the following Articles and Parts of the Indian Constitution deal with the State Legislature? Ans <ul> <li>✗ 1. Articles 214 to 231 in Part VI</li> <li>✓ 2. Articles 168 to 212 in Part VI</li> <li>✗ 3. Articles 243 to 243-O in Part IX</li> <li>✗ 4. Articles 79 to 122 in Part V</li> </ul> Q.7 The upper portion of the Earth is known as:	Q.5			
<ul> <li>X 3. Supreme Court</li> <li>X 4. local municipalities</li> <li>Q.6 Which of the following Articles and Parts of the Indian Constitution deal with the State Legislature?</li> <li>Ans X 1. Articles 214 to 231 in Part VI</li> <li>Q.2. Articles 168 to 212 in Part VI</li> <li>X 3. Articles 243 to 243-O in Part IX</li> <li>X 4. Articles 79 to 122 in Part V</li> <li>Q.7 The upper portion of the Earth is known as:</li> </ul>	Ans	★ 1. State Government		
<ul> <li>Q.6 Which of the following Articles and Parts of the Indian Constitution deal with the State Legislature?</li> <li>Ans</li></ul>		√ 2. Central Government		
Q.6 Which of the following Articles and Parts of the Indian Constitution deal with the State Legislature?  Ans 1. Articles 214 to 231 in Part VI  2. Articles 168 to 212 in Part VI  3. Articles 243 to 243-O in Part IX  4. Articles 79 to 122 in Part V  Q.7 The upper portion of the Earth is known as:		X 3. Supreme Court		
Ans		X 4. local municipalities		
<ul> <li>2. Articles 168 to 212 in Part VI</li> <li>3. Articles 243 to 243-O in Part IX</li> <li>4. Articles 79 to 122 in Part V</li> </ul> Q.7 The upper portion of the Earth is known as:	Q.6	Which of the following Articles and Parts of the Indian Constitution deal with the State Legislature?		
X 3. Articles 243 to 243-O in Part IX  A. Articles 79 to 122 in Part V  Q.7 The upper portion of the Earth is known as:	Ans	★ 1. Articles 214 to 231 in Part VI		
<ul> <li>4. Articles 79 to 122 in Part V</li> <li>Q.7 The upper portion of the Earth is known as:</li> </ul>		2. Articles 168 to 212 in Part VI		
Q.7 The upper portion of the Earth is known as:		X 3. Articles 243 to 243-O in Part IX		
		X 4. Articles 79 to 122 in Part V		
Ans X 1. Stratosphere	Q.7	The upper portion of the Earth is known as:		
	Ans	★ 1. Stratosphere		
× 2. Troposphere		× 2. Troposphere		
3. Lithosphere		√ 3. Lithosphere		
X 4. Mesosphere		X 4. Mesosphere		

Section : General Awareness

Q.8	Match the following social refe	orm organisations with their respective founders.
	Social reform organisations	Their founders
	a) Brahmo Samaj	i. Swami Vivekanand
	b) Ramakrishna Mission	ii. Atmaram Pandurang
	c) Prarthana Samaj	iii. Raja Ram Mohan Roy
	d) Arya Samaj	iv. Dayananda Saraswati
Ans	X 1. a-ii, b-iii, c-iv, d-i	
	✓ 2. a-iii, b-i, c-ii, d-iv	
	X 3. a-iv, b-iii, c-ii, d-i	
	X 4. a-i, b-ii, c-iv, d-iii	
Q.9	In West Bengal, how many rice crops are	grown in a year?
Ans	√ 1. Three	
	× 2. Two	
	X 3. Four	
	X 4. One	
Q.10	Which of the following sectors in India fac	ces seasonal unemployment?
Ans	1. Agriculture	
	X 2. Manufacturing	
	X 3. Medical	
	X 4. Information technology	
Q.11	The revolution of 1857 started in May from	n which of the following cantonments in India?
Ans	🗡 1. Kanpur	
	X 2. Jhansi	
	X 3. Lucknow	
	4. Meerut	
Q.12	Which of the following is a characteristic	of both mammals and birds?
Ans	1. Viviparity	
	X 2. Pigmented skin	
	X 3. Pneumatic bones	
	4. Warm blooded	
Q.13		aq founded which of the following new ministries?
Ans	X 1. Diwan-i-Arz	
	✓ 2. Diwan-i Amir-i kohi	
	X 3. Diwan-i-Insha	
	X 4. Diwan-i-Risalat	

F

H

H

Q.14	In the context of cell division, which chromosomal behaviour takes place at the leptotene stage?
Ans	★ 1. Chromosomes are un-synapsed
	X 2. Synapsis is complete
	X 3. Homologous chromosomes pair
	✓ 4. Chromosomes begin to condense
Q.15	Arvind Parikh, a Padma Bhushan awardee, plays which of the following musical instruments?
Ans	√ 1. Sitar
	X 2. Bansuri
	🔀 3. Tabla
	× 4. Sarangi
Q.16	Which playback singer was honoured with the Nightingale of Asia Award in 1987?
Ans	★ 1. Pulapaka Susheela
	✓ 2. Asha Bhosle
	X 3. Mubarak Begum
	X 4. Kavita Krishnamurthy
Q.17	How many carbon dioxide and water molecules will be there in the product side, if the following equation is made balanced? C <sub>2</sub> H <sub>5</sub> OH+O <sub>2</sub> →CO <sub>2</sub> +H <sub>2</sub> O
Ans	X 1. 3 and 6, respectively
	X 2. 1 and 1, respectively
	X 4. 3 and 2, respectively
Q.18	'Kuki dance' is a folk dance of India that is predominantly performed in
Ans	✓ 1. Nagaland
	🔀 2. Karnataka
	X 3. Uttar Pradesh
	🔀 4. Rajasthan
Q.19	The term 'Microfinancing' was first used in the 1970s during the development of Grameen Bank of Bangladesh, which was founded by
Ans	✓ 1. Muhammad Yunus
	× 2. Adam Smith
	X 3. Jeremy Bentham
	X 4. Alfred Marshall
Q.20	Nirupama Sanjeev is a famousplayer of India?
Ans	X 1. badminton
	× 2. swimming
	√ 3. tennis
	X 4. chess

	× 2. Parameswaravarman
	X 3. Simhavarman
	<ul><li>4. Narasimhavarman</li></ul>
Q.22	Who among the following famous badminton players won Singapore Open 2022?
Ans	🗡 1. Aparna Popat
	🔀 2. Saina Nehwal
	🔀 3. Jwala Gutta
	√ 4. PV Sindhu
Q.23	The 'Lokranjan' festival celebrates the folk and tribal culture of which Indian state?
Ans	✓ 1. Madhya Pradesh
	🔀 2. Jharkhand
	X 3. Manipur
	X 4. Meghalaya
Q.24	Which of the following are enumerated in Part IV of the Indian Constitution, from Articles 36 to 51?
Ans	X 1. Fundamental Rights
	× 2. Fundamental Duties
	3. Directive Principles of State Policy
	X 4. the Union
Q.25	The Gandak river is a tributary of which river?
Ans	🗡 1. Yamuna river

Who among the following Pallava kings occupied Vatapi (Badami) and defeated the Chalukyas?

Section: Quantitative Aptitude

2. Ganga river3. Kaveri river

X 4. Brahmaputra river

Q.21

Ans

🗡 1. Sivaskanda Varman

## Q.1 Annual income of five schools (in lakhs)

Source of	Schools					
Income	X	Y	Z	U	V	
Tuition Fee	13	26	15	17	16	
Semester Fee	43	56	39	89	59	
Donation	14	17	14	50	19	
Miscellaneous	25	18	29	13	23	
Total	95	117	97	169	117	

In case of how many schools, the income by semester fee, is less than three times of donation?

Ans

**1.2** 

X 2. 5

**X** 3. 4

**X** 4. 3

Q.2 Study the given table and answer the question that follows.

The following table shows the percentage distribution of students in four different schools during the years 2021-22.

	Schools				
Year	School 1	School 2	School 3	School 4	
2021	28	25	24	23	
2022	27	28	23	22	

If there was a total number of 16,000 and 18,000 students during the years 2021 and 2022 respectively, then the difference in number of students in school 4 in 2022 with respect to 2021 is:

Ans

X 1. 240

**2. 280** 

**X** 3. 180

**X** 4. 380

- Q.3 For triangles, which of the following statement(s) are true?
  - (a) Sum of interior angles is 180°.
  - (b) All interior angles can't be equal.
  - (c) Can have at the most one obtuse angle.
  - (d) Sum of two sides may or may not be equal to the third side.

Ans

X 1. (a) and (b)

X 2. (b), (c) and (d)

X 3. (a), (b) and (d)

4. (a) and (c)

Q.4	One pipe can fill a tank four times as fast as another pipe. If together the two pipes can fill the tank in 48 minutes, the slower pipe alone will be able to fill the tank in:
Ans	★ 1. 192 minutes
	× 2. 288 minutes
	√ 3. 240 minutes
	X 4. 144 minutes
Q.5	A number whose fifth part increased by 5 is equal to its third part decreased by 7. Find half of the number.
Ans	√ 1. 45
	× 2. 150
	× 3.80
	<b>★</b> 4.60
Q.6	What is the total surface area of a cone whose curved surface area is 550 cm <sup>2</sup> and
	radius is 7 cm? (Take $\pi = \frac{22}{7}$ )
Ans	7 / 1. 764.71 cm <sup>2</sup>
70	✓ 2. 704.00 cm <sup>2</sup>
	X 3. 682.60 cm <sup>2</sup>
	X 4. 714.05 cm <sup>2</sup>
	4. 7 14.05 CIII
Q.7	Two successive percentage decrease of 25% each is by what percentage less than two successive percentage increase of 25% each? (Round to two decimal places.)
Ans	X 1. 50%
	× 2. 43.75%
	√ 3. 22.22%
	<ul><li>✓ 3. 22.22%</li><li>✗ 4. 56.25%</li></ul>
Q.8	
Q.8 Ans	<b>★</b> 4. 56.25%
	X 4. 56.25%  If (48°+ k) is an acute angle and sin(48°+ k) = cos13°, what is the value of k(in °)?
	<ul> <li>★ 4. 56.25%</li> <li>If (48°+ k) is an acute angle and sin(48°+ k) = cos13°, what is the value of k(in °)?</li> <li>★ 1. 17</li> </ul>
	<ul> <li>★ 4. 56.25%</li> <li>If (48°+ k) is an acute angle and sin(48°+ k) = cos13°, what is the value of k(in °)?</li> <li>★ 1. 17</li> <li>★ 2. 23</li> </ul>
	\( \times 4. \) 56.25%  If (48°+ k) is an acute angle and \( \sin(48°+ k) = \cos13°, \) what is the value of k(in °)?      \( \times 1. \) 17      \( \times 2. \) 23      \( \times 3. \) 29      \( \times 4. \) 37  If the angles of a triangle are in the ratio 7: 8: 3, then the value of the largest angle is:
Ans	If (48°+ k) is an acute angle and sin(48°+ k) = cos13°, what is the value of k(in°)? X 1. 17 X 2. 23 X 3. 29 X 4. 37 If the angles of a triangle are in the ratio 7:8:3, then the value of the largest angle is: X 1. 120°
Ans	X 4. 56.25%  If (48°+ k) is an acute angle and sin(48°+ k) = cos13°, what is the value of k(in °)?     X 1. 17     X 2. 23     ✓ 3. 29     X 4. 37  If the angles of a triangle are in the ratio 7 : 8 : 3, then the value of the largest angle is:     X 1. 120°     ✓ 2. 80°
Ans	If (48°+ k) is an acute angle and sin(48°+ k) = cos13°, what is the value of k(in°)? X 1. 17 X 2. 23 X 3. 29 X 4. 37 If the angles of a triangle are in the ratio 7:8:3, then the value of the largest angle is: X 1. 120°

Q.10

Evaluate the given expression.  $\frac{5}{1+cot^2\theta}+\frac{3}{1+tan^2\theta}+2cos^2\theta$ 

Ans

**X** 1. 0

**X** 2. 3

**4** 3. 5

**X** 4. 2

Q.11 Study the below table and answer the question that follows.

	2017	2018	2019	2020	2021
Company P	2000	4000	2000	3000	4000
Company Q	1500	3000	1500	3000	3000
Company R	1400	2000	2000	3000	3000

For which of the following pairs of years are the total exports from the three companies together, equal?

Ans

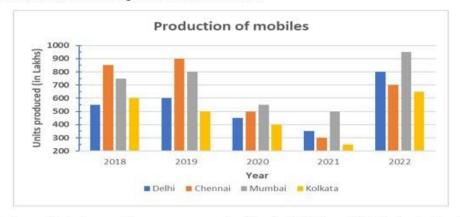
X 1. 2020 and 2021

X 2. 2018 and 2019

X 3. 2017 and 2018

4. 2018 and 2020

Q.12 The following figure shows the production of mobiles in lakh units of four cities in different years. Study the figure and answer the question that follows.



What is the ratio between the average production in Delhi and Kolkata during the period of 2019 to 2022?

Ans

X 1. 13 : 9

**X** 2. 13 : 7

X 3. 11:7

**4**. 11 : 9

Q.13	In a room, there are some chairs and some people. If on each chair, only one person is seated, then there is no chair for exactly one person. If on each chair, two persons sit, then there is one vacant chair. What is the number of chairs in the room?
Ans	<b>X</b> 1. 7
	<b>★</b> 2.4
	<b>✓</b> 3. 3
	<b>★</b> 4.6
Q.14	A person first increases the price of a commodity by 8% and then he announces a discount of 18%. The actual discount (in%) on the original price is:
Ans	✓ 1. 11.44
	× 2. 14.44
	× 3. 9.44
	× 4. 8.44
Q.15	Two athletes are participating in a race on a circular track of 220 m. Ravi runs at the speed of 22 m/s, while Kapil runs at the speed of 11 m/s. They start from the same point, at the same time and in the same direction. After how many seconds will they meet for the first time?
Ans	X 1. 15 seconds
	× 2. 16 seconds
	√ 3. 20 seconds
	X 4. 24 seconds
Q.16	If books bought at prices ranging from ₹200 to ₹260 are sold at prices ranging from ₹250 to 300, what is the greatest possible profit that might be made in selling 25 books?
Ans	<b>X</b> 1. ₹2,300
	<b>√</b> 2. ₹2,500
	<b>×</b> 3. ₹1,800
	<b>X</b> 4. ₹2,700
Q.17	Three people, A, B and C, invest in a business in the ratio 2 : 3 : 5. It was decided that 9% of the profits will go to charity. If the total profit was ₹2,50,000, then find the share of C in the profit (in ₹).
Ans	<b>X</b> 1. 1,26,950
	× 2. 1,11,650
	× 3. 1,21,850
	<b>√</b> 4. 1,13,750
Q.18	In a class of 150 students (boys and girls only), the girls are 60. The average weight of boys is 52 kg and that of girls is 48 kg. What is the average weight (in kg) of the whole class?
Ans	√ 1. 50.4
	× 2.48.8
	<b>★</b> 3. 49.6
	<b>★</b> 4. 51.2

Q.19

If  $\frac{3(16^3-6^3)}{(16^2+6^2+Q)} = 30$ , then find the value of Q.

Ans

**1.96** 

**X** 2. 98

**X** 3. 112

**X** 4. 108

 $\triangle$ ABC is a right-angled triangle with  $\angle$ ABC = 90°. If m( $\overline{AB}$ ) = 28 cm, and m( $\overline{BC}$ ) =

96 cm, find the area (in cm<sup>2</sup>) of the circumcircle of  $\triangle$ ABC. (Use  $\pi = 3.14$ .)

Ans

**1.** 7,850

X 2. 8,164

**X** 3. 7,693

X 4. 7,536

Q.21 If ₹1,875 becomes ₹2,625 in 4 years, what will ₹24,000 become at the end of 9 years at the same rate of interest, under simple interest?

Ans

1. ₹45,600

**X** 2. ₹21,600

**X** 3. ₹34,800

X 4. ₹43,200

Q.22 If A is an acute angle and tanA + cotA = 2, find the value of  $7tan^8A - 6cot^8A + 8sec^2A$ .

Ans

X 1. 6

**2**. 17

X 3. 16

**X** 4. 7

Q.23 Given a linear equation in two variables: 5x + 7y - 8 = 0, which of the following linear equations, along with the given equation, forms a system of linear equations having no solution?

Ans

1. 5x + 7y - 16 = 0

X 2. 7x + 5y - 8 = 0

X 3. 5x - 7y - 8 = 0

X 4. 10x + 14y - 16 = 0

Q.24 Find the remainder when  $9^{20} + 2$  is divided by 4.

Ans

X 1. 1

**2**. 3

**X** 3. 0

**X** 4. 2

Q.25	From a point A, which is at a distance of 17 cm from the centre C of a circle with radius 8 cm, the pair of tangents AB and AD to the circle are drawn. The area of the quadrilateral ABCD iscm <sup>2</sup> .
Ans	X 1. 192
	<b>✓</b> 2. 120
	× 3. 60
	× 4. 360
Section	English Comprehension
Q.1	Select the most appropriate ANTONYM to replace the word in brackets.
	The author's writing was so captivating that readers were [enthralled], while the other book left them completely uninterested.
Ans	X 1. interested
	X 2. agreement
	√ 3. bored
	X 4. intrigued
Q.2	Select the most appropriate ANTONYM of the underlined word in the given sentence.
Q.2	This library building is very <u>high</u> and has 25 floors.
Ans	√ 1. Low
	× 2. Sturdy
	X 3. Hale
	X 4. Elevated
Q.3	In the given question, a statement divided into different segments is given. Rearrange all the segments to form a coherent statement.  O: that the Soviet army had liberated P: from the fascist forces came under Q: the east European countries R: the control of the USSR S: after the Second World War
Ans	★ 1. SROPQ
	× 2. POQSR
	X 3. POSQR
	√ 4. SQOPR
Q.4	Select the most appropriate option to substitute the underlined segment in the given sentence. Ranveer never has the habit of <u>making a beeline</u> for his academic activities.
Ans	★ 1. behaving abnormally
	X 2. selecting inconsiderately
	3. going straight and quick
	X 4. immediately responding to things

Q.5	Select the option that expresses the given sentence in passive voice.
	Rohit did not slap Kunal.
Ans	★ 1. Kunal was not being slapped by Rohit.
	× 2. Kunal had not been slapped by Rohit.
	★ 4. Kunal has not been slapped by Rohit.
Q.6	Select the most appropriate meaning of the underlined idiom. The company understood that these small protests of employees regarding low wages were just the tip of the iceberg.
Ans	★ 1. A small, noticeable part of a problem, the total size of which is non-existent
	∑ 2. A small, noticeable part of a problem, the total size of which is solvable
	★ 3. A large part of a problem which is really noticeable
	√ 4. A small, noticeable part of a problem, the total size of which is really much greater  √ 4. A small, noticeable part of a problem, the total size of which is really much greater  √ 4. A small, noticeable part of a problem, the total size of which is really much greater  √ 4. A small, noticeable part of a problem, the total size of which is really much greater  √ 4. A small, noticeable part of a problem, the total size of which is really much greater  √ 4. A small, noticeable part of a problem, the total size of which is really much greater  √ 4. A small, noticeable part of a problem, the total size of which is really much greater  √ 4. A small, noticeable part of a problem, the total size of which is really much greater  √ 4. A small of the first of t
<b>Q.7</b>	Given below are four jumbled sentences. Select the option that gives their correct logical sequence.
	A. The world's biggest radio telescope is in Puerto Rico. B. It is called Arecibo dish.
	C. It was built 40 years ago.
Ans	D. It is also 300 metres across.
Alls	× 2. CBDA
	X 3. DCAB
	X 4. DCBA
	T. DODA
Q.8	Select the option that can be used as a one-word substitute for the given group of words. One who looks at the bright side of things/situations
Ans	🔀 1. Saint
	✓ 2. Optimist
	X 3. Pessimist
	X 4. Scientist
Q.9	Select the INCORRECTLY spelt word.
Ans	<ul><li>✓ 1. Recieve</li><li>X 2. Necessary</li></ul>
	X 3. Possession
	X 4. Accommodate
Q.10	Select the option that expresses the given sentence in passive voice. Will you give me an independent project?
Ans	★ 1. Will you be given an independent project by me?
	× 2. Would an independent project be given?
	X 3. Would I be given an independent project?
	✓ 4. Will I be given an independent project by you?

Q.11	Select the most appropriate option that can substitute the underlined segment in the given sentence. The chair I have bought recently <u>is cost</u> ly than what I bought last year.
Ans	X 1. is the costliest
	✓ 2. is costlier
	X 3. was costly
	X 4. will be costly
Q.12	Select the most appropriate verb / verb phrase to fill in the blank.
Ans	Akshayahard for the entrance exam and received a high score.  X 1. studies
-	× 2. has studied
	X 3. was studied
	✓ 4. studied
	· ·
Q.13	Select the option that can be used as a one-word substitute for the underlined group of words. His parents didn't allow him to enrol in the arts college because he is a <u>dabbler in arts, science or literature.</u>
Ans	➤ 1. Connoisseur
	× 2. Taciturn
	✓ 3. Dilettante
	X 4. Ignoramus
Q.14	Select the most appropriate synonym of the underlined word.
	He was the most <u>honest</u> and good-hearted man that she had ever met.
Ans	★ 1. Deceptive
	✓ 2. Sincere
	X 3. Biased
	X 4. Fake
Q.15	Select the most appropriate ANTONYM of the underlined word in the following sentence.
	I do not have any <u>access</u> to the information in this matter.
Ans	X 1. Doubt
	X 2. Reach
	X 3. Clue
	✓ 4. Denial
Q.16	Parts of the following sentence have been given as options. Select the option that contains an error.  The teacher asked him not to keep disturbing the class, but it had no affect.
Ans	✓ 1. but it had no affect.
-	× 2. him not to keep
	X 3. disturbing the class,
	X 4. The teacher asked

Q.17	Select the most appropriate ANTONYM of the given word. Profuse
Ans	√ 1. Scarce
	× 2. Humble
	X 3. Prompt
	X 4. Just
Q.18	Select the most appropriate synonym of the underlined word in the given sentence.  Even when he was left with plenty of fortune, he lived a <u>frugal</u> life.
Ans	√ 1. Thrifty
	× 2. Purposeless
	X 3. Extraordinary
	X 4. Hardworking
Q.19	Select the most appropriate option that can substitute the underlined segment in the given sentence.
	RN Right's literary works helped redefine discussions <u>in race relations in America</u> in the mid-20th century.
Ans	★ 1. by race relations in America
	X 2. beside race relations in America
	X 3. to race relations in America
	√ 4. of race relations in America
Q.20	Select the sentence that contains a spelling error.
Ans	↑ 1. Researchers recommend that pesticides should not be used indiscriminately as they eliminate biodiversity for future generations.
	√ 2. Journalism is often the work of painstaking rigour and perseverence that detail the socio-political experiences of our worlds.
	→ 3. The venerated singer was also secretive, moody and very intense, famous for erratic and difficult behaviour
	★ 4. Elephants are in trouble mainly because people desire ivory trinkets that are made of tusks, often gruesomely killing them to achieve their purpose.
	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.
	2022 sees us entering a third year of the pandemic, and the harm 1children is increasingly evident: A record rise in child poverty. Setbacks to progress on 2vaccinations. Disruption to education for entire generation. That harm 3as an unintended side effect of the world's efforts to manage the crisis. COVID has been a uniquely dis-equalizing crisis. Lopsided 4vaccines aside, learning losses have been greatest among poorest children, and job losses have been disproportionately borne by women and youth. What next for the world's children in the year ahead? As in the past two years, prospects for children will continue to hinge 5 on the pandemic and how it is managed.
	SubQuestion No : 21
Q.21	Select the most appropriate option to fill in blank No. 1.
Ans	X 1. did to
	2. done to
	X 3. does to
	X 4. seems to

	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.
	2022 sees us entering a third year of the pandemic, and the harm 1children is increasingly evident: A record rise in child poverty. Setbacks to progress on 2vaccinations. Disruption to education for entire generation. That harm 3as an unintended side effect of the world's efforts to manage the crisis. COVID has been a uniquely dis-equalizing crisis. Lopsided 4vaccines aside, learning losses have been greatest among poorest children, and job losses have been disproportionately borne by women and youth. What next for the world's children in the year ahead? As in the past two years, prospects for children will continue to hinge 5 on the pandemic and how it is managed.
	SubQuestion No : 22
Q.22	Select the most appropriate option to fill in blank No. 2.
Ans	X 1. different
	X 2. irregular
	3. routine
	× 4. similar
	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.
	2022 sees us entering a third year of the pandemic, and the harm 1children is increasingly evident: A record rise in child poverty. Setbacks to progress on 2vaccinations. Disruption to education for entire generation. That harm 3as an unintended side effect of the world's efforts to manage the crisis. COVID has been a uniquely dis-equalizing crisis. Lopsided 4vaccines aside, learning losses have been greatest among poorest children, and job losses have been disproportionately borne by women and youth. What next for the world's children in the year ahead? As in the past two years, prospects for children will continue to hinge 5 on the pandemic and how it is managed.
	SubQuestion No : 23
Q.23	Select the most appropriate option to fill in blank No. 3.
Ans	★ 1. had emerged
	√ 2. has emerged
	X 3. have emerged
	X 4. was emerged
	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.
	2022 sees us entering a third year of the pandemic, and the harm 1children is increasingly evident: A record rise in child poverty. Setbacks to progress on 2vaccinations. Disruption to education for entire generation. That harm 3as an unintended side effect of the world's efforts to manage the crisis. COVID has been a uniquely dis-equalizing crisis. Lopsided 4vaccines aside, learning losses have been greatest among poorest children, and job losses have been disproportionately borne by women and youth. What next for the world's children in the year ahead? As in the past two years, prospects for children will continue to hinge 5 on the pandemic and how it is managed.
	SubQuestion No : 24
Q.24	Select the most appropriate option to fill in blank No. 4.
Ans	X 1. keeps to
	2. access to
	X 3. seems to
	X 4. assess to

	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.
	2022 sees us entering a third year of the pandemic, and the harm 1children is increasingly evident: A record rise in child poverty. Setbacks to progress on 2vaccinations. Disruption to education for entire generation. That harm 3as an unintended side effect of the world's efforts to manage the crisis. COVID has been a uniquely dis-equalizing crisis. Lopsided 4vaccines aside, learning losses have been greatest among poorest children, and job losses have been disproportionately borne by women and youth. What next for the world's children in the year ahead? As in the past two years, prospects for children will continue to hinge 5 on the pandemic and how it is managed.
	SubQuestion No : 25
Q.25	Select the most appropriate option to fill in blank No. 5.
Ans	X 1. almost
	× 2. minor
	√ 3. foremost
	× 4. most