

New

PINNACLE

2nd Edition

SSC CGL 2024

Extending your Pinnacle 4th edition Books

39 Sets

Solved Papers

English Medium

Exam Conducted During

14th July -27th July 2023: CGL Tier 1

Maths | English | Reasoning | GS

Useful for SSC CGL Tier2, Tier1, Selection Posts,
SSC CHSL, Tier1, Tier 2, MTS, Delhi Police, SSC GD, Steno

INDEX

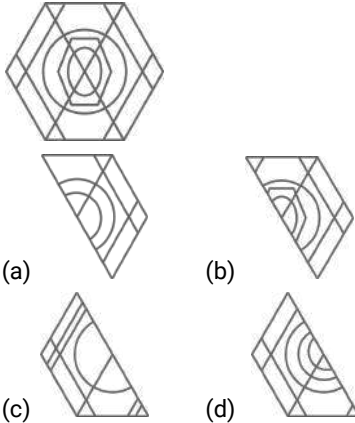
S.N.	Exam Name	Shift Date & Time	Page No.	Level of difficulty
1.	SSC CGL 2023 TIER 1	14/07/2023 (1st Shift)	01 - 10	MODERATE
2.	SSC CGL 2023 TIER 1	14/07/2023 (2nd Shift)	10 - 20	HARD
3.	SSC CGL 2023 TIER 1	14/07/2023 (3rd Shift)	20 - 30	HARD
4.	SSC CGL 2023 TIER 1	14/07/2023 (4th Shift)	30 - 39	MODERATE
5.	SSC CGL 2023 TIER 1	17/07/2023 (1st Shift)	39 - 48	MODERATE
6.	SSC CGL 2023 TIER 1	17/07/2023 (2nd Shift)	48- 58	MODERATE
7.	SSC CGL 2023 TIER 1	17/07/2023 (3rd Shift)	58 - 67	EASY
8.	SSC CGL 2023 TIER 1	17/07/2023 (4th Shift)	67 - 77	MODERATE
9.	SSC CGL 2023 TIER 1	18/07/2023 (1st Shift)	77 - 87	MODERATE
10.	SSC CGL 2023 TIER 1	18/07/2023 (2nd Shift)	87 - 96	EASIEST
11.	SSC CGL 2023 TIER 1	18/07/2023 (3rd Shift)	97- 106	HARD
12.	SSC CGL 2023 TIER 1	18/07/2023 (4th Shift)	106 - 116	MODERATE
13.	SSC CGL 2023 TIER 1	19/07/2023 (1st Shift)	116 - 126	EASY
14.	SSC CGL 2023 TIER 1	19/07/2023 (2nd Shift)	126 - 136	HARD
15.	SSC CGL 2023 TIER 1	19/07/2023 (3rd Shift)	136 - 146	MODERATE
16.	SSC CGL 2023 TIER 1	19/07/2023 (4th Shift)	146 - 155	HARD
17.	SSC CGL 2023 TIER 1	20/07/2023 (1st Shift)	155 - 165	MODERATE
18.	SSC CGL 2023 TIER 1	20/07/2023 (2nd Shift)	165 - 175	MODERATE
19.	SSC CGL 2023 TIER 1	20/07/2023 (3rd Shift)	175 - 184	EASY
20.	SSC CGL 2023 TIER 1	20/07/2023 (4th Shift)	184 - 194	MODERATE
21.	SSC CGL 2023 TIER 1	21/07/2023 (1st Shift)	195 - 205	MODERATE
22.	SSC CGL 2023 TIER 1	21/07/2023 (2nd Shift)	205 - 215	MODERATE
23.	SSC CGL 2023 TIER 1	21/07/2023 (3rd Shift)	215 - 225	MODERATE
24.	SSC CGL 2023 TIER 1	21/07/2023 (4th Shift)	225 - 235	MODERATE
25.	SSC CGL 2023 TIER 1	24/07/2023 (1st Shift)	235 - 245	MODERATE
26.	SSC CGL 2023 TIER 1	24/07/2023 (2nd Shift)	245 - 255	EASY

27.	SSC CGL 2023 TIER 1	24/07/2023 (3rd Shift)	255 - 265	MODERATE
28.	SSC CGL 2023 TIER 1	24/07/2023 (4th Shift)	265 - 275	HARD
29.	SSC CGL 2023 TIER 1	25/07/2023 (1st Shift)	275 - 285	HARD
30.	SSC CGL 2023 TIER 1	25/07/2023 (2nd Shift)	285 - 295	EASY
31.	SSC CGL 2023 TIER 1	25/07/2023 (3rd Shift)	296 - 305	MODERATE
32.	SSC CGL 2023 TIER 1	25/07/2023 (4th Shift)	305 - 315	HARD
33.	SSC CGL 2023 TIER 1	26/07/2023 (1st Shift)	315 - 326	HARDEST
34.	SSC CGL 2023 TIER 1	26/07/2023 (2nd Shift)	326 - 336	MODERATE
35.	SSC CGL 2023 TIER 1	26/07/2023 (3rd Shift)	336 - 345	EASY
36.	SSC CGL 2023 TIER 1	26/07/2023 (4th Shift)	346 - 355	HARD
37.	SSC CGL 2023 TIER 1	27/07/2023 (1st Shift)	355 - 365	EASY
38.	SSC CGL 2023 TIER 1	27/07/2023 (2nd Shift)	365 - 375	MODERATE
39.	SSC CGL 2023 TIER 1	27/07/2023 (3rd Shift)	375 - 384	MODERATE

SSC CGL 2023 Tier - 1
14/07/2023 (1st Shift)

Reasoning

Q.1. Select the option figure which is embedded in the given figure. (Rotation is NOT allowed).



Q.2. Select the option that represents the correct order of the given words as they would appear in an English dictionary.

1. Warriors 2. Warehouse
3. Warcraft 4. Warranty
5. Wardrobe 6. Wardenship
(a) 3, 6, 5, 2, 1, 4 (b) 3, 5, 6, 2, 1, 4
(c) 3, 5, 6, 2, 4, 1 (d) 3, 6, 5, 2, 4, 1

Q.3. Three statements are given, followed by four conclusions numbered I, II, III and IV. Assuming the statements to be true, even if they seem to be at variance with commonly known facts, decide which of the conclusions logically follow(s) from the statements.

Statements:
Some desks are trays.
Some trays are plates.
Some plates are desks.

Conclusions:
I. All desks are plates.
II. All plates are desks.
III. Some plates are trays.
IV. All trays are desks.

- (a) Only conclusion III follows
(b) Only conclusion IV follows
(c) Only conclusion II follows
(d) Only conclusion I follows

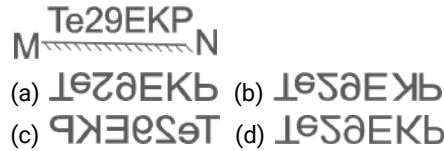
Q.4. Select the option that is related to the third word in the same way as the second word is related to the first word. (The words must be considered as meaningful English words and must not be related to each other based on the number of letters/number of consonants/vowels in the word.)
Skin : Touch :: Nose : ?

- (a) Smell (b) Taste
(c) Nose ring (d) Sweat

Q.5. Ganesh was taking a walk with his mother's brother's father's granddaughter. Who was he walking with?

- (a) Daughter (b) Mother
(c) Cousin (d) Granddaughter

Q.6. Select the correct mirror image of the given figure when the mirror is placed at MN as shown below.



Q.7. Which of the following letter-clusters will replace the question mark (?) in the given series?
UV, OY, IB, EE, ?

- (a) ZK (b) AH (c) BI (d) BH

Q.8. The second number in the given number-pairs is obtained by performing certain mathematical operation(s) on the first number. The same operation(s) is/are followed in all the number-pairs except one. Find that odd number-pair.

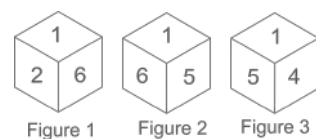
- (a) 20 : 11 (b) 6 : 4 (c) 15 : 9 (d) 12 : 7

Q.9. Select the figure that will replace the question mark (?) in the following figure series.



- (a) (b) (c) (d)

Q.10. Three different positions of the same dice are shown. Find the number on the face opposite the face showing '1'.



- (a) 6 (b) 2 (c) 3 (d) 4

Q.11. Select the set in which the numbers are related in the same way as are the numbers of the following.
(55, 11, 25)

(64, 16, 16)
(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

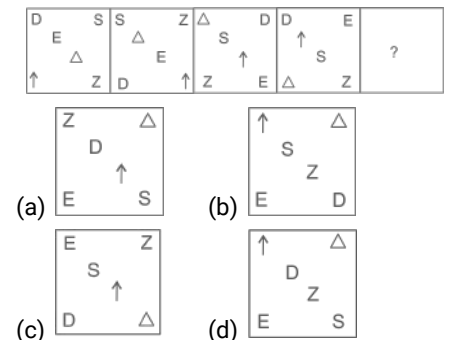
13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is NOT allowed)

- (a) (33, 11, 9) (b) (33, 11, 22)
(c) (33, 11, 3) (d) (33, 11, 10)

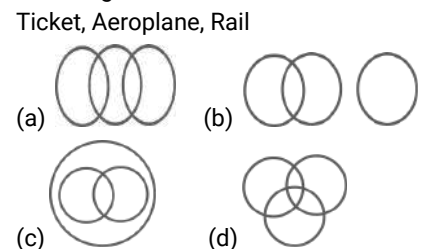
Q.12. Select the option that is related to the sixth letter-cluster in the same way as the first letter-cluster is related to the second letter-cluster and the third letter-cluster is related to the fourth letter-cluster.

HMD : KOE :: BNQ : EPR :: ? : FLV
(a) SJE (b) UJC (c) EJS (d) CJU

Q.13. Select the figure from the options that can replace the question mark (?) and complete the given pattern.



Q.14. Select the Venn diagram that best illustrates the relationship between the following classes.
Ticket, Aeroplane, Rail



Q.15. Four letter-clusters have been given, out of which three are alike in some manner and one is different. Select the odd letter-cluster.
(a) BFNJ (b) DHLPL (c) HJKP (d) JNRV

Q.16. Select the option that is related to the fifth number in the same way as the second number is related to the first number and the fourth number is related to the third number.
5 : 45 :: 3 : 3 :: 6 : ?

- (a) 90 (b) 106 (c) 110 (d) 96

Q.17. Which of the following numbers will replace the question mark (?) in the given series?
8, 15, 26, ?, 56, 75

- (a) 39 (b) 41 (c) 35 (d) 43

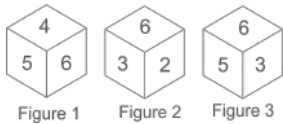
Q.18. Select the option that is related to the third term in the same way as the second term is related to the first term

and the sixth term is related to the fifth term.

7183 : 3850 :: 6957 : ? :: 8972 : 5639

(a) 3426 (b) 3624 (c) 3246 (d) 3642

Q.19. Three different positions of the same dice are shown. Find the number on the face opposite the face showing "4".



(a) 5 (b) 6 (c) 2 (d) 3

Q.20. Select the option that is related to the fifth number in the same way as the second number is related to the first number and the fourth number is related to the third number.

625 : 5 :: 2560 : 8 :: 5000 : ?

(a) 9 (b) 12 (c) 10 (d) 15

Q.21. In a certain code language, 'ASK' is written as '62' and 'BYE' is written as '64'. How will 'CRY' be written in that language?

(a) 68 (b) 72 (c) 86 (d) 92

Q.22. Select the correct combination of mathematical signs that can sequentially replace the * signs and balance the given equation.

$256 * 4 * 9 * 3 * 14 = 51$

(a) $\times + - \div$ (b) $\div \times - +$
(c) $\times \div + -$ (d) $\div - \times +$

Q.23. Select the option that represents the letters that, when placed from left to right in the following blanks, will complete the letter-series.

C L _ V E C _ _ W E C L O _ _ C _ O _ E

(a) OLPXELY (b) OLOYELZ
(c) OLOXFMY (d) OLOXELY

Q.24. In a certain code language, 'TABLE' is coded as ELEAT and 'SWING' is coded as GNLWS. How will 'FRAME' be coded in the same language?

(a) EMERF (b) EMDRF
(c) ERMDF (d) MEDFR

Q.25. Which two signs should be interchanged to make the given equation correct?

$588 \div 28 \times 32 + 72 - 160 = 760$

(a) - and + (b) \div and -
(c) + and \times (d) \div and +

General Awareness

Q.26. The length of the badminton court for singles is.

(a) 13.44 m (b) 13.55 m
(c) 14 m (d) 13.40 m

Q.27. Who is the Administrative Head of the Indian Audit and Accounts Department?

(a) Accountant General
(b) Principal Accountant General
(c) Director General
(d) The Comptroller and Auditor General

Q.28. Which of the following is the largest pan-India scheme to strengthen health care infrastructure across the country with focus on primary, secondary and tertiary care services?

(a) LaQshya (b) AB-PMJAY
(c) PM-ABHIM (d) PM-MI

Q.29. Which of the following festivals is associated with the term 'ties of protection'?

(a) Baisakhi (b) Karwa Chauth
(c) Chhath Pooja (d) Raksha Bandhan

Q.30. In October 2021, 19-year-old _____ won the silver medal at the World Wrestling Championship.

(a) Anshu Malik (b) Seema Bisla
(c) Sanju Devi (d) Sonam Malik

Q.31. _____ emerged as the poorest state as per the first-ever Multi-dimensional Poverty Index (MPI) prepared by Niti Aayog and launched in November 2021.

(a) Bihar (b) Madhya Pradesh
(c) Uttar Pradesh (d) Mizoram

Q.32. The consumption of fixed capital is also known as _____.

(a) depreciation (b) net investment
(c) appreciation (d) gross investment

Q.33. The Vedic Aryans lived in the area called Sapt-Sindhu, which means area drained by seven rivers. One of the rivers among the seven is Jhelum. What was its ancient name?

(a) Askini (b) Parushni
(c) Vipash (d) Vitasta

Q.34. In the Chola administration, _____ was the assembly in the villages which were inhabited predominantly by the Brahmanas.

(a) Ur (b) Khilya (c) Nagaram (d) Sabha

Q.35. Which of the following states is NOT a part of the Tapi Basin?

(a) Rajasthan (b) Maharashtra
(c) Madhya Pradesh (d) Gujarat

Q.36. Which of the following is used as a cooling medium for the Large Hadron Collider (LHC) and the superconducting magnets in MRI scanners and NMR spectrometers?

(a) Neon (b) Chlorine (c) Argon (d) Helium

Q.37. In 2018, Google Doodle celebrated the 100th birthday of Mrinalini Sarabhai. She is an exponent of which of the following dance forms?

(a) Bharatanatyam and Kathakali
(b) Odissi and Kathak
(c) Kuchipudi and Bharatanatyam
(d) Yakshagana

Q.38. Bharatanatyam expresses South Indian religious themes and spiritual ideas of _____.

(a) Sufism (b) Shaivism
(c) Buddhism (d) Jainism

Q.39. Who among the following musicians is popular for his mastery over the musical instrument Sitar?

(a) Ali Akbar Khan (b) Vilayat Khan
(c) Bahadur Khan (d) Amjad Ali Khan

Q.40. Which of the following countries was the host of AFC Women's Asia Cup Football-2022?

(a) Japan (b) Bangladesh
(c) India (d) China

Q.41. Ms Bhakti Pradip Kulkarni was conferred with the Arjuna Award 2022 for her outstanding contribution in which of the following sports?

(a) Table Tennis (b) Chess
(c) Badminton (d) Wrestling

Q.42. Who among the following was the founder of 'Tiger Legion' or 'Free India Legion'?

(a) Vinayak Damodar Savarkar
(b) Subhas Chandra Bose
(c) Sohan Singh Bhakhna
(d) Lala Hardayal

Q.43. Name a reproductive strategy in which parasites take advantage of the care of other individuals of the same species or different species to raise their young.

(a) Brood parasitism
(b) Sexual parasitism
(c) Klepto parasitism
(d) Competitive parasitism

Q.44. On the basis of tribal population (2011), identify the option that arranges the following states in ascending order.

A. Madhya Pradesh B. Maharashtra
C. Odisha

(a) (C), (B), (A) (b) (B), (A), (C)
(c) (C), (A), (B) (d) (B), (C), (A)

Q.45. In which industrial policy was the investment limit for a tiny industry/unit increased to ₹2 lakh?

(a) 1977 (b) 1991 (c) 1980 (d) 1956

Q.46. Which scientist thought of the concept of the steady state of the universe?

- (a) Harold Jeffrey (b) Edwin Hubble
(c) Fred Hoyle (d) Pierre-Simon Laplace

Q.47. Match the columns.

Column-A (Class)	Column-B (Common name)
i. Chlorophyceae	a. Brown algae
ii. Phaeophyceae	b. Green algae
iii. Rhodophyceae	c. Blue-green algae
iv. Cyanophyceae	d. Red algae

- (a) i-b, ii-c, iii-a, iv-d (b) i-b, ii-a, iii-d, iv-c
(c) i-d, ii-c, iii-b, iv-a (d) i-a, ii-b, iii-c, iv-d

Q.48. Ryotwari system of revenue collection in India, introduced by the British, was based on the_____.

- (a) Smith's theory of rent
(b) Ricardian theory of rent
(c) Malthusian theory of rent
(d) Marx's theory of rent

Q.49. Who received the Nobel Prize in 1901 for 'recognition of the extraordinary services rendered by the discovery of the laws of chemical dynamics and osmotic pressure in solutions'?

- (a) Hermann Emil Fischer
(b) Jacobus Henricus van 't Hoff
(c) Svante August Arrhenius
(d) Henri Moissan

Q.50. Which of the following Articles of the Indian Constitution are related to citizenship?

- (a) Articles 15 to 21 (b) Articles 5 to 11
(c) Articles 2 to 4 (d) Articles 25 to 31

Quantitative Aptitude

Q.51. If A is 95% of B, then what percent of A is B?

- (a) $110\frac{3}{19}\%$ (b) $104\frac{7}{19}\%$
(c) $108\frac{17}{19}\%$ (d) $105\frac{5}{19}\%$

Q.52. The marked price of mustard oil is 25% more than its cost price. At what percentage less than the marked price should it be sold to have no profit and no loss?

- (a) 15% (b) 20% (c) 18% (d) 22%

Q.53. A can complete a piece of work in 25 days while B can complete the same work in 30 days. They work on alternate basis, starting with A. Both A and B follow this pattern for 5 days and then A leaves the work. In how many days will B

finish the remaining work?

- (a) $24\frac{2}{5}$ (b) $5\frac{2}{5}$ (c) $5\frac{3}{5}$ (d) $24\frac{3}{5}$

Q.54. As part of his journey, a person travels 120 km at 80 km/h, the next 100 km at 40 km/h, and comes back to the starting point at 75 km/h. The average speed of the person throughout the journey (approximately) is:

- (a) 63.46 km/h (b) 58.74 km/h
(c) 68.15 km/h (d) 49.58 km/h

Q.55. 8 men can complete a work in 45 days. 8 women can complete the same work in 18 days. In how many days will 5 men and 8 women, together, complete the same work?

- (a) $13\frac{1}{5}$ (b) $12\frac{4}{5}$ (c) $14\frac{2}{5}$ (d) $15\frac{3}{5}$

Q.56. $6^{25} + 6^{26} + 6^{27} + 6^{28}$ is divisible by:

- (a) 256 (b) 254 (c) 255 (d) 259

Q.57. Study the given table and answer the question that follows.

The table shows the classification of 100 students based on the marks obtained by them in History and Geography in an examination.

Subject	Marks out of 50				
	40 and above	30 and above	20 and above	10 and above	0 and above
History	9	32	80	92	100
Geography	4	21	66	81	100
Average (Aggregate)	7	27	73	87	100

Based on the table, what is the number of students scoring less than 20% marks in aggregate?

- (a) 13 (b) 11 (c) 10 (d) 12

Q.58. Two concentric circles are of radii 10 cm and 6 cm. Find the length of the chord of the larger circle which touches the smaller circle.

- (a) 8 cm (b) 16 cm (c) 12 cm (d) 9 cm

Q.59. If $\sin(a + b) = 1$ and

$$\cos(a - b) = \frac{1}{2}, \text{ then find } a.$$

- (a) 75° (b) 30° (c) 15° (d) 45°

Q.60. A train 900 m long is running at 108 km/h. How long will it take to clear a 900 m long platform completely?

- (a) 60s (b) 45s (c) 30s (d) 18s

Q.61. If $7b - \frac{1}{4b} = 7$, then what is the

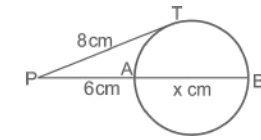
$$\text{value of } 16b^2 + \frac{1}{49b^2} ?$$

- (a) $\frac{80}{49}$ (b) $\frac{104}{7}$ (c) $\frac{120}{7}$ (d) $\frac{7}{2}$

Q.62. If $m\angle C = m\angle Z$ and $AC = XZ$, then which of the following conditions is necessary for $\triangle ABC$ and $\triangle XYZ$ to be congruent?

- (a) $AB = AC$ (b) $BC = YZ$
(c) $AB = XY$ (d) $BC = AB$

Q.63. In the given figure, PAB is a secant and PT is a tangent to the circle from P. If $PT = 8$ cm. $PA = 6$ cm and $AB = x$ cm. then the value of x is:



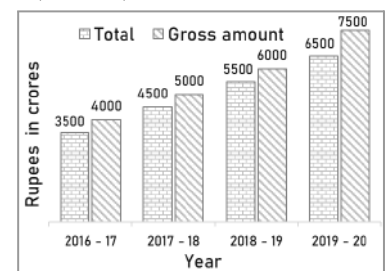
- (a) $\frac{14}{9}$ (b) $\frac{1}{3}$ (c) $\frac{14}{3}$ (d) $\frac{4}{3}$

Q.64. A shopkeeper offers the following two discount schemes.

- (A) Buy 3 get 4 free
(B) Buy 5 get 6 free
Which scheme has the maximum discount percentage?

- (a) A
(b) A does not give any discount
(c) A and B both have the same discount percentage
(d) B

Q.65. The following bar chart represents the gross amount (in lakhs) and total cost (in lakhs) of a firm.



In order to make a profit of 25%, what should the gross amount have been (in ₹ crores) in 2019-2020, if the total cost remained the same?

- (a) 7800 (b) 8000 (c) 8250 (d) 8125

Q.66. In what time will ₹10,000 at 4% per annum, produce the same interest as ₹8,000 does in 4 years at 5% simple interest?

- (a) 5 years (b) 3 years
(c) 4 years (d) 6 years

Q.67. A man, a boy and a woman can finish a work in 10 days, 15 days and 30 days, respectively. In how many days can the work be finished by a man, a woman and a boy when all of them work together?

- (a) 10 (b) 5 (c) 8 (d) 6

Q.68. If $\cos \theta = \frac{\sqrt{3}}{2}$, then $\tan^2 \theta \cos^2 \theta = ?$

(a) $\frac{1}{\sqrt{3}}$ (b) $\frac{1}{4}$ (c) $\frac{1}{2}$ (d) $\sqrt{3}$

Q.69. What is the value of $(3x^3 + 5x^2y + 12xy^2 + 7y^3)$, when $x = -4$ and $y = -1$?

- (a) -329 (b) -359 (c) -361 (d) -327

Q.70. If the four numbers, 39, 117, 17 and y are in proportion, then find the value of y .

- (a) 49 (b) 51 (c) 57 (d) 85

Q.71. The volume of a sphere of radius 4.2 cm is: (use $\pi = \frac{22}{7}$)

- (a) 278.234 cm³ (b) 312.725 cm³
(c) 297.824 cm³ (d) 310.464 cm³

Q.72. If $(a + b + c) = 16$, and $(a^2 + b^2 + c^2) = 90$, find the value of $(ab + bc + ca)$.

- (a) 84 (b) 83 (c) 82 (d) 81

Q.73. If $\left\{\left(\frac{3\sin\theta - \cos\theta}{\cos\theta + \sin\theta}\right)\right\} = 1$, then the value of $\cot\theta$ is:

- (a) 3 (b) 0 (c) 1 (d) 2

Q.74. Two runners, Sony and Mony, start running on a circular track of length 200 m at speeds of 18 and 24 km/h, respectively, in the same direction. After how much time from the start will they meet again at the starting point?

- (a) 120 sec (b) 110 sec
(c) 100 sec (d) 90 sec

Q.75. What will be the remainder when $(265)^{4081} + 9$ is divided by 266?

- (a) 8 (b) 6 (c) 1 (d) 9

English

Q.76. The following sentence has been split into four segments. Identify the segment that contains an error.

Neetu have been / waiting for me / since 10 o'clock / in the morning.

- (a) Neetu have been (b) in the morning
(c) since 10 o'clock (d) waiting for me

Q.77. Select the most appropriate ANTONYM of the underlined word.

Her dog can climb under the fence.

- (a) Over (b) Sink (c) Behind (d) Beneath

Q.78. Select the INCORRECTLY spelt word in the given sentence.

The village beggars, no longer ill at ease in the gathering of glittering dignitaries, sat in their assigned rows and joked with vegetarian Brahmin apprentices.

- (a) assigned (b) apprentices
(c) beggars (d) glittering

Q.79. Select the option that expresses

the given sentence in passive voice.

The company's board of directors will announce the financial results at the annual meeting tomorrow.

- (a) The financial results will have been announced by the company's board of directors at the annual meeting tomorrow.
(b) The financial results are being announced by the company's board of directors at the annual meeting tomorrow.
(c) The company's board of directors announced the financial results at the annual meeting tomorrow.
(d) The financial results will be announced by the company's board of directors at the annual meeting tomorrow.

Q.80. Select the grammatically correct sentence.

- (a) The participants of the competition are waiting for their turn curiously.
(b) The participants of the competition has been waiting for their turn curiously.
(c) A participants of the competition is waiting for their turn curiously.
(d) The participants of the competition is waiting for their turn curiously.

Q.81. Select the most appropriate ANTONYM of the underlined word in the given sentence.

Henry is so servile that other people take advantage of him.

- (a) Arrogant (b) Sheepish
(c) Bickering (d) Cunning

Q.82. Select the option that can be used as a one-word substitute for the given group of Words.

A thing fit to eat.

- (a) Eligible (b) Digestible
(c) Curable (d) Edible

Q.83. Select the most appropriate meaning of the given idiom.

Lily-livered

- (a) Brave (b) Comical
(c) Not brave (d) Naughty

Q.84. Select the most appropriate synonym of the given word.

Zealous

- (a) Enthusiastic (b) Detached
(c) Apathetic (d) Indifferent

Q.85. Select the most appropriate option that can substitute the underlined word in the given sentence.

She had an ability to persuade others.

- (a) halt (b) suppress
(c) outrage (d) impress

Q.86. Select the most appropriate option that can substitute the underlined segment in the given sentence.

We must remember that what we teach our children is what we inculcate in them.

- (a) endanger (b) inspire
(c) instil (d) import

Q.87. Select the option that expresses the given sentence in passive voice.

He won't receive any better choice than this from anywhere.

- (a) Any better choice won't be received by him than this from anywhere.
(b) Any better choice wouldn't have received by him than this from anywhere.
(c) Any better choice shouldn't be received by him than this from anywhere.
(d) Any better choice won't have been received by him than this from anywhere.

Q.88. Select the most appropriate synonym of the given word.

Feeble

- (a) Unheedful (b) Strong
(c) Weak (d) Baneful

Q.89. Select the correct spelling of the underline word.

They denied having any associasion with the terrorists.

- (a) asociation (b) asocciation
(c) assosiation (d) association

Q.90. Select the most appropriate meaning of the underlined idiom in the given sentence.

Pooja tried to explain the problem, but soon she tied herself up in knots.

- (a) Be forced to explain your actions and (probably) punished
(b) Become very confused when you are trying to explain something
(c) Make no progress in an argument or discussion
(d) Won't modify an opinion or agree to even small changes that another person wants

Q.91. Sentences of a paragraph are given below in jumbled order. Arrange the sentences in the correct order to form a meaningful and coherent paragraph.

A. In Bihar and Central India, in particular, every district had smelters that used local deposits of ore to produce iron which was widely used for the manufacture of implements and tools of daily use.

B. The smelting was done by men while women worked on the bellows, pumping

air that kept the charcoal burning.

C. But iron smelting in India was extremely common till the end of the nineteenth century.

D. Production of Wootz steel required a highly specialised technique of refining iron.

(a) ACDB (b) DCAB (c) BCDA (d) CBDA

Q.92. Sentences of a paragraph are given below in jumbled order. Arrange the sentences in the correct order to form a meaningful and coherent paragraph.

A. He repeated the experiment, increasing the amount until he had weighed up to a thousand pounds.

B. During the spring of 1717, the iron foundries in a remote district were often visited by a thin, middle-aged man with a notebook.

C. Three cauldrons were next prepared under his directions.

D. He would weigh out two pounds of iron, have them heated till they were red-hot and then weigh them again.

(a) BDAC (b) ABDC (c) BCAD (d) CABD

Q.93. Select the most appropriate option to fill in the blank.

She is ____ a peacock in the blue satin saree

(a) very beautiful as (b) so beautiful as
(c) as beautiful as (d) beautiful like

Q.94. Sentences of a paragraph are given below in jumbled order. Arrange the sentences in the correct order to form a meaningful and coherent paragraph.

A. The top band is made of saffron, which symbolises power and courage.

B. The constituent assembly adopted our national flag, Tiranga, which means tricolour, on 22 July 1947.

C. As a symbol of nationalism and freedom, it is fashioned from khadi, which is domestically spun Indian cotton.

D. It features three horizontal stripes that are all the same width.

(a) CBAD (b) CBDA (c) BCDA (d) BDCA

Q.95. Select the most appropriate homonym to fill in the blank.

The hunter dogs followed the hyena's_____.

(a) sense (b) scent (c) cense (d) cents

Cloze Test:

Direction:- [Q.96. to Q.100.]

Human life is (96) _____ a unique blessing, which in turn depends on the (97) _____ of the Self. He who is not aware of the Self can neither have peace nor can he foster peaceful co-existence.

We have to link our soul with God and body with the physical world for substance. (98) _____ the formless God is invisible to the naked eye, our mind often wanders wherever it goes. (99) _____ we are unable to develop any love for the Divine. And religion like the white light of heavens (100) _____ multi-coloured fragmentations by the prisms of men and loses its gravity. Instead of uniting, it becomes a major dividing force. French philosopher Tail hard de Chardin, thinking deeply on meaning of our existence and relationship with the Divine, expounds, "we are not human beings having a spiritual experience, we are spiritual beings having a human experience".

Q.96. (a) considering (b) to consider
(c) considered (d) consider

Q.97. (a) witness (b) known
(c) awareness (d) aware

Q.98. (a) Since (b) From (c) As per (d) For

Q.99. (a) As a result (b) As a reaction
(c) Causing (d) As a reason

Q.100. (a) break into (b) breaks to
(c) break from (d) breaks into

Answer Key :-

1.(b)	2.(d)	3.(a)	4.(a)
5.(c)	6.(d)	7.(b)	8.(c)
9.(c)	10.(c)	11.(a)	12.(d)
13.(d)	14.(a)	15.(c)	16.(d)
17.(a)	18.(b)	19.(d)	20.(c)
21.(d)	22.(d)	23.(d)	24.(b)
25.(a)	26.(d)	27.(d)	28.(c)
29.(d)	30.(a)	31.(a)	32.(a)
33.(d)	34.(d)	35.(a)	36.(d)
37.(a)	38.(b)	39.(b)	40.(c)
41.(b)	42.(b)	43.(a)	44.(a)
45.(c)	46.(c)	47.(b)	48.(b)
49.(b)	50.(b)	51.(d)	52.(b)
53.(a)	54.(a)	55.(c)	56.(d)
57.(a)	58.(b)	59.(a)	60.(a)
61.(c)	62.(b)	63.(c)	64.(a)
65.(d)	66.(c)	67.(b)	68.(b)
69.(d)	70.(b)	71.(d)	72.(b)
73.(c)	74.(a)	75.(a)	76.(a)
77.(a)	78.(d)	79.(d)	80.(a)
81.(a)	82.(d)	83.(c)	84.(a)

85.(d)	86.(c)	87.(a)	88.(c)
89.(d)	90.(b)	91.(b)	92.(a)
93.(c)	94.(c)	95.(b)	96.(c)
97.(c)	98.(a)	99.(a)	100.(d)

Solutions :-

Sol.1.(b)



Sol.2.(d) The correct order is :-

Warcraft(3) → Wardenship(6) →
Wardrobe(5) → Warehouse(2) →
Warranty(4) → Warriors(1)

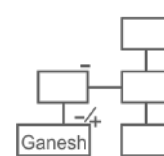
Sol.3.(a)



Only conclusion III follows.

Sol.4.(a) As the sense of skin is touch similarly the sense of nose is smell.

Sol.5.(c)

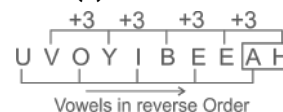


He is walking with his cousin.

Sol.6.(d)



Sol.7.(b)



Sol.8.(c) Logic :-

(Second number) × 2 - 2 = First number
20 : 11 :- (11) × 2 - 2 :- 22 - 2 = 20
6 : 4 :- (4) × 2 - 2 :- 8 - 2 = 6
12 : 7 :- (7) × 2 - 2 :- 14 - 2 = 12
But,
15 : 9 :- (9) × 2 - 2 :- 18 - 2 = 16 (Not 15)

Sol.9.(c)



Sol.10.(c)

From figure first and third we get
Opposite faces :- 6 ↔ 4, 2 ↔ 5, 1 ↔ 3

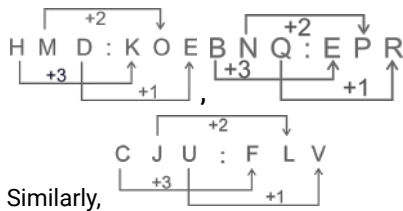
Sol.11.(a) Logic :- (First number ÷ Second number)² = Third number
(55, 11, 25) :- (55 ÷ 11)² :- (5)² = 25

(64, 16, 16) :- $(64 \div 16)^2 = (4)^2 = 16$

Similarly,

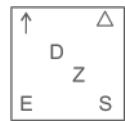
(33, 11, 9) :- $(33 \div 11)^2 = (3)^2 = 9$

Sol.12.(d)



Similarly,

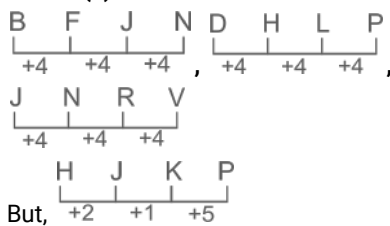
Sol.13.(d)



Sol.14.(a)



Sol.15.(c)



But,

Sol.16.(d) Logic :- (Second number ÷ First number) = Perfect square

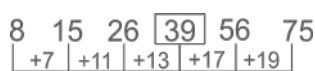
5 : 45 :- $(45 \div 5) = 9 = \text{Perfect square}$

3 : 3 :- $(3 \div 3) = 1 = \text{Perfect Square}$

Similarly,

6 : ? :- $(96 \div 6) = 16 = \text{Perfect Square}$

Sol.17.(a) Logic: add consecutive prime numbers.



Sol.18.(b) Logic :-

(First number - Second number) = 3333

7183 : 3850 :- $(7183 - 3850) = 3333$

8972 : 5639 :- $(8972 - 5639) = 3333$

Similarly,

6957 : ? :- $(6957 - 3624) = 3333$

Sol.19.(d) From figure 1 and 3

5 and 6 are common, So the opposite face of 4 is 3.

Sol.20.(c) Logic :-

(Second number)³ × 5 = First number

625 : 5 :- $(5)^3 \times 5 = (125) \times 5 = 625$

2560 : 8 :- $(8)^3 \times 5 = (512) \times 5 = 2560$

Similarly,

5000 : ? :- $(10)^3 \times 5 = (1000) \times 5 = 5000$

Sol.21.(d) Logic :-

(Sum of the place value of letters) × 2

ASK :- $(1 + 19 + 11) \times 2 \Rightarrow (31) \times 2 = 62$

BYE :- $(2 + 25 + 5) \times 2 \Rightarrow (32) \times 2 = 64$

Similarly,

CRY :- $(3 + 18 + 25) \times 2 \Rightarrow (46) \times 2 = 92$

Sol.22.(d)

Given :- $256 * 4 * 9 * 3 * 14 = 51$

After going through all the options, option d satisfies.

$256 \div 4 - 9 \times 3 + 14$

$64 - 27 + 14 = 51$

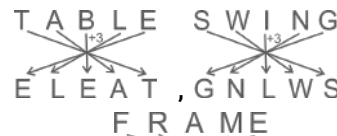
L.H.S = R.H.S

Sol.23.(d)

CLOVE / CLOWVE / CLOXE / CLOYE

Fourth letter increases by 1.

Sol.24.(b) Logic: middle terms increased by 3 and rest letters are written as reverse



Similarly, E M D R F

Sol.25.(a)

Given :- $588 \div 28 \times 32 + 72 - 160 = 760$

After going through all the options, option a satisfies. After interchanging - and + we get,

$588 \div 28 \times 32 - 72 + 160$

$21 \times 32 - 72 + 160$

$672 + 160 - 72 = 760$

L.H.S. = R.H.S.

Sol.26.(d) 13.40 m (44ft). The width for singles court is 5.18m (17 feet), while for the doubles court, the width is 6.1m (20 feet). The diagonal length of the full court is 14.723 m. Terminology used in badminton : Server and Receiver, Service Over, All, Love, Deuce. Trophies of Badminton : Thomas Cup, Uber Cup (women), Tunku Abdul-Rahman Cup, Yonex Cup. Badminton is the National game of Indonesia.

Sol.27.(d) The Comptroller and Auditor General (CAG). Article 148 - There shall be a Comptroller and Auditor-General of India who shall be appointed by the President and shall only be removed from office in like manner and on like grounds as a Judge of the Supreme Court. CAG audits all receipts and expenditure of the Government of India and the State Governments, including those of autonomous bodies and corporations substantially financed by the Government. Term- 6 yrs or up to 65 yrs of age (whichever is earlier).

Sol.28.(c) PM-ABHIM (Prime Minister Ayushman Bharat Health Infrastructure

Mission). **Ministry-** Ministry of Health and Family Welfare. Launched in - October 2021. Under the scheme the total financial outlay for the scheme period (2021-22 to 2025-26) is Rs 64180 Crore. Other Important scheme : AB-PMJAY (Ayushman Bharat Pradhan Mantri Jan Arogya Yojana, 2018).

Sol.29.(d) Raksha Bandhan (Hindu festival). According to hindu calendar, Raksha Bandhan is celebrated on the full-moon day of the Hindu month of Shrawana. Other festivals celebrated on the full moon day - Holi, Guru Nanak Jayanti, Karthik Purnima . Baisakhi (Punjab, Haryana) means the 'beginning of the New Year' according to the Sikh calendar. Chhath Pooja (Bihar, Jharkhand) is dedicated to the Sun God Surya. Karwa Chauth is celebrated by married women for the well-being and longevity of their husbands on the fourth day after Purnima in the month of Kartik.

Sol.30.(a) Anshu Malik. She belongs to Haryana. Medals won by Anshu Malik : Silver (Commonwealth Games, 2022), Silver (Individual World Cup, 2020), Asian Championships (Gold in 2021, Silver in 2022, Bronze in 2023 and 2020). Some other wrestlers of India : Sakshi Malik, Bajrang Punia, Ravi Kumar Dahiya, Vinesh Phogat, Deepak Punia. Wrestling is the National game of Iran. Wrestling Terminologies- angle, babyface, backdoor, blind, bridge, cradle, gimmick, kayfabe, whizzer etc.

Sol.31.(a) Bihar. MPI : A poverty measure that reflects the multiple deprivations that poor people face in the areas of education, health, and living standards. Launched in 2010 by Oxford Poverty and Human Development Initiative (OPHI) and Human Development Report Office of the UNDP. National MPI : It has three equally weighted dimensions - health, education, and standard of living. Kerala registered the lowest population poverty levels. Niti Ayog (Formed 1 January 2015). Objectives (Niti Ayog): Foster involvement and participation in the economic policy-making process by the State Governments of India.

Sol.32.(a) depreciation - means loss of fixed assets overtime due to wear and tear. The most common types of depreciation methods include straight-line, double declining balance, units of production, and sum of years digits. **Fixed capital** consists of assets that are not consumed or destroyed in

the production of a good or service and can be used multiple times. **Appreciation** - The rise in the value of an asset, such as currency or real estate. **Net investment** - The total amount of money that a company spends on capital assets, minus the cost of the depreciation of those assets. **Gross investment** - The total expenditure or investment that is made by a company to acquire capital goods.

Sol.33.(d) Vitasta. Sapta Sindhu rivers and their ancient/alternate names - Indus (Sindhu, Singi Khamban), Jhelum (Hydaspes), Chenab (Asikini, Chandrabhaga), Ravi (Parushni, Airavati), Beas (Vipasha, Hyphasis), Sutlej (Sutudri, Zarodros) and the Saraswati river. Punjab was known as 'Sapta Sindhu' in the vedic literature. River and its Alternate name - Ganga (Padma), Yamuna (Kalindi), Brahmaputra (Dihang, Tsangpo). The Battle of the Hydaspes (Battle of Jhelum), was fought between Alexander the Great and Porus in May of 326 BC.

Sol.34.(d) Sabha. Vijayalaya was the founder of the Chola empire. The Chola Empire was divided into Mandalams (provinces). The province was further divided into Valanadus (commissionary), Nadus (districts) and Kurram (group of villages). At the local level, the tax on land was collected by the village assemblies. Three types of village assemblies - Ur (assembly of common villagers), Sabha or Mahasabha (assembly of only the selected few and elders of the village), Nagarattar (assembly of merchants, traders and artisans).

Sol.35.(a) Rajasthan. Tapti River - A river in central India that flows westwards before draining into the Arabian Sea. Origin - In Satpura range in the Gawilgarh hills of the northern part of the Deccan Plateau (from Multai in Betul district). Flows through the states - Maharashtra, Gujarat, and Madhya Pradesh. The Tapi river is known as the 'Gateway of International trade' as it conducts much international trade. Other west-flowing rivers : Narmada, Sabarmati, Mahi, Luni, and Periyar. Narmada, Periyar and Tapti are only rivers which form estuaries. An estuary is an area where a freshwater river or stream meets the ocean.

Sol.36.(d) Helium (He). Atomic number - 2, Group - 18 (Noble gasses), Block - S, chemically inert. Other uses of Helium -

To keep satellite instruments cool, for arc welding, to provide an inert protective atmosphere for making fiber optics and semiconductors. Uses of other gasses : Chlorine (Cl) - as an antiseptic, as a disinfectant, used to produce drugs. Argon (Ar) - as a carrier gas in cinematography, in welding, used to fill incandescent light bulbs. Neon (Ne) - in making advertising signs, for Preserving Biological Specimens. LHC is the world's largest particle accelerator located at Geneva.

Sol.37.(a) Bharatanatyam and Kathakali. Awards of Mrinalini Sarabhai - Padma Shri (1965), Padma Bhushan (1992), Sangeet Natak Akademi Award (1970), Dhirubhai Thakar Savyasachi Saraswat Award (2014), Sangeet Natak Akademi Fellowship (1994), Kerala Sangeetha Nataka Akademi Fellowship (1988). She was the founder of Darpana Academy of Performing Arts (1949). Famous dancers of Indian dances : Bharatanatyam (Tamil Nadu) - Yamini Krishnamurthy, Rukmini Devi Arundale. Kathakali (Kerala) - Kalamandalam Gopi, Kalamandalam Krishna Prasad, Kottakal Sivaraman.

Sol.38.(b) Shaivism - A Hindu tradition (which worships Shiva) that most accepts ascetic life and emphasizes yoga. The followers of Shaivism are called Shaivas or Shaivites. Bharatanatyam (Tamil Nadu) : It traces its origins back to the Natyashastra, an ancient treatise on theatre written by the mythic priest Bharata.

Sol.39.(b) Vilayat Khan (Agra Gharana). Awards : Padma Shri (1964) and Padma Bhushan (1968). Sitar - plucked stringed instrument. Famous sitar players - Pandit Ravi Shankar, Imrat Khan, Annapurna Devi. **Sarod** - Bahadur Khan (Senia Gharana), Amjad Ali Khan (Senia-Bangash Gharana).

Sol.40.(c) India. The AFC Women's Asian Cup (founded 1975) - A quadrennial competition in women's football for national teams which belong to the Asian Football Confederation (held every two years). Winner - China, Runner Up - South Korea. **Football trophies** :- UEFA Champions League, Copa America, FA Cup, La Liga, Confederations Cup, Copa del Rey, FIFA World Cup, SAFF Championship, Federation Cup, Durand Cup, Super Cup, IFA Shield, Rovers Cup, Stafford Challenge Cup, Subroto cup, Santosh cup.

Sol.41.(b) Chess. Ms Bhakti Pradip Kulkarni and GM R. Praggnanandhaa are the Arjuna Award 2022 recipients in Chess. Cash prize- ₹15 lakhs. Other Arjuna Award recipients in 2022 : R Praggnanandhaa (Chess), Sushila Devi (Judo), Sakshi Kumari (Kabaddi), Deep Grace Ekka (Hockey). The first recipient of the Arjuna Award in the field of sport (Archery) was Krishna Das. The first recipient of the Arjuna Award for chess was Manuel Aaron in 1961.

Sol.42.(b) Subhas Chandra Bose - founder of 'Azad Hind Fauj'. Famous slogans - 'Tum Mujhe Khoon Do, Main Tumhe Azadi Dunga', 'Delhi Chalo'. Subhas Chandra Bose was elected President of Haripura Congress Session (1938) and Tripuri Session (1939) but resigned from Tripuri Session due to differences with Gandhiji. 'Tiger Legion' was formed in 1941 with the help of the German Government to fight against the British. Lala Hardyal (Gadar Party, 1913), Vinayak Damodar Savarkar- {1904, Abhinav Bharat Society (Young India Society)}.

Sol.43.(a) Brood parasitism - A subclass of parasitism and phenomenon and behavioural pattern of certain animals, brood parasites, that rely on others to raise their young. This appears among birds, insects and fish. Example - crow (host) and koel (parasite). Sexual parasitism - Tiny males attach themselves to gigantic females so tightly that the tissues of the two animals eventually fuse. The male essentially turns into a sperm-producing parasite. Example - deep-sea anglerfishes. Klepto parasitism - A form of feeding in which one animal deliberately takes food from another. Example - Hyenas and Lions. Competitive parasitism - When a parasite influences the competitive interaction between two species.

Sol.44.(a) Madhya Pradesh has the highest and Punjab has the lowest tribal population in India as per 2011 census. Tribal percentage of these states : Madhya Pradesh - 21.09, Odisha - 22.85, Maharashtra - 9.35. Motto of census - 'Our Census, Our future'. Bhil is the largest tribe in India.

Sol.45.(c) 1980. Industrial Policy 1980 : This Policy focused on the promotion of economic federation and restoration of the Monopolies and Restrictive Trade Practices (MRTP) Act. Some other Industrial policies (IPs): IP, 1948 - It

ushered in a mixed economic model in the country. IP, 1956 - Three schedules were laid out for the classification of industries. IP, 1977 - The Policy's main emphasis had been the propagation of cottage and small industries. IP, 1991 - Foreign Direct investment allowed, Amendment of the Monopolies and Restrictive Trade Practices (MRTP) Act. The main goals of the New Industrial Policy (1991) were: L - Liberalization, P - Privatization, G - Globalisation.

Sol.46.(c) Fred Hoyle. Steady-State Theory : It is a theoretical model in which the Universe is constantly expanding but with a fixed average density. The theory was put forward by three scientists (1948) : Sir Hermann Bondi, Thomas Gold, and Sir Fred Hoyle. Theories of other scientists : Harold Jeffrey - Specific contributions to plate tectonic theory. Edwin Hubble - Hubble's Law. Pierre-Simon Laplace - Analytical theory of probability.

Sol.47.(b) i-b, ii-a, iii-d, iv-c. Divisions of Algae and their Main Characteristics : Chlorophyceae (Green algae) : Major pigments - Chlorophyll, Stored Food - Starch, Example - Spirogyra. Phaeophyceae (Brown algae) : Pigment - fucoxanthin, Stored food - Mannitol, Laminarin, Example - Sargassum, Laminaria. Rhodophyceae (Red algae) : Pigment - Phycoerythrin, Stored Food - Floridean starch, Example - Gracilaria and Gelidium.

Sol.48.(b) Ricardian theory of rent - The land of higher fertility gets higher rent than less fertile land. **Ryotwari** System - The peasants or cultivators were regarded as the owners of the land. Introduced by - Thomas Munro and Alexander Read in 1820 in Madras presidency. **Mahalwari** system - The land revenue was collected from the farmers by the village headmen on behalf of the whole village. Introduced by - Holt Mackenzie in 1822 in areas of Uttar Pradesh. Permanent Settlement (**Zamindari** system) - The rajas and taluqdars were recognised as zamindars and were asked to collect rent from the peasants and pay revenue to the Company. The amount to be paid was fixed permanently. Introduced by - Lord Cornwallis in 1793 in Bengal.

Sol.49.(b) Jacobus Henricus van 't Hoff. Nobel Prize - **1902** - Hermann Emil Fischer "in recognition of the extraordinary services he has rendered

by his work on sugar and purine synthesis". **1903** - Svante August Arrhenius "in recognition of the extraordinary services

he has rendered to the advancement of chemistry by his electrolytic theory of dissociation". **1906** - Henri Moissan "in recognition of the great services rendered by him in his investigation and isolation of the element fluorine, and for the adoption in the service of science of the electric furnace called after him".

Sol.50.(b) Article 5 to 11. Article 5 - Citizenship at the commencement of the Constitution. Article 6 - Rights of citizenship of certain persons who have migrated to India from Pakistan. Article 7 - Rights of citizenship of certain migrants to Pakistan. Article 8 - Rights of citizenship of certain persons of Indian origin residing outside India. Article 9 - Persons voluntarily acquiring citizenship of a foreign State not to be citizens. Article 10 - Continuance of the rights of citizenship. Article 11 - Parliament to regulate the right of citizenship by law.

Sol.51.(d)

$$A = \frac{95}{100} \times B \Rightarrow \frac{A}{B} = \frac{95}{100}$$

$$\text{Required \%} = \frac{100}{95} \times 100 = 105\frac{5}{19}\%$$

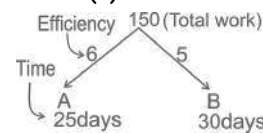
Sol.52.(b)

$$\frac{\text{Cost Price}}{\text{Marked Price}} = \frac{4}{5}$$

For no profit and no loss, C.P. = S.P.

$$\text{Required \%} = \frac{5-4}{5} \times 100 = 20\%$$

Sol.53.(a)



As they work alternatively, starting with A :-

Work done by A and B in 5 days = 6 + 5 + 6 + 5 + 6 = 28 units

Now, remaining work = 150 - 28 = 122

Required time by B to finish the

$$\text{remaining work} = \frac{122}{5} = 24\frac{2}{5} \text{ days}$$

Sol.54.(a)

Total Distance travelled = 2 × (120 + 100) = 440 km

$$\text{Total time taken} = \frac{120}{80} + \frac{100}{40} + \frac{220}{75}$$

$$= \frac{3}{2} + \frac{5}{2} + \frac{44}{15} = \frac{45 + 75 + 88}{30}$$

$$= \frac{208}{30} \text{ hours}$$

$$\text{Average speed} = \frac{\text{Total Distance travelled}}{\text{Total time taken}}$$

$$= \frac{440 \times 30}{208} = \frac{13200}{208} = 63.46 \text{ km/hr}$$

Sol.55.(c) Let the efficiency of man be M, and the efficiency of woman be W, Then according to the question, On equating the total work we get

$$8M \times 45 = 8W \times 18 \Rightarrow \frac{M}{W} = \frac{2}{5}$$

$$\text{Total work } (8M \times 45) = 8 \times 2 \times 45 = 720 \text{ units}$$

$$\text{Required time} = \frac{720}{5M + 8W}$$

$$= \frac{720}{5 \times 2 + 8 \times 5} = 14\frac{2}{5} \text{ days}$$

Sol.56.(d)

$$\text{Given no.} = 6^{25} + 6^{26} + 6^{27} + 6^{28}$$

$$6^{25} (1 + 6 + 36 + 216)$$

$$6^{25} \times 259, \text{ clearly divisible by } 259.$$

Sol.57.(a)

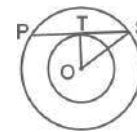
50 marks × 20% = 10 marks

Aggregate mark (0 - 50) = 100

Aggregate mark (10 - 50) = 87

Aggregate mark (0 - 10) = 100 - 87 = 13

Sol.58.(b)



Angle b/w tangent and radius is always 90°, and a perpendicular line from the centre to chord, bisect the chord.

Radius of smaller circle (TO) = 6 cm

Radius of larger circle (SO) = 10 cm

Using pythagoras theorem,

In Δ OTS,

$$OS^2 = OT^2 + TS^2$$

$$TS^2 = 100 - 36 = 64$$

$$TS = 8 \text{ cm and } PS = 2 \times TS = 16 \text{ cm}$$

Sol.59.(a)

$$\sin(a + b) = 1 \Rightarrow (a + b) = 90^\circ$$

$$\cos(a - b) = \frac{1}{2} \Rightarrow (a - b) = 60^\circ$$

$$a = \frac{90^\circ + 60^\circ}{2} = 75^\circ$$

Sol.60.(a)

$$108 \text{ km/hr} = 108 \times \frac{5}{18} = 30 \text{ m/s}$$

$$\text{Required time} = \frac{\text{total distance}}{\text{Speed of train}}$$

$$= \frac{900 + 900}{30} = 60 \text{ seconds}$$

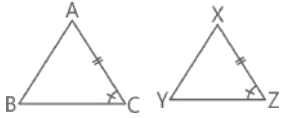
$$\text{Sol.61.(c)} \quad 7b - \frac{1}{4b} = 7$$

Multiply by $\frac{4}{7}$, we get

$$4b - \frac{1}{7b} = 4$$

$$16b^2 + \frac{1}{49b^2} = (4)^2 + 2 \times 4 \times \frac{1}{7}$$

$$= 16 + \frac{8}{7} = \frac{120}{7}$$

Sol.62.(b)
 $\triangle ABC \cong \triangle XYZ$
 $AC = XZ$
 $\angle C = \angle Z$

For SAS property,

 $\triangle ABC$ congruent to $\triangle XYZ$ only if $BC = YZ$
Sol.63.(c)

Using tangent and secant formula :-

$$PT^2 = PA \times PB$$

$$64 = 6 \times (6 + x)$$

$$(6 + x) = \frac{32}{3} \Rightarrow x = \frac{14}{3} \text{ cm}$$

Sol.64.(a) 1st Schemes :-

$$\text{Discount \%} = \frac{4}{7} \times 100 = 57.14\%$$

2nd Schemes :-

$$\text{Discount \%} = \frac{6}{11} \times 100 = 54.54\%$$

Clearly, max. discount in 1st scheme.

Sol.65.(d)

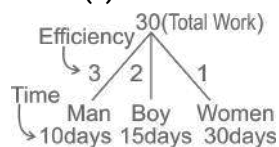
$$\text{Required gross amount} = 6500 \times \frac{5}{4}$$

$$= 8125 \text{ ₹}$$

Sol.66.(c) According to the question,

$$\frac{10000 \times 4 \times T}{100} = \frac{8000 \times 5 \times 4}{100}$$

$$T = \frac{8000 \times 5}{10000} = 4 \text{ years}$$

Sol.67.(b)

Required no. of days when they work

$$\text{together} = \frac{30}{(3 + 2 + 1)} = 5 \text{ days}$$

$$\text{Sol.68.(b)} \cos \theta = \frac{\sqrt{3}}{2} \Rightarrow \theta = 30^\circ$$

$$\tan^2 \theta \cdot \cos^2 \theta = \sin^2 \theta$$

$$\sin^2 30^\circ = \frac{1}{4}$$

$$\text{Sol.69.(d)} 3x^3 + 5x^2y + 12xy^2 + 7y^3$$

$$3(-64) + 5(16)(-1) + 12(-4)(1) + 7(-1)$$

$$= -192 - 80 - 48 - 7 = -327$$

Sol.70.(b)

Given no's are in proportion, then

$$\frac{39}{117} = \frac{17}{y} \Rightarrow y = \frac{117 \times 17}{39} \Rightarrow y = 51$$

Sol.71.(d)

$$\text{Volume of sphere} = \frac{4}{3} \pi r^3$$

$$= \frac{4}{3} \times \frac{22}{7} \times 4.2 \times 4.2 \times 4.2$$

$$= 88 \times 0.2 \times 17.64 = 310.464 \text{ cm}^3$$

Sol.72.(b)

$$(a + b + c)^2 = \{a^2 + b^2 + c^2 + 2(ab + bc + ca)\}$$

$$256 = \{90 + 2(ab + bc + ca)\}$$

$$(ab + bc + ca) = \frac{256 - 90}{2} = 83$$

$$\text{Sol.73.(c)} \frac{3\sin\theta - \cos\theta}{\cos\theta + \sin\theta} = 1$$

$$2\sin\theta = 2\cos\theta$$

$$\frac{\cos\theta}{\sin\theta} = \frac{2}{2} \Rightarrow \cot\theta = 1$$

Sol.74.(a)

$$\text{Relative speed} = (24 - 18) \text{ km/hr.}$$

$$= 6 \times \frac{5}{18} \text{ m/s} = \frac{5}{3} \text{ m/s}$$

Required time when they meet at starting

$$\text{point} = \frac{200 \times 3}{5} = 120 \text{ seconds}$$

$$\text{Sol.75.(a)} \frac{(265)^{4081} + 9}{266} = \text{Rem}$$

$$\frac{(266-1)^{4081} + 9}{266} = \text{Rem}$$

$$\frac{(-1)^{4081} + 9}{266} = \text{Rem}$$

$$\frac{(-1) + 9}{266} = \text{Rem. (8)}$$

Sol.76.(a) Neetu have been

'Have' must be replaced with 'has.' According to the "Subject-Verb Agreement Rule", a singular subject always takes a singular verb and a plural subject always takes a plural verb. In the given sentence, 'Neetu' is a singular subject that will take 'has' as a singular verb. Hence, 'Neetu has been' is the most appropriate structure.

Sol.77.(a)**Over- above or higher in position.****Under-** a position below something else.**Sink-** to go down below the surface.**Behind-** at the back of something.**Beneath-** a position below something else.**Sol.78.(d) Glittering**

'Glittering' is the correct spelling.

Sol.79.(d) The financial results will be announced by the company's board of directors at the annual meeting tomorrow.(Correct)

(a) The financial results will have been announced by the company's board of directors at the annual meeting tomorrow. **(Incorrect Verb)**

(b) The financial results are being announced by the company's board of directors at the annual meeting tomorrow. **(Incorrect Tense)**

(c) The company's board of directors announced the financial results at the annual meeting tomorrow. **(Incorrect Sentence Structure)**

Sol.80.(a) The participants of the competition are waiting for their turn curiously.(Correct)

(b) The participants of the competition has been waiting for their turn curiously. **(Incorrect Tense)**

(c) A participants of the competition is waiting for their turn curiously. **(Incorrect Article and Verb)**

(d) The participants of the competition is waiting for their turn curiously. **(Incorrect Helping Verb)**

Sol.81.(a) Arrogant- having an exaggerated sense of one's own importance or superiority.

Servile - eager to serve and please someone else in a way that shows a lack of respect for yourself.

Sheepish - feeling or looking embarrassed, shy, or awkward.

Bickering - arguing or quarreling in a petty or continuous manner.

Cunning - being clever and crafty in achieving goals.

Sol.82.(d) Edible- A thing fit to eat.

Eligible- suitable or qualified for a particular purpose or position.

Digestible- capable of being digested.

Curable- a disease capable of being cured or treated.

Sol.83.(c) Lily-livered - Not brave.

E.g.- The soldier was called lily-livered because he ran away from the battlefield at the first sign of danger.

Sol.84.(a) Enthusiastic- having strong excitement, interest, or eagerness.

Zealous- showing great passion, enthusiasm or interest.

Detached- separate or disconnected.

Apathetic- showing no interest or enthusiasm.

Indifferent- having no strong preference or interest.

Sol.85.(d) Impress- to make a strong impact or influence on someone.

Persuade- to convince or influence

someone to do something.

Halt- to pause or to stop for a short period of time.

Suppress- To stop or prevent something.

Outrage- to make someone angry by repeating an inappropriate behaviour.

Sol.86.(c) Instil - to introduce knowledge, values, or ideas by repeatedly teaching.

Inculcate- to gradually introduce something in a person's mind.

Endanger- to put someone or something at risk or in a dangerous situation.

Inspire- to motivate or encourage someone.

Import- to bring in goods or services from another country.

Sol.87.(a) Any better choice won't be received by him than this from anywhere.(Correct)

(b) Any better choice wouldn't have received by him than this from anywhere.(Incorrect Verb)

(c) Any better choice shouldn't be received by him than this from anywhere.(Incorrect Modal)

(d) Any better choice won't have been received by him than this from anywhere.(Incorrect Verb)

Sol.88.(c)

Weak- lacking strength or power.

Feeble- lacking strength, energy, or power.

Unheed ful- not paying attention to something.

Strong- having great physical or mental power.

Baneful- having a harmful or destructive effect.

Sol.89.(d) Association

'Association' is the correct spelling.

Sol.90.(b) To tie yourself in knots - Become very confused when you are trying to explain something.

Sol.91.(b) DCAB

Sentence D will be the starting line as it contains the main subject of the parajumble i.e. Production of Wootz steel. And, Sentence C states that iron smelting was widespread. So, C will follow D. Further, Sentence A states the regions where smelting was done & Sentence B states that the smelting was done by men. So, B will follow A. Going through the options, option (b) has the correct sequence.

Sol.92.(a) BDAC

Sentence B will be the starting line as it contains the main subject of the parajumble i.e. The middle-aged man. And, Sentence D states what he did. So, D will follow B. Further, Sentence A states that he repeated the experiment & Sentence C states the items that were prepared by him. So, C will follow A. Going through the options, option (a) has the correct sequence.

Sol.93.(c) As beautiful as

'As...as' is a comparative structure used to compare two things. Similarly, the given sentence compares her beauty with a peacock. Hence, 'as beautiful as' is the most appropriate answer.

Sol.94.(c) BCDA

Sentence B will be the starting line as it contains the main idea of the parajumble i.e. The constituent assembly adopted our national flag. And, Sentence C states the material used in making it. So, C will follow B. Further, Sentence D states that it has three horizontal stripes & Sentence A states the color of the top band. So, A will follow D. Going through the options, option (c) has the correct sequence.

Sol.95.(b) Scent

'Scent' means a smell that is pleasant. The given sentence states that the hunter dogs followed the hyena's scent. Hence, 'scent' is the most appropriate answer.

Sol.96.(c) Considered

The given sentence is in passive voice and 'Singular Subject + is + V₃' is the correct grammatical structure for it. The subject (human life) is singular. Hence, 'considered(V₃)' is the most appropriate answer.

Sol.97.(c) Awareness

'Awareness' means having knowledge or consciousness of something. The given passage states that Human life is considered a unique blessing, which in turn depends on the awareness of the Self. Hence, 'awareness' is the most appropriate answer.

Sol.98.(a) Since

'Since' is used as a conjunction to introduce a reason or cause. Similarly, in the given sentence, it has been used to denote the reason behind our mind wandering wherever it goes. Hence, 'since' is the most appropriate answer.

Sol.99.(a) As a result

The phrase 'as a result' is used to

indicate the outcome of a particular action. The given passage states as a result we are unable to develop any love for the divine. Hence, 'as a result' is the most appropriate answer.

Sol.100.(d) Breaks into

The phrase 'breaks into' means divides or separates into. The given passage states that religion like the white light of heavens separates into multi-coloured fragmentations by the prisms of men. Hence, 'breaks into' is the most appropriate answer.

SSC CGL 2023 Tier - 1 14/07/2023 (2nd Shift)

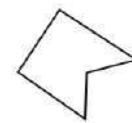
Reasoning

Q.1. Select the option that represents the letters that, when sequentially placed from left to right in the blanks below, will complete the letter series.

MN_ _SM_PO_ _N_OSM_P_S

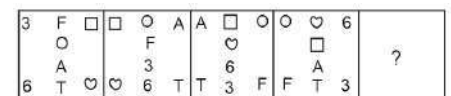
- (a) PONSMPNO (b) PNOSMPNO
(c) PONMSPNO (d) PONSNO MP

Q.2. Select the option figure in which the given figure is embedded (rotation is NOT allowed).



- (a) (b)
(c) (d)

Q.3. Select the figure that will replace the question mark (?) in the following figure series.



- (a) (b)
(c) (d)

Q.4. Which number should replace the question mark (?) in the following number series?

39, 42, 48, 57, 69, ?, 102

- (a) 87 (b) 79 (c) 81 (d) 84

Q.5. Select the set in which the numbers are related in the same way as are the numbers of the following sets.

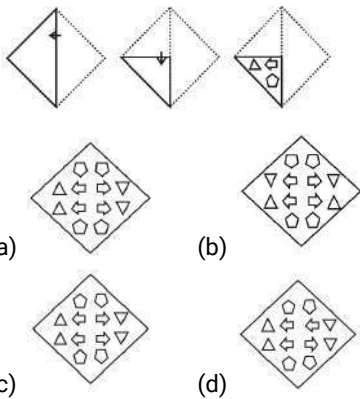
(NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. E.g. 13-Operations on 13 such as adding/subtracting / multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and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

- (8, 44, 3)
 (12, 60, 3)
 (a) (12, 68, 5) (b) (8, 50, 2)
 (c) (17, 56, 9) (d) (23, 98, 5)

Q.6. Which of the following numbers will replace the question mark (?) in the given series ?

- 33, 80, 108, ?, 183, 230, 258
 (a) 160 (b) 155 (c) 143 (d) 138

Q.7. A paper is folded and cut as shown below. How will it appear when unfolded?



Q.8. Select the correct combination of mathematical signs to sequentially replace * the signs and to balance the given equation.

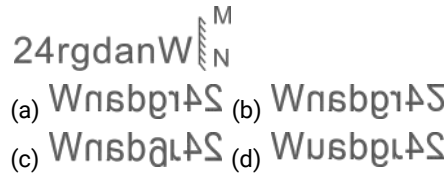
- $150 * 3 * 10 * 2 * 7 * 46$
 (a) $\div, +, -, \times, =$ (b) $-, \times, +, \div, =$
 (c) $+, -, \div, \times, =$ (d) $\times, +, \div, -, =$

Q.9. Select the set in which the number are related in the same way as the numbers of the given 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 /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.)

- (31, 47, 35)
 (51, 67, 55)
 (a) (33, 47, 35) (b) (32, 39, 27)
 (c) (13, 29, 17) (d) (21, 36, 35)

Q.10. Select the correct mirror image of the given combination when the mirror is

placed at MN as shown below.



Q.11. Select the option that is related to the third word in the same way as the second word is related to the first word. (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)
 Orthopedic : Bone :: Cardiologist : ?
 (a) Kidney (b) Heart (c) Lungs (d) Brain

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

- _ V J R W B _ _ R W B V L _ _ B V _ _ W
 (a) AVKRWMR (b) AWKRXNR
 (c) BVKRWMR (d) BWKRWMR

Q.13. Three statements are given, followed by four conclusions numbered I, II, III and IV. Assuming the statements to be true, even if they seem to be at variance with commonly known facts, decide which of the conclusions logically follow(s) from the statements.

Statements:
 Some coolers are mixers.
 Some mixers are scissors.
 Some scissors are knives.

- Conclusions:**
 I. Some knives are mixers.
 II. Some scissors are coolers.
 III. Some knives are coolers.
 IV. No knife is a mixer.
 (a) Only conclusions III and IV follow
 (b) Only conclusions I and III follow
 (c) None of the conclusions follow
 (d) Only conclusions II and IV follow

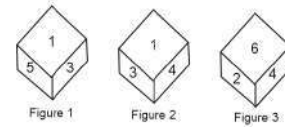
Q.14. Select the option that is related to the fifth letter-cluster in the same way as the second letter - cluster is related to the first letter - cluster and the fourth letter - cluster is related to the third letter - cluster.
 NHT : PEX :: KDF : MAJ :: UMR : ?
 (a) WJV (b) VJW (c) WPN (d) XIW

Q.15. Which of the following is a leap year ?
 (a) 1076 (b) 1675 (c) 1354 (d) 1998

Q.16. Pointing to Suresha, I said, "She is the daughter of the brother of the son of my wife". How am I related to Suresha?
 (a) Grandmother (b) Grand aunt

(c) Grandfather (d) Grand uncle

Q.17. Three different positions of the same dice are shown. Find the number on the face opposite the face showing '4'.



- (a) 6 (b) 5 (c) 1 (d) 2

Q.18. Select the option that is related to the fifth letter-cluster in the same way as the second letter - cluster is related to the first letter - cluster and the fourth letter-cluster is related to the third letter-cluster.

- WOODLAND : ZIRXOUQX :: PERIODIC : SYUCRXLW :: MAGAZINE : ?
 (a) HERDWBMO (b) LPWXSYCZ
 (c) NSCAQOLP (d) PUJUCCQY

Q.19. Three of the following four triads are alike in a certain way as they are formed by performing the same mathematical operations among themselves and thus form a group. Which triad does NOT belong to that group?

- (a) 36 : 13 : 7 (b) 16 : 9 : 5
 (c) 72 : 16 : 8 (d) 1 : 3 : 2

Q.20. Which two signs should be interchanged to make the given equation correct?

- $294 + 14 \times 4 \div 16 - 67 = 33$
 (a) + and \div (b) \times and \div
 (c) + and - (d) - and \div

Q.21. Three of the following four letter - clusters are alike in a certain way and one is different. Pick the odd one out.
 (a) KPH (b) GTD (c) DWA (d) EVC

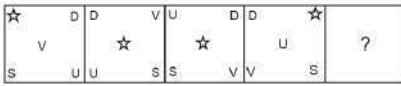
Q.22. Select the set in which the numbers are related in the same way as are the numbers of the given sets.

(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 /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)

- (14, 378, 9)
 (18, 432, 8)
 (a) (5, 125, 8) (b) (15, 405, 9)
 (c) (15, 305, 7) (d) (11, 265, 8)

Q.23. Select the figure from the options that can replace the question mark (?)

and complete the given pattern.



- (a) (b)
- (c) (d)

Q.24. Three statements are given followed by three conclusions numbered I, II and III. Assuming the statements to be true, even if they seem to be at variance with commonly known facts, decide which of the conclusions logically follow(s) from the statements.

Statements:

All rice are grains.

All pulses are grains.

All grains are edibles.

Conclusions:

I. All rice are edibles.

II. All pulses are edible.

III. Some edibles are grains.

- (a) All conclusions follow
 (b) Only conclusions II and III follow
 (c) Only conclusions I and II follow
 (d) Only conclusions I and III follow

Q.25. Select the option that represents the correct order of the given words as they would appear in an English dictionary.

1. Strident 2. Student 3. Shirking
 4. Stuffy 5. Spider 6. Spawn
 (a) 3, 6, 5, 1, 2, 4 (b) 3, 5, 6, 1, 2, 4
 (c) 3, 6, 5, 1, 4, 2 (d) 3, 5, 6, 1, 4, 2

General Awareness

Q.26. Which of the following musical instruments were played by the musicians such as Shakoor Khan and Pandit Ram Narayan?

- (a) Sarangi (b) Shehnai
 (c) Guitar (d) Veena

Q.27. According to IBEF 2021, the Indian pharmaceutical industry ranks _____ in the world on the basis of volume.

- (a) 9th (b) 5th (c) 11th (d) 3rd

Q.28. When did Linus Carl Pauling receive the Nobel Prize in Chemistry for 'his research into the nature of the chemical bond and its applications to the elucidation of the structure of complex substances'?

- (a) 1954 (b) 1950 (c) 1956 (d) 1958

Q.29. Daskathia of _____ is the tribal dance performed by two males depicting the historic and Puranic events.

- (a) Uttar Pradesh (b) Gujarat
 (c) Goa (d) Odisha

Q.30. KA Najeeb Vs Union of India case deals with violation of rights under _____.

- (a) Article 16 (b) Article 21
 (c) Article 14 (d) Article 19

Q.31. Which of the following is the red algae ?

- (a) Rhodophyceae (b) Chlorophyceae
 (c) Liverwort (d) Phaeophyceae

Q.32. What will be the atomic number of an element X which is placed in period 2 and group 17?

- (a) 8 (b) 7 (c) 10 (d) 9

Q.33. In which two consecutive years was there no chief guest at the Republic Day celebrations of India?

- (a) 2021 and 2022 (b) 2019 and 2020
 (c) 2020 and 2021 (d) 2018 and 2019

Q.34. Fisher's quantity theory is explained by his famous equation given as _____.

- (a) $MP = VT$ (b) $MV = PT$
 (c) $MT = PV$ (d) $PV = MV$

Q.35. Before the rise of the modern industrial system, Indian exports consisted chiefly of manufactures like _____.

- (a) electricals
 (b) chemicals
 (c) light machinery
 (d) cotton and silk fabrics

Q.36. The Kanchenjunga peak is located in which sub - division of Himalaya from the following?

- (a) Kashmir Himalayas
 (b) Darjeeling and Sikkim Himalayas
 (c) Himachal and Uttaranchal Himalayas
 (d) Arunachal Himalayas

Q.37. Guru Bipin Singh, a Nrityacharya awardee, Sangeet Natak Akademi awardee and Kalidas Samman awardee, was renowned for promoting which classical dance form?

- (a) Manipuri (b) Kuchipudi
 (c) Odissi (d) Kathak

Q.38. Who holds the authority of transferring judges from one High court to another High Court?

- (a) The senior most judge of Supreme Court
 (b) The chief justice of india

- (c) The president of india
 (d) The law minister of india

Q.39. _____ is the process of complete or incomplete oxidation or hydrolysis of fats and oils when exposed to air, light, moisture, or bacterial action that spoils food.

- (a) Rancidification (b) Hydrogenation
 (c) Auto - oxidation (d) Auto reduction

Q.40. Which of the following is a Tibeto - Burmese language?

- (a) Odia (b) Tripuri (c) Assamese (d) Tulu

Q.41. Who among the following was the author of the play 'Mrichhakatika'?

- (a) Kalidasa (b) Amarasimha
 (c) Shudraka (d) Bhasa

Q.42. Select the FALSE statement from the given options.

- (a) Baikal rocks are formed from the dissolved materials that precipitate from the solution.
 (b) The sedimentary rocks are formed by the deposition and subsequent cementation of that material within bodies of water and at the surface of the earth.
 (c) Metamorphic rocks may be formed simply by being deep beneath the Earth's surface, subjected to high temperatures and the great pressure of the rock layers above it.
 (d) Igneous rock is formed through the cooling and solidification of magma or lava.

Q.43. Pathans in North-West India organised the society of Khudai Khidmatgars, popularly known as Red Shirt, under whose leadership?

- (a) Muhammad Ali
 (b) MA Ansari
 (c) Khan Abdul Ghaffar Khan
 (d) Hasrat Mohani

Q.44. In which of the following States/Union Territories were the 36th National Games held?

- (a) Rajasthan (b) New Delhi
 (c) Gujarat (d) Kerala

Q.45. Which of the following was established in Bombay in 1875?

- (a) Satyashodhak Samaj
 (b) Aligarh movement
 (c) Brahmo Samaj
 (d) Arya Samaj

Q.46. Which of the following options conveys the meaning of the word 'Republic' in the Indian Constitution?

- (a) Elected head (b) Nominated head

(c) Subordinate head (d) Hereditary head

Q.47. Who among the following was defeated in the battle of Chanderi in 1528?

- (a) Shershah Suri (b) Babur
(c) Sikandar Lodi (d) Medini Rai

Q.48. The venue of the 2020 Olympic Games was _____?

- (a) Sydney (b) Rio
(c) Tokyo (d) Los Angeles

Q.49. When was the International Day of the Girl Child 2021 celebrated?

- (a) 14 October (b) 12 October
(c) 13 October (d) 11 October

Q.50. In January 2022, which State Government has extended its integrated initiative for the empowerment of persons with disabilities (PwDs) – the Bhima Bhoi Bhinnakhyama Samarthya Abhiyan (BBSA) - for the next five years?

- (a) Odisha (b) Manipur
(c) Jharkhand (d) West Bengal

Quantitative Aptitude

Q.51. In a race around a circular cycling track of 75 km, two cyclists are riding at a speed of 30 km/h and 25 km/h. After what time (in hours) will they meet at the point from where they started their journey?

- (a) 16 (b) 7 (c) 14 (d) 15

Q.52. P is two times more efficient than Q. P is able to complete a piece of work in 40 days less than Q. Working together, the whole number of days taken by them to complete the work is: (Round off to the nearest integer)

- (a) 26 (b) 25 (c) 15 (d) 28

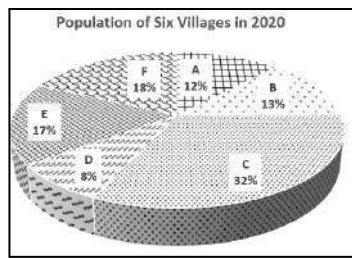
Q.53. In an election, 2% persons enrolled in the voter list did not participate and 500 votes were invalid. Two candidates A and B fought the election, and A defeated B by 200 votes. If 43% of the persons enrolled in the voter list casted their votes in favour of A, then what is the number of the total casted votes?

- (a) 2450 (b) 2800 (c) 3000 (d) 3250

Q.54. Evaluate the following.
 $\sin 25^\circ \sin 65^\circ - \cos 25^\circ \cos 65^\circ$

- (a) 40 (b) 4 (c) 0 (d) 1

Q.55. Study the given pie chart and answer the question that follows.



The population of village D in 2020 was 10,500. What was the population of village A in 2020? Total population of these six villages is 100%.

- (a) 15,570 (b) 15,750 (c) 17,550 (d) 7,875

Q.56. What is the value of $64x^3 + 38x^2y + 20xy^2 + y^3$, when $x = 3$ and $y = -4$?

- (a) 1236 (b) 488 (c) 536 (d) 1256

Q.57. X and Y can complete a work in 9 days and 36 days, respectively. X begins to do the work and they work alternately one at a time for one day each. The whole work will be complete in:

- (a) $12\frac{1}{2}$ days (b) $14\frac{1}{4}$ days
(c) $13\frac{1}{3}$ days (d) $15\frac{1}{5}$ days

Q.58. A shopkeeper uses 940 gm weight in place of one kg weight. He sells it at 4% profit. What will be the actual profit percentage? (rounded off to two decimal places)

- (a) 9.25% (b) 10.32%
(c) 10.64% (d) 10.96%

Q.59. If D is the midpoint of BC in $\triangle ABC$ and $\angle A = 90^\circ$, then $AD =$ _____.

- (a) $\frac{BC}{4}$ (b) 2BC (c) $\frac{BC}{2}$ (d) BC

Q.60. In what ratio must water be mixed with milk, costing ₹32 per litre, in order to get a mixture costing ₹28 per litre?

- (a) 8 : 1 (b) 1 : 7 (c) 1 : 8 (d) 7 : 1

Q.61. 5 women and 9 girls earn a total of ₹18,720 in 9 days, while 9 women and 16 girls earn a total of ₹52,080 in 14 days. How much will 12 women and 7 girls together earn (in ₹) in 13 days?

- (a) 42510 (b) 41990 (c) 42380 (d) 42120

Q.62. An electronic store owner allows two successive discounts of 20% and 25% on each item. The store has a reward points scheme which enables a customer to get free shopping worth ₹0.10 on every 1 reward point credited to the customer's account on previous purchases from the store. A customer decides to buy a laptop that is marked at ₹72,000. What will be its net selling price if he has 2850 reward points to his credit?

- (a) ₹43,200 (b) ₹42,915
(c) ₹42,215 (d) ₹42,942

Q.63. What is the value of $a^3 + b^3 + c^3$, if $(a + b + c) = 0$?

- (a) $a^2 + b^2 + c^2 - 3abc$
(b) 0
(c) 3abc
(d) $a^2 + b^2 + c^2 - ab - bc - ca$

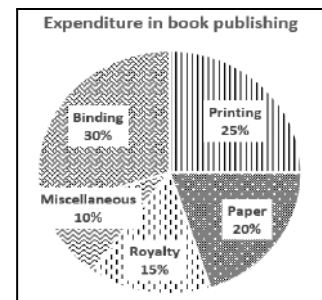
Q.64. Evaluate the following:

$\cos(36^\circ + A) \cdot \cos(36^\circ - A) + \cos(54^\circ + A) \cdot \cos(54^\circ - A)$

- (a) $\sin 2A$ (b) $\cos A$ (c) $\sin A$ (d) $\cos 2A$

Q.65. Study the given pie-chart and answer the question that follows.

The pie-chart shows the expenditure incurred in the preparation of a book by a publisher, under various heads.



What is the difference between the angle of pie-chart showing the expenditure incurred on binding and printing?

- (a) 15° (b) 20° (c) 18° (d) 22°

Q.66. If the total surface area of a cube is 24 sq. units, then what is the volume of the cube?

- (a) 8 cu. units (b) 16 cu. units
(c) 10 cu. units (d) 4 cu. units

Q.67. Find the simplified value of the given expression.

$$4\frac{4}{5} \div \frac{3}{5} \text{ of } 5 + \frac{4}{5} \times \frac{3}{10} - \frac{1}{5}$$

- (a) $1\frac{4}{5}$ (b) 5 (c) $1\frac{16}{25}$ (d) 6

Q.68. Let ABC, PQR be two congruent triangles such that angle A = angle P = 90° . If BC = 13cm, PR = 5cm, find AB.

- (a) 12 cm (b) 8 cm (c) 10 cm (d) 5 cm

Q.69. The mean proportion between 7 and 112 is:

- (a) 42 (b) 28 (c) 21 (d) 14

Q.70. 4 women or 6 boys can finish a work in the same number of days. A Boy can finish it in 60 days. In how many days can 5 women finish the work, working together every day?

- (a) 4 (b) 10 (c) 8 (d) 6

Q.71. A 15 cm long perpendicular is drawn from the centre of a circle to its 40

cm long chord. Find the radius of the circle.

- (a) 25 cm (b) 27 cm (c) 22 cm (d) 20 cm

Q.72. What is the value of $\sec^2 54^\circ - \cot^2 36^\circ + \frac{3}{2} \sin^2 37^\circ \times \sec^2 53^\circ + \frac{2}{\sqrt{3}} \tan 60^\circ$?

- (a) $\frac{5}{2}$ (b) $\frac{9}{2}$ (c) $\frac{3}{2}$ (d) $\frac{7}{2}$

Q.73. If the simple interest at the same interest rate on ₹500 for 4 years and ₹700 for 2 years, combined together, is ₹280, then what is the rate of interest?

- (a) $9\frac{3}{17}\%$ (b) $6\frac{5}{17}\%$
(c) $8\frac{4}{17}\%$ (d) $7\frac{3}{17}\%$

Q.74. A thief steals a van at 3:00 a.m. and drives it at a speed of 57 km/h. The thief is discovered at 4:00 a.m. and the owner starts the chase with another van at a speed of 76 km/h. At what time will he catch the thief?

- (a) 7 : 30 a.m (b) 7 : 00 p.m
(c) 7 : 00 a.m (d) 6 : 00 a.m

Q.75. The present age of Rahim is five times the present age of his daughter, Savita. Seven years from now, Rahim will be three times as old as Savita. What is the present age (in years) of Rahim?

- (a) 45 (b) 35 (c) 40 (d) 30

English

Q.76. Select the most appropriate option to substitute the underlined segment in the given sentence.

The boys and the teacher wants to win.

- (a) wants to won (b) want to won
(c) want win (d) want to win

Q.77. Select the most appropriate ANTONYM of the underlined word.

He was compelled by everyone to join the group.

- (a) Demur (b) Obscured
(c) Confessed (d) Induced

Q.78. Select the most appropriate meaning of the given idiom.

To kick the bucket

- (a) To be ill (b) Be sad
(c) Be happy (d) To die

Q.79. Identify and correct the INCORRECTLY spelt word in the given sentence.

The Collector paid floral tributes to the statue of Mahatma Gandhi after hosting the flag.

- (a) floaral (b) stateu

- (c) trebutes (d) hoisting

Q.80. Select the most appropriate ANTONYM of the underlined word.

Do you know the old adage 'the show must go on'?

- (a) Misconstruction (b) Rebuke
(c) Dare (d) Addiction

Q.81. Select the most appropriate option to fill in the blank.

She reminds me always that I _____ to be a little more careful.

- (a) had (b) have (c) must (d) has

Q.82. Select the most appropriate ANTONYM of the word given in brackets to fill in the blank.

Mr. Khanna is quite _____ (callous) towards the victims of earthquake.

- (a) rationalistic (b) unsympathetic
(c) sympathetic (d) nondiplomatic

Q.83. Sentences of a paragraph are given below. While the first and the last sentences (S1 and S6) are in the correct order, the sentences in between are jumbled up and named P, Q, R, S. Arrange the sentences in the correct order to form a meaningful and coherent paragraph.

(S1) Newspapers, especially of the popular variety, aim to do two things: to inform and to entertain.

(P) Entertainment may be principally found in the centre pages of the newspaper in some of the feature articles and in some local news stories.

(Q) The principal aim of the short news report on the front pages is to inform.

(R) Most newspapers are published daily, and the news reporters must make sure that they have up-to-the minute news.

(S) In their news reports they will aim to create a sense of immediacy, to convey the impression that they have 'rushed' the news to the reader and 'that the information contained is the very latest.'

(S6) Reporters also wish to create a sense of authenticity, that is, that their news is accurate and genuine.

- (a) Q, S, R, P (b) R, P, S, Q
(c) S, R, P, Q (d) P, Q, R, S

Q.84. Select the most appropriate synonym of the given word from the sentence.

Ready

She was preparing dinner in an organised manner using well - equipped tools while listening to the radio.

- (a) Preparing (b) Listening
(c) Organised (d) Equipped

Q.85. Identify how you will ask everyone

if the children were not reading the books in passive voice.

- (a) Were the books being read by the children?
(b) Were the books not being read by the children?
(c) Were the book not being read by the children?
(d) Were the children reading the books?

Q.86. Select the most appropriate synonym of the given word.

Hostile

- (a) Pleasant (b) Hospitable
(c) Empathetic (d) Unfriendly

Q.87. Select the most appropriate option that can substitute the underlined segment in the given sentence.

The fact that God created man in his personal view by giving him an intellectual spirit elevates him above the beasts of the field.

- (a) own glory (b) own capacity
(c) own image (d) own idea

Q.88. Sentences of a paragraph are given below in jumbled order. Arrange the sentences in the correct order to form a meaningful and coherent paragraph.

A. During the summer, I noticed that the leaves of the tree were beginning to wither.

B. I am especially proud of it, not only because it has survived several winters, but because it occasionally produces luscious peaches.

C. The tree had grown against a warm wall on a sheltered side of the house.

D. Last summer, I spent many days in the garden watching thousands of ants crawling up the trunk of my prize peach tree.

- (a) DCBA (b) ABCD (c) CDBA (d) BDAC

Q.89. Select the option that expresses the given sentence in active voice.

Was the bag packed by Mary?

- (a) Was Mary pack the bag?
(b) Is Mary packing the bag?
(c) Do Mary pack the bag?
(d) Did Mary pack the bag?

Q.90. Select the most appropriate ANTONYM of the word 'Optimistic' from the given sentence.

After the incident, Radha prepared herself to stay positive even in gloomy days.

- (a) sta (b) incident
(c) positive (d) gloomy

Q.91. The following sentence has been divided into parts. One of them may contain an error. Select the part that

contains the error from the given options. If you don't find any error, mark 'No error' as your answer.

After knowing truth, / the jury took the right decision / in the case.

- (a) The jury took the right decision
- (b) In the case
- (c) After knowing truth
- (d) No error

Q.92. In the following sentence, four words are underlined, out of which one word is Incorrectly spelt. Identify the INCORRECTLY spelt word.

A lot of spontanity is required from the speaker in an extempore speech. The speaker is expected to brainstorm ideas and give speech instantaneously.

- (a) instantaneously
- (b) extempore
- (c) brainstorm
- (d) spontanity

Q.93. Select the option that can be used as a one-word substitute for the given group of words.

A person who believes that laws and governments are not necessary.

- (a) Antagonist
- (b) Antichrist
- (c) Anarchist
- (d) Adversary

Q.94. Select the most appropriate meaning of the given idiom.

Miss the boat

- (a) Missing a good opportunity
- (b) Missing your medium of travel
- (c) Missing good moments of your life
- (d) Being too late

Q.95. Sentences of a paragraph are given below in jumbled order. Arrange the sentences in the correct order to form a meaningful and coherent paragraph.

A. The outcome is much more likely to be favourable if there is substantial international aid than if there is not.

B. Many of the underdeveloped countries will promote the growth of their economies in one way or the other, no matter whether they receive substantial outside aid in the process or not.

C. By substantial aid I mean not only large amounts of technical assistance but also of capital.

D. The character of that development, however, is likely to be strongly influenced by the types of and amounts of aid available.

- (a) BDAC
- (b) ABDC
- (c) DABC
- (d) DBCA

Cloze Test:

Direction:- [Q.96. to Q.100.]

The Sun is the star at the center of (96)_____Solar System. It is a nearly perfect ball of hot plasma. The Sun has inspired us since ancient times. It's

central to mythology and religion in (97)_____ around the world. It keeps our planet warm enough for living things to grow. It gives us light so we can see. It is by far the most important (98)_____ of energy for life on Earth. It is about a hundred times as wide (99)_____ the Earth. If there were no sun, many things wouldn't occur like photosynthesis or the presence of oxygen, which would have caused no (100)_____ of life.

Q.96. (a) typical (b) huge (c) the (d) a

Q.97. (a) cultures (b) processes
(c) scenes (d) types

Q.98. (a) gesture (b) source
(c) control (d) symbol

Q.99. (a) about (b) as (c) like (d) than

Q.100. (a) skill (b) end
(c) enhancement (d) existence

Answer Key :-

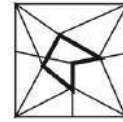
1.(a)	2.(a)	3.(d)	4.(d)
5.(a)	6.(b)	7.(b)	8.(a)
9.(c)	10.(a)	11.(b)	12.(c)
13.(c)	14.(a)	15.(a)	16.(c)
17.(b)	18.(d)	19.(c)	20.(a)
21.(d)	22.(b)	23.(b)	24.(a)
25.(a)	26.(a)	27.(d)	28.(a)
29.(d)	30.(b)	31.(a)	32.(d)
33.(a)	34.(b)	35.(d)	36.(b)
37.(a)	38.(c)	39.(a)	40.(b)
41.(c)	42.(a)	43.(c)	44.(c)
45.(d)	46.(a)	47.(d)	48.(c)
49.(d)	50.(a)	51.(d)	52.(c)
53.(a)	54.(c)	55.(b)	56.(d)
57.(b)	58.(c)	59.(c)	60.(b)
61.(d)	62.(b)	63.(c)	64.(d)
65.(c)	66.(a)	67.(c)	68.(a)
69.(b)	70.(c)	71.(a)	72.(b)
73.(c)	74.(c)	75.(b)	76.(d)
77.(a)	78.(d)	79.(d)	80.(a)
81.(b)	82.(c)	83.(d)	84.(a)
85.(b)	86.(d)	87.(c)	88.(a)
89.(d)	90.(d)	91.(c)	92.(d)
93.(c)	94.(a)	95.(a)	96.(c)
97.(a)	98.(b)	99.(b)	100.(d)

Solutions :-

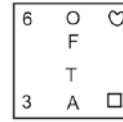
Sol.1.(a) The correct order will be:

MNP QS / MNPOS/ MNPOS/ MNPOS

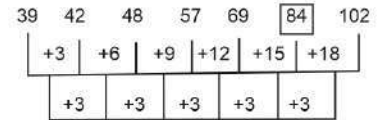
Sol.2.(a)



Sol.3.(d)



Sol.4.(d)



Sol.5.(a) Logic:

(First No. + Third No.) × 4 = Second No.

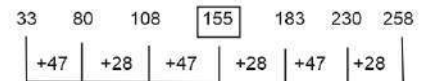
(8, 44, 3) → (8 + 3) × 4 = 11 × 4 = 44

(12, 60, 3) → (12 + 3) × 4 = 15 × 4 = 60

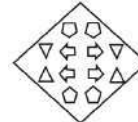
Similarly,

(12, 68, 5) → (12 + 5) × 4 = 17 × 4 = 68

Sol.6.(b)



Sol.7.(b)



Sol.8.(a) In this type of questions we will check options one by one and doing so option a gets satisfied.

150 * 3 * 10 * 2 * 7 * 46

Putting the signs of option a in the given equation we get,

150 ÷ 3 + 10 - 2 × 7 = 46

L.H.S. = 150 ÷ 3 + 10 - 2 × 7

⇒ 50 + 10 - 14 ⇒ 60 - 14 = 46 = R.H.S.

Sol.9.(c)

Logic: (3rd no. - 1st no.)² + 1stno. = 2nd no.

(31, 47, 35) → (35 - 31)² + 31 = 47

(51, 67, 55) → (55 - 51)² + 51 = 67

Similarly,

(13, 29, 17) → (17 - 13)² + 13 = 29

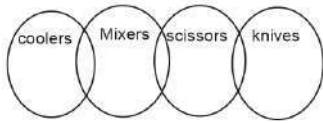
Sol.10.(a)

Wnsbgr14S

Sol.11.(b) As Orthopedic is a doctor who specializes in the treatment of Bone similarly, Cardiologist is a doctor who specializes in the treatment of Heart.

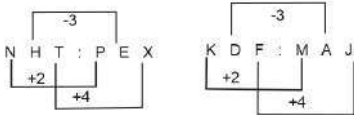
Sol.12.(c) The correct order will be:
BVJRW/ BV KRW/ BVLR W / BVM RW

Sol.13.(c)

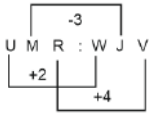


None of the conclusions follow.

Sol.14.(a)



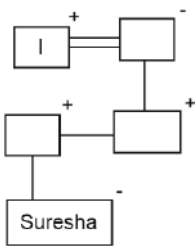
Similarly,



Sol.15.(a)

1076 is a leap year as it is divisible by 4.

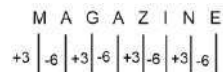
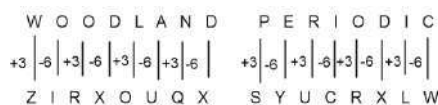
Sol.16.(c)



I am the Grandfather of Suresha.

Sol.17.(b) From Dice 1 and Dice 2
 '1' and '3' faces are common
 So '5' is opposite of the face '4'.

Sol.18.(d)



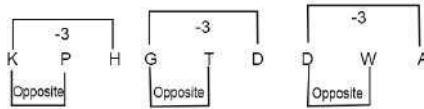
Similarly,

Sol.19.(c) Logic: (Second number - Third number)² = First number
 36 : 13 : 7 → (13 - 7)² = 36
 16 : 9 : 5 → (9 - 5)² = 16
 1 : 3 : 2 → (3 - 2)² = 1
 But, 72 : 16 : 8 → (16 - 8)² = 64 (Not 72)

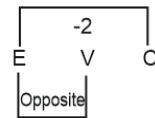
Sol.20.(a) In this type of questions we will check options one by one and doing so option a gets satisfied.
 294 + 14 × 4 ÷ 16 - 67 = 33
 Interchanging the signs + and ÷ in the given equation we get,
 294 ÷ 14 × 4 + 16 - 67 = 33
L.H.S = 294 ÷ 14 × 4 + 16 - 67
 21 × 4 + 16 - 67

84 + 16 - 67 = 33 = **R.H.S**

Sol.21.(d)

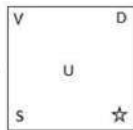


But,

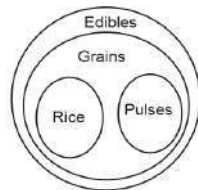


Sol.22.(b) Logic: First num × Third num × 3 = Second num
 (14, 378, 9) → 14 × 9 × 3 = 378
 (18, 432, 8) → 18 × 8 × 3 = 432
 Similarly,
 (15, 405, 9) → 15 × 9 × 3 = 405

Sol.23.(b)



Sol.24.(a)



All conclusions follow.

Sol.25.(a) The correct order will be:
 Shirking(3) → Spawn(6) → Spider(5) → Strident(1) → Student(2) → Stuff(4)

Sol.26.(a) Sarangi . Ustad Shakoore Khan - Belongs to Kirana Gharana. Some musical instrument players: **Sarangi** - Ustad Sultan Khan, Ustad Hafizullah Khan, Sultan Khan and Zakir Hussain. **Shehnai** - Ustad bismillah khan, Anant Lal, Pandit Ram Sahay, Ali Ahmed Hussain Khan. **Veena** - Jayanthi Kumaresh, Veenai Dhanammal.

Sol.27.(d) 3rd. IBEF (India Brand Equity Foundation) - It is a Trust established by the Department of Commerce, Ministry of Commerce and Industry. **Objective:**- To promote and create international awareness of the Made in India label in markets overseas and facilitating the dissemination of knowledge of Indian products and services. Founded: 2003. Headquarters- New Delhi.

Sol.28.(a) 1954. Nobel Prize (1901) - Linus Carl Pauling was also awarded with the Nobel Peace Prize (1962). Some

Scientists who won Nobel Prize in Chemistry :- Otto Paul Hermann Diels and Kurt Alder (1950) - "for their discovery and development of the diene synthesis". Sir Cyril Norman Hinshelwood and Nikolay Semenov (1956) - "for their research into the mechanism of chemical reactions". Frederick Sanger (1958)- "for his work on the structure of proteins, especially that of insulin".

Sol.29.(d) Odisha. Daskathia (Folk theatre form, associated with the worship of Lord Shiva). Some Folk theatre form:- Bhavai (Rajasthan), Garodas (Gujarat), Jatra (Odisha), Kariyila (Himachal Pradesh), Maach (Madhya Pradesh), Swang (Punjab and Haryana), Ojapali (Assam), Powada (Maharashtra), Tamasha (Maharashtra), Bhand Pather (Jammu and Kashmir), Bhaona (Assam), Dashavatar (Konkan area), Naqal (Punjab) or Bhand (Uttar Pradesh).

Sol.30.(b) Article 21 (Protection of life and personal liberty). **Important Cases** related to Article 21: A.K Gopalan vs the State of Madras 1951: The Supreme court has taken a narrow interpretation of Article 21 in this case. Maneka Gandhi vs. Union of India, 1978: In this case, the SC overruled its judgment of the Gopalan Case by taking a wider interpretation of Article 21. Article 16 - Equality of opportunity in matters of public employment. Article 14 - Equality before the law. Article 19 - Protection of certain rights regarding, freedom of speech, etc.

Sol.31.(a) Rhodophyta (Red algae). Algae are photosynthetic organisms that possess photosynthetic pigments such as chlorophyll. **Types of Algae:** Euglenophyta (Euglenoids), Chrysophyta (Golden-brown algae and Diatoms), Pyrrophyta (Fire algae), Chlorophyta (Green algae), Phaeophyta (Brown algae), Xanthophyta (Yellow-green algae). Examples : Diatom, Wakame, Ulothrix, Fucus, Porphyra, Spirogyra.

Sol.32.(d) 9, Fluorine (F). Group 17 (Halogen elements):- Chlorine (Cl, 17), Bromine (Br, 35), Iodine (I, 53), Astatine (At, 85), and Tennessine (Ts, 117). Properties:- Melting and Boiling Points (increase down the group), Atomic Radius (increases down the group), Ionization Energy (decreases down the group), Electronegativity (decreases down the group), Electron Affinity (decreases down the group).

Sol.33.(a) 2021 and 2022. First Republic Day was celebrated on January 26, 1950, Ahmed Sukarno, the President of Indonesia was the chief guest. **74th Republic Day: Chief guest** - President Abdel Fattah el-Sisi of the Arab Republic of Egypt. Best parade: Uttarakhand's tableau. The Constitution of India came into effect on 26 January 1950.

Sol.34.(b) MV = PT. Fisher Equation states that the nominal interest rate is equal to the sum of the real interest rate plus inflation. It lies at the heart of the Quantity Theory of Money. $MV=PT$, where M = Money Supply, V= Velocity of circulation, P= Price Level, and T = Transactions.

Sol.35.(d) Cotton and silk fabrics. The first cotton mill was established by the Bombay Spinning and Weaving Company (1854), in Bombay. The first modern silk textile factory in India was started by the East India Company at Howrah in 1832.

Sol.36.(b) Darjeeling and Sikkim Himalayas. Kashmir Himalayas (Highest peak - K2 Godwin). Himachal and Uttaranchal Himalayas span three states Jammu and Kashmir, Himachal Pradesh, and Uttarakhand. Arunachal Himalayas (East of Bhutan Himalayas to the Diphu pass in the East) - Highest Peak is Kangto (also known as Kanguro Rize). Punjab Himalayas - Between the Indus and Sutlej rivers. Kumaon Himalayas - Between Satluj and Kali rivers.

Sol.37.(a) Manipuri. Awards of Guru Bipin Singh - Sangeet Natak Akademi Award (1966), Kalidas Samman (1989), Title of Hanjaba by the Maharaja of Manipur. Famous Dancers : **Manipuri** - Yumlembam Gambhini Devi, Darshana Jhaveri, Nirmala Mehta. **Kuchipudi** - Kaushalya Reddy, Yamini Reddy, Bhavana Reddy, Atisha Pratap Singh, Haleem Khan. **Odissi** - Sonal Mansingh, Jhelum Paranjape, Mayadhar Raut, Gangadhar Pradhan, Leana Citaristi, Leana Mohanty. **Kathak** - Pandit Birju Maharaj, Lachu Maharaj, Shambu Maharaj, Shovna Narayan, Kumari Kamala, Sunanya Hazarilal Agarwal.

Sol.38.(c) The President of India (Article 52). **Article 222** - Transfer of a Judge from one High Court to another. **Article 217** - Appointment and conditions of the office of a Judge of a High Court. **Article 124** - Establishment and constitution of the Supreme Court. **Article 218** - Application of certain provisions relating

to the Supreme Court to High Courts. **Article 214** - High Courts for States.

Sol.39.(a) Rancidification (Examples- milk becomes rancid because of not heating it in the humid atmosphere, Oil becomes rancid (rancid oil) because of the decomposition of fats it has) . **Oxidation** - It is defined as the addition of oxygen to the substance or the removal of hydrogen from the substance. **Reduction** - It is defined as the addition of hydrogen to the substance or the removal of oxygen from the substance. **Hydrogenation** - It is an addition reaction where hydrogen molecules are used to saturate organic compounds. **AutoOxidation** - It is the spontaneous oxidation of a compound in air.

Sol.40.(b) Tripuri (Kokborok) - One of the official languages of Tripura. It is spoken in Tripura, and neighbouring areas of Bangladesh. Kokborok Day (Tripuri Language Day) - 19th January. Other Tibeto Burmese languages - Burmese, Tibetan, Bai, Yi (Lolo), Karen, Meitei, Hani, Jingpo. Tulu is a Dravidian language spoken mainly in two coastal districts Dakshina Kannada and Udupi of Karnataka and Kasaragod district of Kerala.

Sol.41.(c) Shudraka. Mrichchhakatika play was translated into English by Arthur W. Ryder in 1905 as "The Little Clay Cart". **Other Sanskrit plays of Shudraka:** "Vinavasavadatta", and "Padmaprabhritaka", "a bhana" (short one-act monologue). **Books of other Authors:** Kalidasa - "Meghaduta", "Abhigyan Shakuntalam", "Vikramorvashiyam", "Malavikagnimitram", "Kumarasambhava". Bhasa - "Svapnavasavadatta". Amarasimha - "Amarakosha".

Sol.42.(a) Sedimentary Rocks - Shale, Conglomerate, Limestone, Sandstone, Coal, Siltstone, Dolomite, Chalk, Clay, Bauxite, Diamicite etc. **Igneous Rocks** - Gabbro, Obsidian, Pumice, Granite, Mica, Quartz, Basalt, Diorite. **Metamorphic Rocks** - Marble, Slate, Gneiss, Quartzite, Granulite, Phyllite, Eclogite, Migmatite.

Sol.43.(c) Khan Abdul Gaffar Khan (frontier Gandhi/Sarhadi Gandhi/Badshah Khan/ Bacha Khan) - In 1921 he was elected president of a district Khilafat committee. Khudai Khidmatgar movement was founded in 1929. Award: Bharat Ratna (1987), He was the first

non-Indian to receive this honour. **Muhammad Ali Jinnah** - Founder of Pakistan.

Sol.44.(c) Gujarat. The National Games 2022 was held across six cities, Ahmedabad, Gandhinagar, Surat, Vadodara, Rajkot, and Bhavnagar, in Gujarat. Winner of national games - In the softball game, the men's title (Maharashtra) women's title (Punjab). In hockey, (Karnataka). In the men's football event, (West Bengal). The **37th edition** will be hosted in Goa. National Games (motto) - Get Set Play.

Sol.45.(d) Arya Samaj. It aims to reestablish the Vedas. Founder - Swami Dayanand Saraswati. The slogan of Arya Samaj was **Krinvanto Vishwam Aryam'** which means 'Make the World Noble'. **Brahma samaj** - Founded by Raja Ram Mohun Roy in 1828. Satyashodhak samaj founded by Jyotiba Phule in 1873, It is also known as the Society of Seekers of Truth. Sir Syed Ahmed Khan organised and founded the Aligarh Movement in 1875.

Sol.46.(a) Elected head. Republic - It is a state in which political power rests with the public and their representatives, in contrast with a monarchy. The concept of the Republic is taken from France. The Word Republic is mentioned in the Preamble. In India, the President of India is the elected head of the state. Words used in Preamble of Constitution - Sovereign, Socialist, Secular, Democratic, Republic, Justice, Liberty, Equality, Fraternity.

Sol.47.(d) Medini Rai. The battle of Chanderi (1528) :- Fought between Medini Rai and Babur. Battle won by Babur - First Battle of Panipat (1526) - Between Babar and Ibrahim Lodi. Battle of Khanwa (1527) - Between Babur and Rana Sanga. Battle of Ghaghra (1529) - Between Babur and Afghan.

Sol.48.(c) Tokyo. Medals won by India in Tokyo olympics :- **Gold** - Neeraj Chopra (javelin throw), **Silver** - Mirabai Channu (Weightlifter), Ravi Kumar Dahiya (freestyle wrestling), **Bronze** - Indian hockey team (men's hockey), Lovlina Borgohain (women's welterweight), PV Sindhu (women's singles badminton). Olympic Games venue - 2024- Paris, 2028 - Los Angeles (USA), 2032- Brisbane (Australia).

Sol.49.(d) 11 October. International Girl Child Day - First time celebrated in 2012.

It is celebrated by the United Nations General Assembly. **Other important Days:** 5 October - World Teachers' Day, 2 October - Gandhi Jayanti, 23 March - Sahid Diwas, 22 April - Earth Day, 5 June - Environment Day.

Sol.50.(a) Odisha. Bhima Bhoi Bhinnakhyama Samarthya Abhiyan (BBSA): Aim - To create an enabling environment to ensure equal opportunities, equity, social justice and empowerment of PwD. Other Scheme of Odisha: KALIA (Krushak Assistance for Livelihood and Income Augmentation) Yojana - Started in January 2019, Krushak Assistance for Livelihood and Income Augmentation". Odisha Food Security Scheme (SFSS) - Launched on October 2, 2018.

Sol.51.(d) According to question, Relative Speed = (30 - 25) = 5 km/hr
Required time = $\frac{75}{5} = 15$ hours

Sol.52.(c)
Ratio → P : Q
Efficiency → 3 : 1
Time → 1 : 3
Difference in time (2 unit) = 40 days
Total work = $\frac{40}{2} \times 3 = 60$ units
Required time = $\frac{60}{3+1} = 15$ days

Sol.53.(a) Let total number of voters enrolled = 100x
Voters participated in elections = 98x
Valid votes = 98x - 500
Votes in favour of A = 43% of enrolled voters = 43x
Votes in favour of B = (98x - 500) - 43x
According to question,
43x - [(98x - 500) - 43x] = 200
43x - (98x - 500) + 43x = 200
86x - 98x + 500 = 200
-12x = -300 ⇒ x = 25
Total number of voters participated = 98x = 98 × 25 = 2450

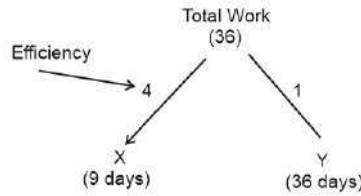
Sol.54.(c)
Sin 25° Sin 65° - Cos 25° Cos 65°
= Sin 25° Sin 65° - Cos (90° - 65°)
Cos(90° - 25°)
= Sin 25° Sin 65° - Sin 65° Sin 25° = 0

Sol.55.(b) According to question, 8% = 10500
population of village A = $\frac{10500 \times 12}{8} = 15750$

Sol.56.(d)
 $(4x + y)^3 = 64x^3 + 48x^2y + 12xy^2 + y^3$

According to question,
 $64x^3 + 38x^2y + 20xy^2 + y^3$
= $(4x + y)^3 - 10x^2y + 8xy^2$
= $(4 \times 3 - 4)^3 - 10 \times 3^2(-4) + 8 \times 3 \times 16$
= $(8)^3 + 360 + 384 = 512 + 744 = 1256$

Sol.57.(b)

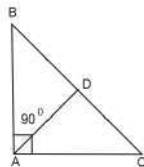


According to question,
Work done in 1 cycle (2 days) = 4 + 1 = 5 units
Work done in 7 cycle (14 days) = 5 × 7 = 35 units
Remaining work = 36 - 35 = 1 unit
Time Required to complete remaining work = $\frac{1}{4}$ days
Total time = $14 + \frac{1}{4} = 14\frac{1}{4}$ days

Sol.58.(c)
C.P. : S.P.
Profit → 25 : 26
Weight → 940 : 1000

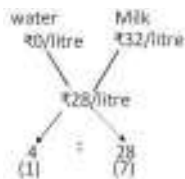
Total → 47 : 52
Required profit = $\frac{52-47}{47} \times 100 = 10.64\%$

Sol.59.(c) Theorem : The mid point of hypotenuse of a right angled triangle is equidistant from all the vertices of the triangle (AD = BD = DC).



Therefore, AD = $\frac{BC}{2}$

Sol.60.(b)



Required ratio = 4 : 28 = 1 : 7

Sol.61.(d) Let the share of a woman and a girl be 'a' and 'b'.
According to question,
 $(5a + 9b) \times 9 = 18720$ -----(1)
 $(9a + 16b) \times 14 = 52080$ -----(2)
From the above equations, we get ;
a = 200 and b = 120
Required amount =
 $\{(12 \times 200) + (7 \times 120)\} \times 13 = 42,120$ Rs.

Sol.62.(b)

Marked price of laptop = 72000 Rs.
According to question,
Net discount % = $20 + 25 - \frac{20 \times 25}{100} = 40\%$
Price of laptop after discount =
 $72000 \times \frac{60}{100} = 43200$ Rs.
Required price = $43200 - (2850 \times 0.10) = 42915$ Rs.

Sol.63.(c) Formula : $(a + b + c)^3 - 3abc = (a + b + c)(a^2 + b^2 + c^2 + ab + bc + ca)$
And we know, If $(a + b + c) = 0$
Then, $a^3 + b^3 + c^3 = 3abc$

Sol.64.(d) Formula used :

$\cos(A - B) = \cos A \cdot \cos B + \sin A \cdot \sin B$
 $= \cos(36^\circ + A) \cdot \cos(36^\circ - A) + \cos(54^\circ + A) \cdot \cos(54^\circ - A)$
 $= \cos(36^\circ + A) \cdot \cos(36^\circ - A) + \cos[90^\circ - (36^\circ + A)] \cdot \cos[90^\circ - (36^\circ - A)]$
 $= \cos(36^\circ + A) \cdot \cos(36^\circ - A) + \sin(36^\circ + A) \cdot \sin(36^\circ - A)$
 $= \cos[36^\circ + A - (36^\circ - A)] = \cos(2A)$

Sol.65.(c) (100) % = 360°
According to question,
Required difference (30 - 25)%
 $= \frac{360}{100} \times 5 = 5 \times 3.6^\circ = 18^\circ$

Sol.66.(a)

Total surface area of cube $(6a^2) = 24$
⇒ side of cube (a) = 2
Volume of cube $(a^3) = 8$ cu.units

Sol.67.(c)

$4\frac{4}{5} \div \frac{3}{5}$ of $5 + \frac{4}{5} \times \frac{3}{10} - \frac{1}{5}$
 $\Rightarrow \frac{24}{5} \div 3 + \frac{12}{50} - \frac{1}{5}$
 $\Rightarrow \frac{8}{5} + \frac{2}{50} = 1\frac{16}{25}$

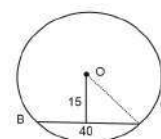
Sol.68.(a) According to question,
BC = 13 cm = QR
PR = 5 cm = AC [triangles are congruent]
Using pythagoras theorem, (as ∠A = 90°)
AB = $\sqrt{13^2 - 5^2} = 12$ cm

Sol.69.(b) According to question,
Mean proportional = $\sqrt{7 \times 112} = 28$

Sol.70.(c) According to question,
 $4W = 6B \Rightarrow \frac{W}{B} = \frac{3}{2}$

Total work (60B) = 60 × 2
Required time = $\frac{60 \times 2}{5 \times 3} = 8$ days

Sol.71.(a)



According to question,

$$OC (\text{Radius of circle}) = \sqrt{(20)^2 + (15)^2} \\ = 25 \text{ cm}$$

$$\text{Sol.72.(b)} \sec^2 54^\circ - \cot^2 36^\circ + \frac{3}{2} \sin^2 37^\circ \\ \times \sec^2 53^\circ + \frac{2}{\sqrt{3}} \tan 60^\circ$$

$$= \sec^2(90^\circ - 36^\circ) - \cot^2 36^\circ + \frac{3}{2} \sin^2 37^\circ \\ \times \sec^2(90^\circ - 37^\circ) + \frac{2}{\sqrt{3}} \tan 60^\circ$$

$$= \operatorname{cosec}^2 36^\circ - \cot^2 36^\circ + \frac{3}{2} \sin^2 37^\circ \times \\ \operatorname{cosec}^2 37^\circ + \frac{2}{\sqrt{3}} \tan 60^\circ$$

$$= 1 + \frac{3}{2} + \frac{2}{\sqrt{3}} \times \sqrt{3} = \frac{9}{2}$$

$$\text{Sol.73.(c)} \text{ Simple interest} = \frac{P \times R \times T}{100}$$

According to question,

$$\frac{500 \times R \times 4}{100} + \frac{700 \times R \times 2}{100} = 280$$

$$\text{Rate of interest} = \frac{280}{34} = 8\frac{4}{17} \%$$

Sol.74.(c) According to question,

Distance covered by thief in 1 hour = 57 km

Relative Speed = (76 - 57) = 19 km/hr

Time required to catch the thief = $\frac{57}{19} = 3$ hr.

Therefore, Required time = 4 : 00 am + 3hrs. = 7 : 00 a.m.

Sol.75.(b) Let the present age of Savita and Rahim be a year and b year.

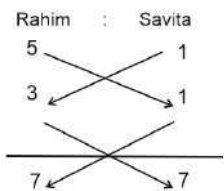
According to question,

$$b = 5a \text{ ----- (1)} \Rightarrow (b + 7) = 3(a + 7)$$

$$(5a + 7) = 3a + 21 \Rightarrow a = 7$$

Therefore, Present age of Rahim (b) = 5a = 35 years

Short trick :



$$(5 \times 1) - (3 \times 1) = (7 \times 3) - (7 \times 1)$$

2 units = 14 years So the present age of Rahim(5 units) = 5 × 7 = 35 years.

Sol.76.(d) want to win

According to the "Subject-Verb Agreement Rule", If two subjects are joined with the conjunction 'and' then it will be treated as a plural subject and it will take a plural verb with it. In the given sentence, 'The boys and the teacher' is a plural subject that will take 'want' as a plural verb. Hence, 'want to win' is the most appropriate answer.

Sol.77.(a)

Demur- to object or show unwillingness.

Compelled- forced to do something.

Obscured- to hide or conceal.

Confessed- to admit or acknowledge.

Induced- to persuade or influence someone to do something.

Sol.78.(d) To kick the bucket- To die

E.g.- The elderly man lived a long and joyful life, but eventually, he kicked the bucket in his sleep.

Sol.79.(d) Hoisting

Correct Spellings- Floral, statue and Tributes.

Sol.80.(a) Misconstruction - a misunderstanding of something, especially a text or statement.

Adage- a short statement expressing a general truth.

Rebuke- to scold or criticize.

Dare- to have the courage to do something challenging.

Addiction- a strong dependence on something.

Sol.81.(b) have

The verb 'reminds' indicates an action in present tense. We generally use the semi-modal 'have to' with "I/you/we/they" to express a general obligation. Similarly, the given sentence expresses the obligation that I have to be careful. Hence, 'have' is the most appropriate answer.

Sol.82.(c) Sympathetic- showing concern and understanding towards the suffering or emotions of others.

Callous- a lack of concern for the feelings and suffering of others.

Rationalistic- based on or guided by reason and logic rather than emotions or feelings.

Unsympathetic- showing a lack of compassion, understanding, or concern towards others' feelings.

Non diplomatic- lacking tact or sensitivity in dealing with others.

Sol.83.(d) P, Q, R, S

Sentence P will follow sentence S1 as it states where the entertainment news can be found. And, Sentence Q states the aim of short news. So, Q will follow P. Further, Sentence R states the news reporters & Sentence S states their reports. So, S will follow R. Going through the options, option (d) has the correct sequence.

Sol.84.(a) Preparing- being ready or making arrangements in advance.

Listening- giving attention to the sound.

Organised- arranged in a systematic manner.

Equipped- to take or to have the all the necessary items.

Sol.85.(b) Were the books not being read by the children?(Correct)

(a) Were the books being read by the children? ('not' is missing)

(c) Were the book not being read by the children? (Incorrect Noun)

(d) Were the children reading the books? (Incorrect Sentence Structure)

Sol.86.(d) Unfriendly

Hostile- showing opposition, aggression, or unfriendliness.

Pleasant- nice, enjoyable, and friendly.

Hospitable- friendly to guests or strangers.

Empathetic- understanding and caring about others' feelings and experiences.

Sol.87.(c) own image

The phrase "in his own image" is commonly used to describe the belief that God created human beings with characteristics or attributes resembling his own. Hence, 'own image' is the most appropriate answer.

Sol.88.(a) DCBA

Sentence D will be the starting line as it contains the main subject of the parajumble i.e. Last summer. And, Sentence C states that the tree had grown against the wall. So, C will follow D. Further, Sentence B states the narrator's feeling towards the tree & Sentence A states that he noticed the leaves of the tree. So, A will follow B. Going through the options, option (a) has the correct sequence.

Sol.89.(d)

Did Mary pack the bag?(Correct)

(a) Was Mary pack the bag? (Incorrect Sentence Structure)

(b) Is Mary packing the bag? (Incorrect Tense)

(c) Do Mary pack the bag? (Incorrect Tense)

Sol.90.(d)

Gloomy- unhappy, negative or depressed

Optimistic- having a positive attitude.

Stay- to remain in a particular state or condition.

Incident- an event or occurrence.

Positive- having a confident attitude.

Sol.91.(c) after knowing truth

Article 'the' will be used before 'truth' as we generally use the definite article 'the' with a specific noun. Hence, 'after

knowing the truth' is the most appropriate answer.

Sol.92.(d) spontaneity

'Spontaneity' is the correct spelling.

Sol.93.(c) Anarchist - A person who believes that laws and governments are not necessary.

Antagonist- a person who opposes or competes with another.

Antichrist- a person or force that opposes Christ.

Adversary- an opponent or enemy.

Sol.94.(a) Miss the boat- Missing a good opportunity

E.g.- She wanted to join the team, but she missed the boat because the registrations closed yesterday.

Sol.95.(a) BDAC

Sentence B will be the starting line as it contains the main idea of the parajumble i.e. Growth of the underdeveloped companies. And, Sentence D states the character of the development. So, D will follow B. Further, Sentence A states the outcome & Sentence C states an additional point of substantial aid. So, C will follow A. Going through the options, option (a) has the correct sequence.

Sol.96.(c) the

We generally use definite article 'the' with single existing things. The given passage states that the Sun is a star at the center of the Solar System. Hence, 'the' is the most appropriate answer.

Sol.97.(a) cultures

'Culture' means collective beliefs, values, customs, traditions shared among a group of people. The given passage states that it's central to mythology and religion in cultures around the world. Hence, 'cultures' is the most appropriate answer.

Sol.98.(b) source

'Source' means the origin, point of origin of something. The given passage states that It is by far the most important source of energy for life on Earth. Hence, 'source' is the most appropriate answer.

Sol.99.(b) as

'As...as' is a comparative structure used to compare two things. The given passage states that It is about a hundred times as wide as the Earth. Hence, 'as' is the most appropriate answer.

Sol.100.(d) existence

'Existence' means the state of being

alive. The given passage states that If there were no sun, many things wouldn't occur like photosynthesis or the presence of oxygen, which would have caused no existence of life. Hence, 'existence' is the most appropriate answer.

**SSC CGL 2023 Tier - 1
14/07/2023 (3rd Shift)**

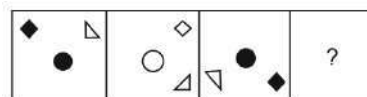
Reasoning

Q.1. 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 /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).

- (3, 9, 30)
- (10, 3, 33)
- (a) (6, 9, 40) (b) (8, 8, 74)
- (c) (12, 3, 39) (d) (9,7,98)

Q.2. Select the figure that will replace the question mark (?) in the following figure series.



- (a)
- (b)
- (c)
- (d)

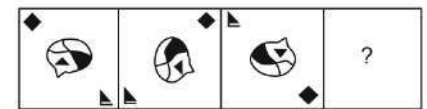
Q.3. Which of the following terms will replace the question mark (?) in the given series?

- PGLT, RHNU, TIPV, VJRW, ?
- (a) WKUX (b) XLTX (c) WXKT (d) XKTX

Q.4. Select the option that represents the letters that, when sequentially placed from left to right in the blanks below, will complete the letter series.

- R_ _ODRMN _ _ _ MN_DR_NO_
- (a) MNODROMD (b) MNODRODM
 - (c) NMODROMD (d) MNDRORMD

Q.5. Select the figure that will replace the question mark (?) in the following figure series.



- (a)
- (b)
- (c)
- (d)

Q.6. Select the set in which the numbers are related in the same way as are the numbers of the following set.

(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 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.)

- (12, 8, 80)
- (16, 10, 131)
- (a) (11, 5, 55) (b) (13, 4, 160)
- (c) (14, 12, 126) (d) (9, 6, 54)

Q.7. Select the option that represents the correct order of the given words as they would appear in an English dictionary.

1. Pancakes 2. Pandemic 3. Panicked 4. Pancreas 5. Panorama 6. Panther
- (a) 1, 4, 2, 3, 5, 6 (b) 4, 1, 2, 3, 5, 6
 - (c) 1, 4, 2, 3, 6, 5 (d) 2, 1, 4, 3, 6, 5

Q.8.Select the option that is related to the third word in the same way as the second word is related to the first word. (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)

- Anklet : Ankle :: Bracelet : ?
- (a) Ear (b) Wrist (c) Waist (d) Neck

Q.9. Select the option that is related to the fifth number in the same way as the second number is related to the first number and the fourth number is related to the third number.

- 864 : 12 :: 1372 : 14 :: 2048 : ?
- (a) 16 (b) 12 (c) 18 (d) 14

Q.10. Select the option that is related to the fifth letter-cluster in the same way as the second letter-cluster is related to the first letter-cluster and the fourth letter-cluster is related to the third letter-cluster.

- MOC : MKW :: SEL : GUN :: DKR : ?
- (a) VOH (b) VOG (c) VNH (d) VNG

Q.11. Select the correct mirror image of the given figure when the mirror is placed at MN as shown below.



- (a) $\overline{M2 W b B 4 e C}$ (b) $\overline{N S W b B 4 9 C}$
 (c) $\overline{N S W b B 4 e C}$ (d) $\overline{N S W b B 4 e C}$

Q.12. Three of the following four letter-clusters are alike in a certain way and one is different. Select the one that is different.

- (a) DFJL (b) KMOQ (c) ACGI (d) HJNP

Q.13. In a certain code language, 'PLANT' is written as 'NRDVP' and 'SCORE' is written as 'EURGT'. How will 'GRIND' be written in that language?

- (a) TILFP (b) SHLGQ (c) UJKEO (d) ITPPF

Q.14. Study the given pattern carefully and select the number that can replace the question mark (?) in it.

First row- 8, 28, 53

Second row- 7, 25, 47

Third row- 13, 43, ?

(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)

- (a) 93 (b) 85 (c) 95 (d) 83

Q.15. The second number in the given number-pairs is obtained by performing certain mathematical operation(s) on the first number. The same operation(s) is/are followed in all the number-pairs, except one. Find that odd number-pair.

(NOTE: The relation should be found without breaking down the numbers into its constituent digits)

- (a) 6286 : 1965 (b) 6571 : 2448
 (c) 8247 : 3926 (d) 6903 : 2582

Q.16. In a certain code language, 'ZEAL' is coded as '9476' and 'LAME' is coded as '8694'. What is the code for 'M' in the given code language?

- (a) 4 (b) 8 (c) 6 (d) 9

Q.17. Select the option that represents the letters that, when placed from left to right in the following blanks, will complete the letter-series.

LTK_HL_ _JH_V_JHL_K_H

- (a) JUKLKWJ (b) IUKLKWJ
 (c) IUKMKWJ (d) UKLKXJ

Q.18. 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 /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)

- (82, 35, 78)
 (18, 27, 30)
 (a) (21, 27, 24) (b) (15, 36, 38)
 (c) (27, 33, 40) (d) (20, 25, 32)

Q.19. If, 'C@S' means 'C is the father of S', 'C * S' means 'C is the brother of S', 'C # S' means 'C is the sister of S', 'C \$ S' means 'C is the daughter of S', 'C = S' means 'C is the mother of S', then how is Z related to Q in the following expression?

- Q \$ R @ S * T \$ Z
 (a) Brother's wife (b) Mother
 (c) Sister (d) Daughter

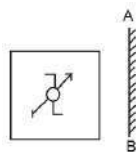
Q.20. If '+' means 'subtraction', '-' means 'multiplication', '÷' means 'addition' and 'x' means 'division', then what is the value of the following expression?

- $11 - 14 + 9 \times 3 \div 104$
 (a) 269 (b) 255 (c) 245 (d) 271

Q.21. Select the correct combination of mathematical signs to sequentially replace the signs and balance the given equation.

- $86 * 54 * 34 * 68 * 2 * 33$
 (a) -, +, ÷, x, = (b) ÷, -, +, x, =
 (c) x, ÷, x, -, = (d) +, ÷, x, -, =

Q.22. Select the correct mirror image of the given figure when the mirror is placed at AB.



- (a) (b)
 (c) (d)

Q.23. In this question, three statements are given, followed by three conclusions numbered I, II and III. Assuming the

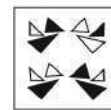
statements to be true, even if they seem to be at variance with commonly known facts, decide which of the conclusions logically follows/follow from the statements.

Statements:
 All balls are flowers.
 All flowers are plates.
 Some plates are cups.

Conclusions:
 I. Some flowers are balls.
 II. Some plates are flowers.
 III. All cups are plates.
 (a) Only conclusions I and II follow.
 (b) Only conclusion III follows.
 (c) Only conclusion II follows.
 (d) Only conclusion I follows.

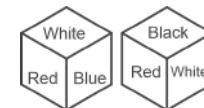
Q.24. Which of the answer figures is the exact mirror image of the given problem figure when the mirror is held at the right side?

Problem figure:



- (a) (b)
 (c) (d)

Q.25. Two different positions of the same dice have different colours - White, Red, Blue, Yellow, Green and Black - written on it. Identify the colour on the face opposite the face showing 'Blue'.



- (a) White (b) Black (c) Green (d) Yellow

General Awareness

Q.26. Ambubachi Mela (Fair) is held in which of the temples of North-East India?
 (a) Dakshineswar Kali (b) Bhuvanewari
 (c) Billeswar (d) Kamakhya

Q.27. Which of the following groups of states recorded very high population growth rate during 2001-2011 Census of India?
 (a) Bihar, Rajasthan, Sikkim
 (b) West Bengal, Meghalaya, Bihar
 (c) Bihar, Haryana, Meghalaya
 (d) Meghalaya, Arunachal Pradesh, Bihar

Q.28. A wealthy person in the early Vedic

period was known as_____

- (a) Duhitri (b) Gaveshna
(c) Gommat (d) Ravi

Q.29. India has been ranked_____in the Medical Tourism Index (MTI) for 2020-21 out of 46 destinations by the Medical Tourism Association

- (a) 10th (b) 15th (c) 20th (d) 5th

Q.30. The Japfu range, which is 3,014 meters high, is located in which state?

- (a) Assam (b) Arunachal Pradesh
(c) Meghalaya (d) Nagaland

Q.31. Who among the following performing artists bagged the best actress award for Meena Gurjari in 1975?

- (a) Sonal Masingh
(b) Sitara Devi
(c) Shovana Narayana
(d) Mallika Sarabhai

Q.32. Urmila Satyanarayanan is an exponent of which Indian classical dance form?

- (a) Bharatanatyam (b) Kathak
(c) Manipuri (d) Sattriya

Q.33. When was the Secretary of State for India made responsible for the Government of British India by bringing about changes in the Home Government?

- (a) 1858 (b) 1833 (c) 1857 (d) 1813

Q.34. Which waterway provides connectivity with mainland India through the India-Bangladesh Protocol route?

- (a) NW-10 (b) NW-15 (c) NW-2 (d) NW-83

Q.35. In 2021, the Indian men's cricket team defeated Australia at the Gabba stadium in a Test match becoming the only cricket team to defeat Australia in Brisbane since

- (a) 1996 (b) 1992 (c) 1990 (d) 1988

Q.36. The Fundamental Duties were added to the Constitution of India by the_____Amendment.

- (a) 73rd (b) 42nd (c) 34th (d) 44th

Q.37. _____ announced the bifurcation of the British Indian Empire into a secular India and Islamic Pakistan.

- (a) Lord Ripon
(b) Lord Dalhousie
(c) Lord Louis Mountbatten
(d) Lord Curzon

Q.38. Which of the following cells are found in the liver of mammals?

- (a) Purkinje cells (b) Microglial cells
(c) Kupffer cells (d) Sensory cells

Q.39. Who is the first law officer of India?

- (a) Advocate General of State
(b) Chief Justice of India
(c) Attorney General of India
(d) Minister of law

Q.40. The Shailendra kings who founded their empire in South-east Asia in the 8th Century AD were the followers of _____

- (a) Buddhism (b) Shaivism
(c) Jainism (d) Hinduism

Q.41. Which Vitamin D analogue is used to treat hypoparathyroidism, refractory rickets and familial hypophosphatemia?

- (a) Tacalcitol (b) Tocopherol
(c) Ergocalciferol (d) Retinol

Q.42. Which of the following is NOT a type of rock?

- (a) Igneous rock
(b) Trace rock
(c) Metamorphic rock
(d) Sedimentary rock

Q.43. Whom among the following players is associated with Javelin throw?

- (a) Neeraj Chopra (b) Pankaj Advani
(c) Saurabh Chaudhary (d) Manika Batra

Q.44. From which Latin word is the s block element calcium derived?

- (a) Calx (b) Calum (c) Coleus (d) Calcio

Q.45. Arrange the following Development Financial Institutions (DFI) in the correct chronological order, according to the year they were set up.

- (i) Industrial Credit and Investment Corporation of India (ICICI)
(ii) Industrial Development Bank of India (IDBI)
(iii) Industrial Finance Corporation of India (IFCI)
(a) (i)-(iii)-(ii) (b) (iii)-(i)-(ii)
(c) (ii)-(1)-(iii) (d) (i)-(ii)-(iii)

Q.46. Who among the following was the chief guest at India's 74th Republic Day celebrations?

- (a) Francois Hollande
(b) Cyril Ramaphosa
(c) Abdel Fattah El-Sisi
(d) Jair Bolsonaro

Q.47. Which of the following sitar players was awarded the Bharat Ratna in the year 1999?

- (a) Pandit Bhimsen Joshi
(b) Pandit Ravishankar
(c) Hariprasad Chourasia
(d) Bhupen Hazarika

Q.48. MUDRA is a financial institution set

up by the Government of India for the development and refinancing of micro unit enterprises. The full form of MUDRA is:

- (a) Micro Urban Development & Refinance Agency
(b) Micro Units Development & Refinance Agency
(c) Micro Finance Usage Development & Refinance Agent
(d) Medium Units Development & Refinance Agency

Q.49. The first Paralympic games were held in which year?

- (a) 1962 (b) 1960 (c) 1964 (d) 1961

Q.50. The suitability of post tensioning is good for:

- (a) long spans (b) end spans
(c) break spans (d) edge spans

Quantitative Aptitude

Q.51. Virat can complete a work in 30 days and Daniel is 60% more efficient than Virat to complete the same work. Find the total time taken by Daniel to complete the work.

- (a) $16\frac{3}{5}$ days (b) $18\frac{3}{4}$ days
(c) $19\frac{5}{3}$ days (d) $17\frac{5}{3}$ days

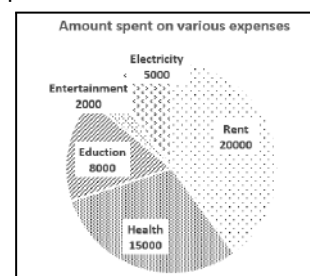
Q.52. The average of 36 numbers was found to be 45. Later, it was detected that 84 was misread as 48. Find the correct average of the given numbers.

- (a) 58 (b) 48 (c) 46 (d) 56

Q.53. If $\sin 23^\circ = \frac{a}{b}$, then the value of $\sec 23^\circ - \sin 67^\circ$ is _____

- (a) $\frac{a^2}{\sqrt{b^2-a^2}}$ (b) $\frac{b^2-a^2}{ab}$
(c) $\frac{a^2}{b\sqrt{b^2+a^2}}$ (d) $\frac{a^2}{b\sqrt{b^2-a^2}}$

Q.54. What is the central angle corresponding to the sector indicating the expenses incurred on Health?



- (a) 72° (b) 54° (c) 110° (d) 108°

Q.55. In an election between three candidates, Arjun, Bhaskar and Saral

contested for a post. Arjun got 50% votes more than Saral, and Saral got 2% votes less than Bhaskar. The difference between the votes of Bhaskar and Saral is 1296. What is the half of the difference between the votes of Arjun and Bhaskar?
(a) 3888 (b) 13988 (c) 7766 (d) 15228

Q.56. Solve the following expression.
 $[7 + 30 \div 6 - (6 + 6) + 7]$
 (a) 6 (b) 7 (c) 5 (d) 4

Q.57. In an office, a typing work can be finished by Monika in 6 hours, Anita in 8 hours and Manju in 5 hours if they work alone. How much time (in hours) will they take if they work together?

(a) $3\frac{3}{59}$ (b) $2\frac{2}{59}$ (c) $2\frac{2}{5}$ (d) $2\frac{2}{57}$

Q.58. Which of the following statements is INCORRECT?

- (a) If a chord is extended outside the circle on both ends then it is called secant.
 (b) Tangent is perpendicular to the radius of the circle at the point of contact
 (c) A line which intersects two distinct points of a circle is called tangent.
 (d) Tangent is a line touching only one point of the circle.

Q.59. A's efficiency is twice that of B's. A can work only for 8 hours a day while B can work for 12 hours a day. If A can finish a work in 12 days, in how many days can B finish the same work?
 (a) 8 (b) 10 (c) 16 (d) 12

Q.60. Two friends P and Q simultaneously start running from the same point around a circular track. They run in the same direction. P runs at 6 m/sec and Q runs at b m/sec. If they cross each other at exactly two points on the circular track and b is a natural number less than 6, then how many values can b take?
 (a) 2 (b) 1 (c) 4 (d) 3

Q.61. A dealer professing to sell his goods at cost price uses 950 grams weight for 1 kg. His gain percentage is: (rounded off to two decimal places)
 (a) 5.35% (b) 5.26% (c) 5.86% (d) 5.96%

Q.62. A trader allows a 20% trade discount and a 30% cash discount. If the list price is ₹1,200, then the selling price (in) is:
 (a) 627 (b) 720 (c) 762 (d) 672

Q.63. If $x + \frac{1}{x} = 7$, then the value of $x^6 + \frac{1}{x^6}$ is:

- (a) 113682 (b) 103682
 (c) 103882 (d) 103862

Q.64. The current ages of Sudhir and Ashish are in the ratio 5 : 7. Twelve years ago, the ratio of their ages was 1 : 2. What will be the age of Sudhir after five years from now ?

- (a) 20 years (b) 25 years
 (c) 33 years (d) 28 years

Q.65. A man invests a total sum of ₹10,000 in a company. A part of the sum was invested at 10% simple interest per annum and the remaining part at 15% simple interest per annum. If the total interest accrued to him in two years equals ₹2,400, the sum invested at 15% simple interest per annum is:

- (a) ₹8,000 (b) ₹4,000
 (c) ₹6,000 (d) ₹5,000

Q.66. AB is the diameter of a circle with centre O. P be a point on it.

If $\angle AOP = 95^\circ$, then $\angle OBP =$ _____

- (a) 57.5° (b) 45.5° (c) 47.5° (d) 55.5°

Q.67. If $\frac{\cos\beta}{\sec\alpha} = 15$ and $\frac{\sin\beta}{\sec\alpha} = 16$, then the value of $\sin^2\beta$ is _____.

- (a) $\frac{256}{481}$ (b) $-\frac{256}{481}$ (c) $\frac{481}{256}$ (d) $-\frac{481}{256}$

Q.68. What is the value of $\sin 30^\circ + \cos 30^\circ + \tan 30^\circ$

- (a) $\frac{5 + \sqrt{3}}{2\sqrt{3}}$ (b) $\frac{5 - \sqrt{3}}{2\sqrt{3}}$
 (c) $\frac{5 + \sqrt{3}}{\sqrt{3}}$ (d) $\frac{5 - \sqrt{3}}{\sqrt{3}}$

Q.69. If $\sec^2\theta + \tan^2\theta = \frac{25}{18}$, then the value of $\sec^4\theta - \tan^4\theta$ is:

- (a) $\frac{18}{25}$ (b) $\frac{25}{12}$ (c) $\frac{25}{9}$ (d) $\frac{25}{18}$

Q.70. The volume of a cone is 73920 cm^3 . If the height of the cone is 160 cm, then find the diameter of its base.

- (a) 21cm (b) 40cm (c) 22cm (d) 42cm

Q.71. A and B have some toffees. If A gives one toffee to B, then they have an equal number of toffees. If B gives one toffee to A, then the toffees with A are double with B. The total number of toffees with A and B are _____.

- (a) 12 (b) 10 (c) 14 (d) 15

Q.72. Study the given table carefully and answer the following question.

The table shows the percentage of students of four departments - Mechanical, Civil, Computer Science and Applied - with each student being in only one department. The table also shows

the number of students of these four departments in five different colleges, with the total number of students being 2080.

College	Number of students	Mechanical	Civil	Computer Science	Applied
IIT Delhi	430	-	20%	-	10%
IIT Kanpur	350	20%	-	25%	-
IIT Bombay	-	20%	18%	-	32%
IIT Madras	-	-	25%	18%	35%
IIT Guwahati	400	20%	22%	-	20%

If the number of students in IIT Bombay is 20% less than the number of students in IIT Madras, then the number of students in IIT Bombay is:

- (a) 300 (b) 500 (c) 200 (d) 400

Q.73. Simplify the following expression

$$\left[\frac{85}{34} \times \frac{1}{18} - \left\{ \left(\frac{46}{69} \div \frac{27}{135} \right) - \left(-\frac{86}{129} \times \frac{91}{14} \right) \right\} \text{ of } \frac{112}{36} \right]$$

- (a) $3\frac{1}{5}$ (b) $3\frac{3}{4}$ (c) $3\frac{1}{2}$ (d) $3\frac{1}{4}$

Q.74. An inlet pipe can fill an empty tank in 140 hours while an outlet pipe drains a completely-filled tank in 63 hours. If 8 inlet pipes and y outlet pipes are opened simultaneously, when the tank is empty, then the tank gets completely filled in 105 hours. Find the value of y.

- (a) 1 (b) 4 (c) 2 (d) 3

Q.75. Jehangir had to cover a distance of 90 km in an hour. During the first 25 minutes he travelled at a speed of 15.2 metres per second. How many metres did Jehangir cover per second during the remaining period to reach his destination just on time?

- (a) 30.8 (b) 32.5 (c) 32 (d) 31.2

English

Q.76. Select the option that expresses the given sentence in passive voice.

The little boy called up his best friend on his birthday.

- (a) His best friend has been called up by the little boy on his birthday
 (b) His best friend was called up by the little boy on his birthday.
 (c) His best friend is called up by the little boy on his birthday.
 (d) His best friend was being called up by the little boy on his birthday

Q.77. Sentences of a paragraph are given below in jumbled order. Arrange the sentences in the correct order to form a meaningful and coherent paragraph.

A. Through a subtle analysis, Woolf raises certain concerns regarding

discrimination against women in a male-dominated society.

B. It's also against the need for freedom of expression in women, and the right to human dignity and equality.

C. In 'Shakespeare's Sister', Virginia Woolf explores the plight of women in society in England during the 15th and 16th centuries.

D. It is against the denial of education to the girl-child and violence against women.

(a) BACD (b) DCBA (c) ADBC (d) CADB

Q.78. Select the option that can be used as a one-word substitute for the given group of words.

A person who hates and avoids other people

(a) Masochist (b) Pervert
(c) Hermit (d) Misanthrope

Q.79. Select the option that expresses the given sentence in passive voice.

Who stole my tickets?

(a) My tickets was stolen by whom?
(b) My tickets got stolen by who?
(c) By whom were my tickets stolen?
(d) My tickets were stolen by who?

Q.80. Select the most appropriate ANTONYM of the word given in brackets to fill in the blank.

The gradual _____ (curtail) in the expenditures made them tensed.

(a) indent (b) innate
(c) increase (d) insinuate

Q.81. Select the most appropriate synonym of the given word.

Insidious

(a) Protected (b) Secure
(c) Safe (d) Harmful

Q.82. Select the most appropriate ANTONYM of the underlined word in the given sentence.

The thief was caught with a spurious Picasso painting.

(a) Fake (b) Stolen
(c) Splendid (d) Authentic

Q.83. Select the most appropriate option that can substitute the underlined segment in the given sentence. If there is no need to substitute it, select 'No substitution'.

The frog adopts itself to live both in water and on land.

(a) frog adept itself (b) frog alters itself
(c) No substitution (d) frog adapts itself

Q.84. The following sentence has been divided into parts. One of them may contain an error. Select the part that

contains the error from the given options. If you don't find any error, mark 'No error' as your answer. Darshan wished he hadn't / went to the theme park / in the first place.

(a) Darshan wished he hadn't
(b) in the first place
(c) went to the theme park
(d) No error

Q.85. Select the most appropriate option to fill in the blank.

Kiran had a short _____ as a writer.

(a) caress (b) career (c) carer (d) carrier

Q.86. Select the option that can be used as a one-word substitute for the given group of words.

A place where coins, medals, or tokens are made

(a) Hutch (b) Hangar
(c) Mint (d) Monastery

Q.87. Select the most appropriate meaning of the given idiom.

To bell the cat

(a) To feed pets (b) To play with kids
(c) To love cats (d) To face risk

Q.88. Select the most appropriate option that can substitute the underlined segment in the given sentence. If there is no need to substitute it, select 'No substitution'.

We all should help each other.

(a) help mutually (b) help one another
(c) help each one (d) No substitution

Q.89. Parts of the following sentence have been given as options. Select the option that contains an error.

An lion is the most ferocious of all animals.

(a) ferocious of (b) all animals.
(c) An lion (d) is the most

Q.90. Select the appropriate idiom to fill in the blank.

The police have not yet been able to solve the case; it seems to be _____

(a) in a nutshell
(b) turning over a new leaf
(c) a hard nut to crack
(d) in a pink

Q.91. Select the most appropriate ANTONYM of the underlined word in the given sentence.

Israel has been a staunch ally of the United States.

(a) Resolute (b) Careless
(c) Confused (d) Unsteady

Q.92. Identify the option that rectifies the underlined spelling error in the given

sentence.

The boys of our class have reported that considerable progress in the implimentation of their policies has been made.

(a) Implimentation (b) implimantation
(c) Implementation (d) Implemantation

Q.93. Select the most appropriate synonym of the given word.

About

(a) Increase (b) Flourish
(c) Succeed (d) Adequate

Q.94. Select the INCORRECTLY spelt word .

(a) Opportunity (b) Reliance
(c) Approach (d) Bureau

Q.95. Select the option that can be used as a one-word substitute for the given group of words.

A person who abandons religion

(a) Egotist (b) Priest
(c) Apostate (d) Atheist

Cloze Test:

Direction:- [Q.96. to Q.100.]

Global warming is one of the biggest environmental (96)_____facing the world today. The primary cause of global warming is the (97), _____of greenhouse gases such as carbon dioxide and methane into the atmosphere. These gases trap heat from the sun, causing the Earth's temperature to rise. The (98)_____effects of global warming are widespread and include more frequent and severe weather events, rising sea levels and the loss of biodiversity. Many governments and organisations have implemented (99)_____to reduce greenhouse gas emissions. However, individuals can also play a role in (100)_____global warming by making small changes to their daily habits, such as reducing their energy consumption and driving less.

Q.96. (a) consequences (b) opportunities
(c) benefits (d) challenges

Q.97. (a) emission (b) absorption
(c) reflection (d) conduction

Q.98. (a) negative (b) positive
(c) neutral (d) negligible

Q.99. (a) sanctions (b) subsidies
(c) restrictions (d) policies

Q.100. (a) exacerbating (b) mitigating
(c) sustaining (d) expanding

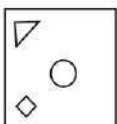
Answer Key :-

1.(c)	2.(d)	3.(d)	4.(a)
5.(a)	6.(d)	7.(a)	8.(b)
9.(a)	10.(a)	11.(c)	12.(b)
13.(a)	14.(d)	15.(b)	16.(b)
17.(a)	18.(c)	19.(b)	20.(b)
21.(a)	22.(c)	23.(a)	24.(a)
25.(b)	26.(d)	27.(d)	28.(c)
29.(a)	30.(d)	31.(d)	32.(a)
33.(a)	34.(c)	35.(d)	36.(b)
37.(c)	38.(c)	39.(c)	40.(a)
41.(c)	42.(b)	43.(a)	44.(a)
45.(b)	46.(c)	47.(b)	48.(b)
49.(b)	50.(a)	51.(b)	52.(c)
53.(d)	54.(d)	55.(d)	56.(b)
57.(b)	58.(c)	59.(c)	60.(b)
61.(b)	62.(d)	63.(b)	64.(b)
65.(b)	66.(c)	67.(a)	68.(a)
69.(d)	70.(d)	71.(a)	72.(d)
73.(d)	74.(d)	75.(c)	76.(b)
77.(d)	78.(d)	79.(c)	80.(c)
81.(d)	82.(d)	83.(d)	84.(c)
85.(b)	86.(c)	87.(d)	88.(b)
89.(c)	90.(c)	91.(d)	92.(c)
93.(b)	94.(c)	95.(c)	96.(d)
97.(a)	98.(a)	99.(d)	100.(b)

Solutions :-

Sol.1.(c) Logic:- (First number × Second number) + 3 = Third number
 (3, 9, 30):- (3 × 9) + 3 = 30
 (10, 3, 33):- (10 × 3) + 3 = 33
 Similarly,
 (12, 3, 39):- (12 × 3) + 3 = 39

Sol.2.(d)



Sol.3.(d)



Sol.4.(a)

RMNOD/RMNOD/RMNOD/RMNOD

Sol.5.(a)



Sol.6.(d) Logic:

(First No.)² - ($\frac{\text{Second No.}}{2}$)³ = Third No.

(12, 8, 80) → (12)² - ($\frac{8}{2}$)³ = 80

(16, 10, 131) → (16)² - ($\frac{10}{2}$)³ = 131

(9, 6, 54) → (9)² - ($\frac{6}{2}$)³ = 54

Sol.7.(a) Pancakes(1) → Pancreas(4) → Pandemic(2) → Panicked(3) → Panorama(5) → Panther(6)

Sol.8.(b) Like an anklet is worn on the ankle, similarly a bracelet is worn on the wrist.

Sol.9.(a) Logic:-

First number = (Second number)³ ÷ 2

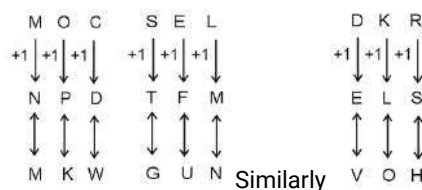
(864 : 12):- 864 = (12)³ ÷ 2 ,
 = 1728 ÷ 2 = 864

(1372 : 14):- 1372 = (14)³ ÷ 2 ,
 = 2744 ÷ 2 = 1372

Similarly,

(2048 : ?) :- 2048 = (?)³ ÷ 2 ,
 (16)³ ÷ 2 , 4096 ÷ 2 = 2048

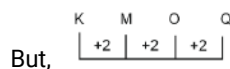
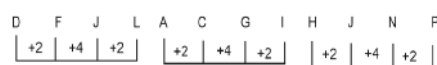
Sol.10.(a)



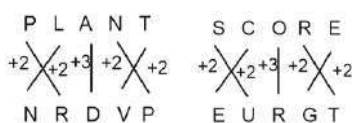
Sol.11.(c)

INSWbqBqC

Sol.12.(b)



Sol.13.(a)



Similarly,

Sol.14.(d) Logic:-

1st number × 3 + 4 = 2nd number ,

2nd number × 2 - 3 = 3rd number

(8, 28, 53):- 8 × 3 + 4 = 28 ,

28 × 2 - 3 = 53

(7, 25, 47):- 7 × 3 + 4 = 25 ,

25 × 2 - 3 = 47

Similarly,

(13, 43, ?):- 13 × 3 + 4 = 43 ,
 43 × 2 - 3 = 83

Sol.15.(b) Logic :- (First number - Second number) = 4321

(6286 : 1965):- (6286 - 1965) = 4321

(8247 : 3926):- (8247 - 3926) = 4321

(6903 : 2582):- (6903 - 2582) = 4321

But,

(6571 : 2448):- (6571 - 2448) = 4123

Sol.16.(b) In word ZEAL and LAME common letters are E, A, L and common numbers are 9, 4, 6

So the code for M is 8

Sol.17.(a) LTKJH/LUKJH/LVKJH/LWKJH

Sol.18.(c) Logic:-

(First number + Second number)

= (Third number ÷ 2) × 3

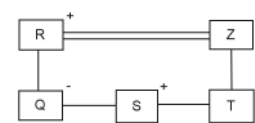
(82, 35, 78):- (82 + 35) = (78 ÷ 2) × 3 ,
 117 = 39 × 3 , 117 = 117

(18, 27, 30):- (18 + 27) = (30 ÷ 2) × 3 ,
 45 = 15 × 3 , 45 = 45

Similarly,

(27, 33, 40):- (27 + 33) = (40 ÷ 2) × 3 ,
 60 = 20 × 3 , 60 = 60

Sol.19.(b)



Z is the mother of Q

Sol.20.(b) Given :- 11 - 14 + 9 × 3 ÷ 104

As per given instruction after replacing mathematical sign with mathematical sign we get

11 × 14 - 9 ÷ 3 + 104

154 - 3 + 104 ⇒ 258 - 3 = 255

Sol.21.(a)

Given :- 86 * 54 * 34 * 68 * 2 * 33

After going through all the options , option (a) satisfied the equation

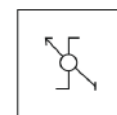
86 - 54 + 34 ÷ 68 × 2 = 33

86 - 54 + 1 = 33

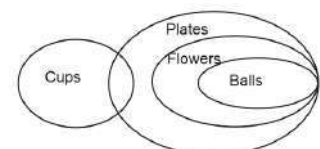
87 - 54 = 33 ⇒ 33 = 33

LHS = RHS

Sol.22.(c)



Sol.23.(a)



Only conclusion I and II follows

Sol.24.(a)



Sol.25.(b) In dice I and II Red and White face is common therefore the opposite face of the Blue is Black

Sol.26.(d) Kamakhya (Assam). The Ambubachi Mela is an annual four-day celebration held at Kamakhya Temple in Guwahati during the Monsoon season. It is based on the belief that Goddess Kamakhya goes through her annual **menstrual cycle** during this time. Other festivals (Assam): **Bihu**, Baishagu (celebrated by Bodo Kacharis), Ligang (by the Mishing tribe).

Sol.27.(d) Meghalaya, Arunachal Pradesh, Bihar. The Census 2011 (15th National Census) survey was conducted by the Census Organisation of India. Commissioner and Registrar General of India - Mr. C. Chandramouli. Nagaland is the only state whose growth rate is negative (-0.6 %). India census 2011: Growth rate of the Indian population - 17.7%, Sex Ratio (943), Literacy rate - (74.04%), Density - 382 persons/sq .km.

Sol.28.(c) Gomat. Early Vedic Period (1500 - 1000 BC), also known as Rig Vedic Period. Later Vedic Period (1000 - 600 BC). **Other terminologies during Vedic Period:** **Rajan** (Chief) was called Gopati or Gopa (Protector of cows), **Gavisthis** or Gavenshana (search for cows), Purohit (chief priest and minister), Senani (leader of the army), Samiti (general assembly of people) and Sabha (council of elders), Kula (Family), Kulapa (Head), Visu - The group of villages commanded by 'Vishayapati, Jana - Highest level of government and administration, Gana (Assembly or troop).

Sol.29.(a) 10th. MTI (2020 - 2021): Aim - to assess the attractiveness of a country as a medical tourist destination. First rank country - Canada, Last rank country - Iran. **Medical Tourism Association** - A non-profit organization focused on breaking down the barriers to affordable, transparent, and world-class healthcare. Founded - 2007. Headquarter - Florida.

Sol.30.(d) Nagaland. Mt. Japfu is called

the Switzerland of the East. The highest peak in Nagaland is Mt. Saramati (3840). Other peaks: **Nagaland** - Kapu, Zanubou, Glory Peak, Zephu. **Meghalaya** - Garo (Nokrek is the highest point), Khasi, and Jaintia hills. **Assam** - Barail is the highest hill range. **Arunachal Pradesh** - Mishmi, Dafla range, Namcha Barwa.

Sol.31.(d) Mallika Sarabhai (Bharatanatyam and kuchipudi dancer). Awards: Padma Bhushan (2010), Sangeet Natak Akademi Award (1999), French Palme D'or (1977) - The highest Civilian award in France. **Other female Classical Dancers:** Rukmini Devi Arundale (Bharatnatyam), Shovana Narayan (Kathak dancers), Sonal Mansingh (Bharatanatyam and Odissi), Sitara Devi (Queen of Kathak).

Sol.32.(a) Bharatanatyam. Urmila Satyanarayanan (Tamil nadu). Awards: Kalaimamani award (1997), Nritya Choodaman (2001). **Other dancers:** Bharatanatyam - Rukmini Devi Arundale, Padma Subrahmanyam, Mallika Sarabhai, Yamini Krishnamurthy. Kathak - Birju Maharaj, Shovana Narayan, Sitara Devi. Manipuri - Guru Bipin Singh, Darshana Jhaveri Nayana, Ranjana, Suverna. Sattriya - Krishnakshi Kashyap, Gorima Hazarika.

Sol.33.(a) 1858. Charter Act 1858 - The term Governor General changed to Viceroy for the British crown. The first viceroy was Lord Canning. The act ended 'The Doctrine of Lapse'. It ended the Dual government scheme initiated due to Pitt's India Act. **Charter Act 1813** - Ended the monopoly of the Company in India, trade with China and trade in tea with India was kept intact. **Charter Act of 1833** - It made the Governor-General of Bengal as the Governor-General of India. Lord William Bentinck - The first governor-general of India.

Sol.34.(c) NW - 2. (891 Km) Between Sadiya and Dhubri on river Brahmaputra. Pandu port (Assam) is the largest river port in Assam. **NW - 1** (1620 km): Ganga - Bhagirathi - Hooghly River (Allahabad - Haldia). It is the Longest and oldest National Waterways in India. **NW-10:** Amba River. **NW-69:** It is the smallest waterway (5 km).

Sol.35.(d) 1988. As of July 2023: India has 32 Test wins against Australia. India world cup ODI winner in 1983, 2011 and T20 winner year 2007. The World Test Championship Winner for season

2021/23 is Australia by defeating India. International Cricket Council (ICC) Founded: 15 June 1909, Headquarters: Dubai (UAE). The Board of Control for Cricket in India (BCCI) Founded: December 1928, Headquarters: Mumbai.

Sol.36.(b) 42nd Constitutional Amendment Act 1976 (Mini Constitution of India). It added Fundamental Duties (Part IV A, Article 51 A) on the recommendations of the Sardar Swaran Singh Committee. "Socialist", "Secular", and "Integrity" words were added to Preamble by this amendment. **44th** Amendment Act, 1978: The right to Property (Article 31) was removed and made it a legal right under Article 300A. **73th** Amendment Act 1992: It added Part IX, The Panchayat (Articles 243 to 243 O), and also added the 11th Schedule. **74th** Amendment Act 1992: It added Part IX A, the Municipality (Articles 243 P to 243 ZG), also added the 12th Schedule.

Sol.37.(c) Lord Louis Mountbatten (last Viceroy of India). **Lord Ripon** served as the Viceroy of India ((1880 - 1884), Father of Local - Self Government in India): He introduced the Ilbert Bill, and He repealed the Vernacular Press Act of 1878. **Lord Dalhousie** - Governor-General (1848 - 1856): He was called the Father of Indian railway. The first railway line between Bombay and Thane (34km) was opened in 1853. **Lord Curzon** - Viceroy (1899 - 1905): He announced the partition of Bengal Presidency In July 1905.

Sol.38.(c) Kupffer cells: They are resident liver macrophages and maintain liver functions. They are the first innate immune cells and protect the liver from bacterial infections. **Purkinje cells** - They are a unique type of neuron specific to the cerebellar cortex. **Microglia cells** are resident cells of the brain that regulate brain development, maintenance of neuronal networks, and injury repair. **Sensory cells** - They occur in specialised organs such as the eyes, ears, nose, and mouth, as well as internal organs.

Sol.39.(c) Attorney General of India (Article 76). He is appointed by the President. He is qualified to be appointed a judge of the Supreme Court. Removal - May be removed by the President at any time. He has the right to speak in both Houses of Parliament but without a right to vote. **Advocate General of State** (Article 165) - Highest law officer in the state. **The Chief Justice of India** and the

Judges of the Supreme Court are appointed by the President under clause (2) of Article 124.

Sol.40.(a) Buddhism. Shailendra (king of Indonesia) - He Built the Borobudur temple (Java) for the devotees of Mahayana Buddhism, It became a UNESCO World Heritage site in 1991. Bimbisara, Ashoka, and Kanishka were followers of Buddhism. Followers of Jainism - Bimbisara, Ajatsatru, Chandragupta Maurya.

Sol.41.(c) Ergocalciferol. Vitamin D (Ergocalciferol - D2, Cholecalciferol - D3) - It is a fat-soluble vitamin (A, D, E, K) that helps our body absorb calcium and phosphorus. Alfalcidol is usually taken with food. **Tacalcitol** - It is a derivative of vitamin D₃ belongs to a class of drugs called antipsoriatics. Tocopherol - Vitamin E. Retinol - Vitamin A.

Sol.42.(b) Trace rock. Three kinds of rock: **Igneous** (Primary rock) - It is formed by the solidification of magma and lava. Example - Granite and Basalt. **Sedimentary** (secondary rocks) - It is the result of the deposition of fragments of rocks by exogenous processes. Examples: sandstone, limestone, shale. **Metamorphic** (Tertiary rocks) - It formed from already existing rocks that are undergoing recrystallization. Examples - Phyllite, Schist, Gneiss, Quartzite and Marble.

Sol.43.(a) Neeraj Chopra. Awards: Padma Shri (2022), Major Dhyan Chand Khel Ratna Award (2021). Gold medal - Tokyo Olympic (2020), Commonwealth Games (2018), Asian Games (2018). **Pankaj Advani** (Billiards and Snooker player): Award - Padma Bhushan (2018), Padma Shri (2009). **Saurabh Chaudhary** (shooter) - He won the gold medal at the 2018 Asian Games. Manika Batra (table tennis): Arjuna Award (2018).

Sol.44.(a) Calx (calcium hydroxide). **Formula - Ca(OH)₂.** It is used in industrial settings, such as sewage treatment, paper production, construction, and food processing. Calum (calcium carbonate): **Formula - CaCO₃,** It is found in the earth's crust, also found in many forms such as marble, limestone. Calcio (Calcium): **Formula - Ca.**

Sol.45.(b) (iii)-(i)-(ii). Industrial Finance Corporation of India (IFCI): Establishment - July 1948, Headquarter - New Delhi. Industrial Credit and Investment Corporation of India (ICICI) -

1994, Headquarters: Mumbai. Industrial Development Bank of India (IDBI): Establishment - 1 July 1964, Headquarters: Mumbai.

Sol.46.(c) Abdel Fattah El-Sisi (Egyptian President). India's first Republic Day (26 January 1950): Chief guest - Ahmed Sukarno (President of Indonesia). 73rd Republic Day 2022 - No Chief guest due to the COVID-19 pandemic. 74th Republic Day 2023: best parade Uttarakhand. Republic Day annual parade is held in New Delhi, From the Rashtrapati Bhavan and proceeding along the Kartavya Path.

Sol.47.(b) Pandit Ravishankar (sitar player). Awards: Padma Vibhushan (1981), Padma Bhushan (1967), Sangeet Natak Akademi Award (1962), Kalidas Samman (1987-1988). Pandit Bhimsen Joshi (Indian vocalist): Award - Bharat Ratna (2009), Padma Vibhushan (1999). Hariprasad Chourasia (flute player): Award - Padma Vibhushan (2000), Padma Bhushan (1992). Bhupen Hazarika (singer): Award - Bharat Ratna (2019) (posthumously), Padma Vibhushan (2012) (posthumously).

Sol.48.(b) Micro Units Development and Refinance Agency (MUDRA). Pradhan Mantri Mudra Yojana (PMMY) launched on 8th April 2015 for providing loans up to 10 lakh to the non-corporate, non-farm small/micro enterprises. Loans provided: Shishu - upto 50,000, Kishor - 50,000 to 5 lakh, Tarun - 5 lakh to 10 lakh.

Sol.49.(b) 1960. The first Paralympic Games - Rome (Italy). First winter Paralympics Games - Sweden (1976). First Olympic Games - Athens (1896). The first Winter Olympics - Chamonix (French), 1924. Venue of Olympic Games: 2024 - Paris, 2028 - Los Angeles. International Olympic Committee: Headquarters - Lausanne (Switzerland), Foundation - 23 June 1894.

Sol.50.(a) long span. Post tensioning is a technique for reinforcing concrete, in which prestressing steel cables inside plastic ducts are positioned in the forms before the concrete is placed. **Pretensioning** - The technique in which we are imparting tension in strands before placing the concrete, It is more durable and reliable.

Sol.51.(b)
Ratio of efficiency → Virat : Daniel = 5 : 8
Time taken by Virat to complete the work = 30 days
Time required by Daniel to complete the

$$\text{same work} = \frac{30 \times 5}{8} = \frac{150}{8} = 18 \frac{3}{4} \text{ days}$$

Sol.52.(c)

Initial sum of numbers = $36 \times 45 = 1620$
Correct sum of numbers =
 $1620 - 48 + 84 = 1656$

$$\text{Correct average} = \frac{1656}{36} = 46$$

Short Tricks :-

$$\text{Correct average} = 45 + \frac{-48 + 84}{36} = 46$$

Sol.53.(d)

$$\sin 23^\circ = \frac{a}{b} = \frac{\text{Perpendicular}}{\text{Hypotenuse}}$$

$$\text{Base} = \sqrt{b^2 - a^2}$$

$$\sec 23^\circ - \sin 67^\circ = \sec 23^\circ - \cos 23^\circ$$

$$= \frac{b}{\sqrt{b^2 - a^2}} - \frac{\sqrt{b^2 - a^2}}{b}$$

$$= \frac{b^2 - b^2 + a^2}{b\sqrt{b^2 - a^2}} = \frac{a^2}{b\sqrt{b^2 - a^2}}$$

Sol.54.(d)

Total amount spent on various expenses = $15000 + 20000 + 8000 + 2000 + 5000 = 50000$

Which is equal to 360°

$$50000 = 360^\circ$$

Central angle corresponding to health

$$(15000) = \frac{360^\circ}{50000} \times 15000 = 108^\circ$$

Sol.55.(d)

Ratio → Arjun : Saral : Bhaskar

Votes → 3 : 2

49 : 50

147 : 98 : 100

Difference between votes of bhaskar and saral = $100 - 98 = 2$ units = 1296 votes

1 unit = 648 votes

Half of difference between votes of Arjun

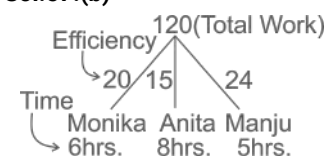
$$\text{and Bhaskar} = \left(\frac{147 - 100}{2}\right) \times 648$$

$$= (23.5) \times 648 = 15228 \text{ votes}$$

Sol.56.(b) $[7 + 30 \div 6 - (6 + 6) + 7]$

$$= [7 + 5 - (12) + 7] = [19 - (12)] = 7$$

Sol.57.(b)



Required time when they work together

$$= \frac{120}{20 + 15 + 24} = 2 \frac{2}{59} \text{ hours}$$

Sol.58.(c) A line which intersects a circle at two distinct points is chord.

While tangent touches a circle only at one point.