

# SOLVED PAPER

**(17<sup>th</sup> September 2025: Shift-1)**

Max Marks: 200

### Conclusions:

I. Citizens will now have to pay more for LPG.

II. The government has no money left.

1. Only Conclusion I follows

2. Only Conclusion II follows

3. Both I and II follow

4. Neither I nor II follows

10. **Instruction:** Identify the assumptions that must hold for the statement to be valid, then choose the correction option.

**Statement:** While technological advancements in energy production have made renewable sources more cost-competitive, their intermittent nature means that large-scale adoption will require significant investments in energy storage technologies to stabilise the grid.

**Assumptions:**

**I. Renewable energy sources are not continuous and need energy storage solution.**

**II. The high cost of renewable energy production makes its adoption difficult without subsidies.**

III. Energy storage technologies are a necessary component of a stable energy grid with high renewable energy input.

1. Only I and III are implicit

2. Only II and III are implicit

3. Only I is implicit

4. All assumptions are implicit

**11. Read the following statement carefully and identify the conclusion that follows:**

**Statement:** Traffic violations have decreased after the installation of speed cameras.

### Conclusions:

I. Surveillance discourage rule-breaking.

II. People respect traffic rules voluntarily.

1. Only Conclusion I follows

2. Only Conclusion II follows

3. Both I and II follow

4. Neither I nor II follows

12. Which of the following is/are identical to the address given: Vikram Singh 18B, Golden Heights, Moti Nagar, Delhi, 110011

1. Vikram Singh 18B, Golden Heights, Moti Nagar, Delhi, 110011

2. Vikram Singh 18-B, Golden Heights, Moti Nagar, Delhi,  
110011

3. Vikram Singh 18B, Golden Heights, Moti Nagar, Delhi,  
110011

4. Vikram Singh 18B, Golden Heights, Moti Nagar, New Delhi, 110011

1. 1 and 2      2. 1 and 3      3. 2 and 4      4. 3 and 4

13. Each question involves rearranging specific positions of the letters from the original word, and you must choose the correct transformed version from the options.

**PLANET** is to **EAPLNT** as **TARGET** is to:

1. AGE TRT    2. GAE TRT    3. ERT AGT    4. GEA TRT

14. Find the odd one out:  
Jawaharlal Nehru, Indira Gandhi, Atal Bihari Vajpayee, Sardar Vallabhbhai Patel, Narendra Modi, Rajiv Gandhi  
1. Jawaharlal Nehru      2. Atal Bihari Vajpayee  
3. Sardar Vallabhbhai Patel      4. Narendra Modi
15. Pointing to a boy, a man said, "He is the son of my wife's sister's husband." How is the boy related to the man?  
1. Son      2. Nephew  
3. Brother-in-law      4. Cousin
16. What comes next?  
MZM, PXM, SVI, ?  
1. VTG      2. USF      3. WTG      4. XRE
17. Find the odd one out from the given alternatives:  
1. Alluvial Soil      2. Black Soil  
3. Red Soil      4. Igneous Rock
18. If 'SUN' is coded as 'RTM', what is the code for 'MOON'?  
1. LNNP      2. LNNM      3. LNNO      4. LMPM
19. If 25% of a certain number is 15, what is that number?  
1. 45      2. 60      3. 75      4. 90
20. If  $6 * 3 = 54$  and  $8 * 2 = 48$ , what is  $5 * 4$ ?  
1. 40      2. 44      3. 45      4. 60
21. If  $2 @ 3 = 13$ ,  $3 @ 4 = 25$ , then what is  $4 @ 5$ ?  
1. 36      2. 39      3. 41      4. 33
22. A 30 L mixture contains milk and water in the ratio 3 : 2. How much milk must be added to make it 4 : 1?  
1. 51 L      2. 60 L      3. 30 L      4. 40 L
23. If the given symbols mean:  
'+' means 'divided by'  
'-' means 'multiplied by'  
'x' means 'minus'  
'÷' means 'plus'  
Then, find the value of the following expressions:  
 $8 \div 2 \times 3 + 18 - 6 = ?$   
1. 9      2. 11      3. 13      4. 15
24. Rearrange the letters given below to form the name of a weapon:  
REPSA  
1. parse      2. spear      3. spare      4. esper
25. If  $+$  =  $\div$ ,  $-$  =  $\times$ ,  $\div$  =  $+$ ,  $\times$  =  $-$ ; then  $36 + 6 - 2 \times 3 = ?$   
1. 6      2. 15      3. 13      4. 9
- 
- General Awareness**
- 
26. In Ragavibodha, Pt. Somnath defined a rāga through Devamāyā svarūpa (ethos). Which of the following denotes its tonal structure?  
1. Tālānga      2. Rūpa  
3. Swarlakshana      4. Jāti
27. Which of the following Mughal tombs deviates from the typical square 'hasht-bihisht' (eight-part) layout?  
1. Humayun's Tomb      2. Akbar's Tomb (Sikandra)  
3. Itimad-ud-Daulah      4. Safdarjung's Tomb
28. Read the following statements carefully:  
**Statement 1** : The seals of the Harappan culture were made using locally found steatite.  
**Statement 2** : These seals often feature animal motifs and undeciphered script symbols. Which of the following is/are correct?  
1. Only statement 1  
2. Only statement 2  
3. Both statement 1 and statement 2 are correct  
4. Neither statement 1 nor statement 2 is correct
29. The festival of Bhagoria begins seven days before which Hindu festival?  
1. Diwali      2. Holika Dahan  
3. Navratri      4. Makar Sankranti
30. Which of the following terms is specifically associated with the javelin throw?  
1. Glide      2. Sector      3. Vault      4. Spin
31. Which of the following dynasties minted the "Dehliwal" coins in Delhi?  
1. The Gahadavalas      2. The Tomaras  
3. The Khaljis      4. The Lodis
32. Which of the following pairs (Educational Event - Key Outcome/Initiative) is correctly matched?  
1. Charter Act, 1813 - Allocated funds for promotion of education  
2. Macaulay's Minute, 1835 - Emphasized traditional Sanskrit learning  
3. Serampore Mission - Promoted technical education for elite Indians  
4. Orientalist-Anglicist Debate - Resolved by Charter Act, 1833
33. Who won India's first Paralympic medals in the women's 200m T12 and men's javelin throw F41 events at Paris 2024?  
1. Simran (bronze, 200m T12) and Navdeep Singh (gold, javelin F41)  
2. Navdeep Singh (bronze, 200m T12) and Simran (gold, javelin F41)  
3. Simran (silver, 200m T12) and Navdeep Singh (gold, javelin F41)  
4. Navdeep Singh (gold, 200m T12) and Simran (bronze, javelin F41)
34. Which of the following best reflects India's operational and diplomatic approach to boundary demarcation with Myanmar amidst recent local protests over fencing?  
1. India invoked a 1987 treaty and BIMSTEC arbitration to settle boundary pillar disputes.  
2. India and Myanmar conduct joint surveys and proposed a Joint Boundary Working Group.  
3. India halted border fencing to avoid ASEAN trade disruptions.  
4. India dismissed protests and assigned border oversight to AFSPA tribunals.
35. Who is the author of the book 'School to Startup: Navigating the path of Entrepreneurship'?  
1. Rohit Sinha      2. Romila Thapar  
3. Bipin Chandra      4. Shashi Tharoor
36. Where was the 4<sup>th</sup> KIO National (Senior, U-21 & Para) Karate Championship held from 26-29 March 2025?  
1. Delhi      2. Ahmedabad  
3. Hyderabad      4. Bengaluru
37. Which of the following statements about the 2024 Inter-State athletics Championships is/are correct?  
1. Sahil Silwal crossed 80m for the first time this season to win javelin gold.  
2. Jyothika and Amoj's 4x400m relay team broke the Asian Games record.  
3. Only 1      4. Only 2  
3. Both 1 and 2 are correct      4. Neither 1 nor 2 is correct
38. What is the minimum age required to contest the Presidential election in India?  
1. 35      2. 30      3. 25      4. 40
39. Read the following statements about aerobic respiration.  
1. Glycolysis occurs in the mitochondria.  
2. Kreb's cycle occurs in the mitochondrial matrix.  
3. The final electron acceptor in aerobic respiration is oxygen.  
which one of the following statement is correct?  
1. Only 1 and 2 are correct      2. Only 2 and 3 are correct  
3. Only 1 and 3 are correct      4. 1, 2 and 3 all are correct

40. Which Article empowers the Parliament to create laws on State List subjects under national interest?  
1. Article 249 2. Article 253 3. Article 248 4. Article 254
41. Vilasini Natyam, once performed in temples and courts, is a classical dance form revived in which Indian state?  
1. Tamil Nadu 2. Karnataka  
3. Andhra Pradesh 4. Kerala
42. Consider the following statements and choose the correct option:  
**Statement 1:** The Production Possibility Frontier (PPF) shows the trade-offs and opportunity costs faced by an economy.  
**Statement 2:** The PPF is used to estimate the government's total revenue and expenditure.  
1. Only Statement 1 is correct  
2. Only Statement 2 is correct  
3. Both Statement 1 and Statement 2 are correct  
4. Neither Statement 1 nor Statement 2 is correct
43. A key component evaluated by the 2025 Index of Economic Freedom concerning "Government Size" is:  
1. Public Education Funding  
2. Government Spending Levels  
3. National Defence Expenditures  
4. Foreign Aid Contributions
44. Which Five-Year Plan focused on heavy industries?  
1. First 2. Second 3. Third 4. Fourth
45. Which Indian initiative under the National Adaptation Fund for Climate Change (NAFCC) aims to improve micro-climate resilience through community-led water harvesting in semi-arid zones?  
1. Jal Urja Yojana  
2. Climate Resilient Watershed Programme  
3. Hariyali mission  
4. Jal Mitra Scheme
46. Economic liberalisation mainly affects which sector?  
1. Primary and Tertiary 2. Primary and Secondary  
3. Secondary and Tertiary  
4. Primary, Secondary and Tertiary
47. Read the following statements carefully and choose the correct option regarding Assertion (A) and Reason (R).  
**Assertion (A):** The 1991 reforms boosted India foreign exchange reserves significantly.  
**Reason (R):** Liberalised trade policies increased both exports and capital inflows.  
1. Both A and R are true and R is the correct explanation of A.  
2. Both A and R are true but R is not the correct explanation of A.  
3. A is true but R is false.  
4. A is false but R is true.
48. Match the dominant folk dance with the song-theme:

Folk dance	Song-theme
i. Panthi	A. Devotional hymns of Guru Ghasidas (Hari-Gaitri)
ii. Gotipua	B. Krishna-Jagannath leela narratives
iii. Kalbelia	C. Sensuous serpent metaphors
iv. Tippani	D. Work-song pounding couplets (Saathiyo Re)

1. i-A, ii-B, iii-C, iv-D  
2. i-B, ii-A, iii-D, iv-C  
3. i-C, ii-B, iii-A, iv-D  
4. i-A, ii-C, iii-B, iv-D

49. Consider the following statements:  
1. The Sixth Schedule is applicable to Nagaland and Arunachal Pradesh.  
2. It empowers autonomous district councils to make laws on specified subjects. Which of the above is/are correct?  
1. Only 1 2. Only 2  
3. Both 1 and 2 4. Neither 1 nor 2
50. Consider the following statements about the James Webb Space Telescope (JWST).  
1. It observes in the near-infrared and mid-infrared spectrum.  
2. It is positioned at the Sun-Earth Lagrange Point L2.  
3. It carries a coronagraph for exoplanet detection. Which of the above statements is/are correct?  
1. Only 1 and 2  
2. Only 1 and 3  
3. Only 2 and 3  
4. All 1, 2 and 3

### Quantitative Aptitude

51. If  $a + b = 5$  and  $ab = 6$ , Find:  $(a^3 + b^3)^2 - 9a^2b^2(a + b)^2$ .  
1. -6875 2. 6875 3. -3876 4. 3876
52. Given that  $W : X = 5 : 6$ ,  $X : Y = 3 : 7$ , and  $Y : Z = 8 : 9$ , find the compound ratio  $W : X : Y : Z$ .  
1. 20 : 24 : 56 : 63  
2. 5 : 6 : 7 : 9  
3. 5 : 6 : 14 : 9  
4. 20 : 24 : 42 : 63
53. What is the value of  $\sqrt{6 + \sqrt{6 + \sqrt{6 + \dots}}}$ ?  
1. 3 2. 2 3. 5 4. 6
54. A vendor purchases seven shirts at the marked price of six shirts. If he sells each shirt after giving a 4% discount on its marked price, what is his profit percentage?  
1. 10% 2. 11% 3. 12% 4. 13%
55. Pipe A is capable of filling a tank in 16 minutes while Pipe B can fill the same tank in 24 minutes. Both pipes are opened together, but after 4 minutes, the rate of Pipe A doubles and the rate of Pipe B becomes half of its original. How many more minutes will it take to fill the tank completely?  
1. 4 min 2. 5 min 3. 6 min 4. 7 min
56. Simplify:  $\sqrt{(12 + 6\sqrt{3})}$   
1.  $2 + \sqrt{3}$  2.  $3 + \sqrt{3}$  3.  $\sqrt{3} + 2\sqrt{3}$  4.  $3 + \sqrt{9}$
57. A sum of ₹10000 is lent out in two parts, one at 7% simple interest and the other at 12% simple interest. If the annual interest is ₹900, the sum lent at 12% is:  
1. ₹3500 2. ₹4000 3. ₹4500 4. ₹5000
58. ₹ 900 is lent at a certain rate of simple interest. After 9 months, another ₹ 600 is lent at a rate that is 1.5 times the original rate. If the total simple interest after 1 year is ₹ 72, find the original rate.  
1. 6.4% 2. 4.5% 3. 8.2% 4. 5.6%
59. A flagpole has a shadow measuring 10 metres. Given that the height of the flagpole is  $10\sqrt{3}$  metres, What is the angle at which the sun is elevated?  
1. 30° 2. 45° 3. 60° 4. 75°
60. A hollow metallic sphere has outer radius 10 cm and is melted to make 50 smaller solid spheres of radius 2 cm. What is the inner radius of the original sphere?  
1. 8.43 cm 2. 7.48 cm 3. 5.46 cm 4. 6.44 cm
61. The volume of a hemisphere is numerically equal to four times its curved surface area. Find its radius.  
1. 12 cm 2. 15 cm 3. 16 cm 4. 17 cm

62. What is the minimum number of cuts required to divide a cuboid into 8 equal cuboids?  
1. 2      2. 3      3. 5      4. 4
63. If the height of a cone is tripled and the radius is halved, how does the volume change?  
1. Doubles  
2. Becomes three-fourths of the original  
3. Becomes one-third of the original  
4. Remains unchange
64. If  $\sin \theta = \frac{12}{13}$ , and  $\theta \in \left(0, \frac{\pi}{2}\right)$ , then what is the value of  $\tan \theta$ ?  
1.  $\frac{9}{16}$       2.  $\frac{25}{9}$       3.  $\frac{12}{5}$       4.  $\frac{16}{9}$
65. What is the value of  $\tan A + \cot A$  if  $\tan A = 2$ ?  
1.  $\frac{5}{2}$       2.  $\frac{3}{2}$       3.  $\frac{1}{2}$       4.  $\frac{7}{2}$
66. What is the slope of the line  $2x + 3y = 6$ ?  
1.  $-\frac{2}{3}$       2.  $\frac{3}{2}$       3.  $-\frac{3}{2}$       4.  $\frac{2}{3}$
67. A sector of a circle has a central angle of  $60^\circ$  and a radius of 8 cm. Another sector of the same circle has a central angle of  $\frac{\pi}{3}$  radians. What is the ratio of the area of the first sector to the area of the second sector?  
1. 2:3      2. 1:2      3. 1:1      4. 1:3
68. A triangle can have:  
1. Two right angles  
2. One obtuse angle and one right angle  
3. Only one right or one obtuse angle  
4. Three acute angles each measuring more than  $60^\circ$
69. A line  $L$  is the perpendicular bisector of the line segment connecting points  $A(2, 5)$  and  $B(8, -1)$ . What is the  $y$ -intercept of line  $L$ ?  
1. -3      2. 2      3. 3      4. 5
70. The area of a triangle  $ABC$  is  $16 \text{ cm}^2$ . If a similar triangle  $DEF$  has sides that are twice the length of  $\triangle ABC$ 's sides, what is the area of  $\triangle DEF$ ?  
1.  $32 \text{ cm}^2$       2.  $48 \text{ cm}^2$       3.  $64 \text{ cm}^2$       4.  $80 \text{ cm}^2$
71.  $44^3 + 35^3 - 53^3 + 159$  is equal to  
1. -20659      2. 0      3. -18659      4. 1
72. If  $\sin A + \cos A = \frac{5}{4}$ , find  $\sin 2A$ .  
1.  $\frac{1}{4}$       2.  $\frac{5}{18}$       3.  $\frac{7}{8}$       4.  $\frac{9}{16}$
73. From an outside point  $P$ , two tangents,  $PA$  and  $PB$ , are drawn to a circle. Given that the length of  $PA$  is 12 cm, what is the length of  $PB$ ?  
1. 6 cm      2. 10 cm      3. 12 cm      4. 24 cm
74. A circle is inscribed within a right triangle. Considering that the lengths of the two legs measure 6 cm and 8 cm, what is the radius of the inscribed circle?  
1. 2 cm      2. 3 cm      3. 4 cm      4. 5 cm
75. If  $a = 0.02$ ,  $b = 0.03$ ,  $c = -0.05$ , and  $a + b + c = 0$ , find  $(a^3 + b^3 + c^3) \div (3abc)$   
1. -1      2. 0      3. 1      4. 2
77. Select the most appropriate synonym of the given word:  
**EXIGUOUS**  
1. Scanty      2. Huge      3. Excessive      4. Abundant
78. Select the most appropriate antonym of the given word:  
**Abrogate**  
1. Abolish      2. Revoke      3. Uphold      4. Annul
79. Choose the correct meaning of idiom  
**To chew the cud of reflection**  
1. Eating slowly  
2. Daydreaming without focus  
3. Pondering deeply  
4. Mentally preparing for battle
80. Find the part of the sentence that contains an error:  
Rarely had the court encountered a petition (a)/so devoid of legal merit, nor so conspicuously intended (b)/to attract media attention rather than judicial remedy. (c)/No error (d)  
1. (a)      2. (b)      3. (c)      4. (d)
81. Find the word that is **spelled correctly** and means 'the quality of being sarcastic in a bitter way.'  
1. Causticity      2. Costicity  
3. Cawstic      4. Causticity
82. Choose the correct **one-word substitute** for: 'A person who supports change'.  
1. Conservative      2. Radical  
3. Reformer      4. Constitutionalist
83. Choose the correct **one-word substitute** for: 'Extremely old-fashioned; belonging to a time before the biblical flood'.  
1. Tale      2. Obsolete  
3. Antediluvian      4. Medieval
84. Choose the correct option:  
The anthropologist's findings were considered so controversial that they were initially .....  
1. disregarded      2. celebrated  
3. acclaimed      4. adopted
85. Find the part of the sentence that contains an error:  
The draft policy outlines (a)/that each employee must adhere to (b)/the code of conduct (c)/irrespective of their position. (d)  
1. (a)      2. (b)      3. (c)      4. (d)
86. Change the following from active to passive:  
They were showing the movie at 7 p.m.  
1. The movie is shown at 7 p.m.  
2. The movie was shown at 7 p.m.  
3. The movie was being shown at 7 p.m.  
4. The movie has been shown at 7 p.m.
87. Choose the **correct spelling** of a word meaning 'witty, clever and verbally skillful'.  
1. Persiflage  
2. Persiphledge  
3. Pursiflage  
4. Persiflagee
88. Select the sentence containing the homonym of the highlighted word:  
The bishop condemned the act as **simony**, citing canonical law.  
1. The preacher was accused of simony for charging for blessings.  
2. The court equated indulgence-selling with simony.  
3. The alchemist failed to explain the simony in his formulas.  
4. Simony was rampant in medieval ecclesiastical courts.
89. Convert the sentence provided below from its passive voice structure to an active voice structure:  
A decision has been taken to have the proposal reviewed by an external panel.

### English Comprehension

76. Select the most appropriate synonym of the given word:  
**LUMINOUS**  
1. Dull      2. Dim      3. Opaque      4. Radiant

1. An external panel has reviewed the proposal.
  2. The proposal is being reviewed by an external panel.
  3. They have decided to get the proposal reviewed by an external panel.
  4. The proposal was reviewed by the panel as per the decision.
90. Choose the most suitable option to replace the highlighted part of the sentence:  
She is confident *to win the match*.
1. of to win
  2. that she wins
  3. of winning the match
  4. on winning match

**Direction (Q 91–95): Read the following passage and answer the questions on the passage:**

India's legacy of healing practices—embodied in disciplines such as Yoga, Ayurveda, Siddha, and Unani—presents a complex synthesis of philosophy, biology, and metaphysics. Far from being static relics of the past, these systems have exhibited an evolving dynamism, continuously negotiating their space within both indigenous frameworks and global health discourses. At the heart of this healing ethos lies the idea that the human body is not an isolated physiological entity but a site of interconnected energies and rhythms. Yoga, as codified in the Yoga Sutras of Patanjali, is not merely a physical regimen but a holistic path aimed at harmonising the body, mind and spirit. In the modern era, however, it has undergone commodification, particularly in the West, where its philosophical moorings are often diluted into mere physical exercise or stress-reduction techniques. This recontextualization, while facilitating global popularity, raises questions about cultural appropriation and epistemic erosion. Traditional medicine systems such as Ayurveda view disease as an imbalance in the tridosha—vata, pitta, and kapha—principles that regulate bodily function. These systems emphasise prakriti (constitution), ahara (diet), and dinacharya (daily routine) as central to preventive healthcare. Unlike allopathy's symptom-targeting approach, traditional Indian medicine is premised on restoring equilibrium in the body's internal ecology. This integrative vision aligns with contemporary calls for personalised and preventive medicine, though methodological differences continue to stoke skepticism in the biomedical community. State patronage of AYUSH (Ayurveda, Yoga & Naturopathy, Unani, Siddha, and Homeopathy) underlines a renewed institutional interest in traditional systems. However, critics caution against uncritical endorsement, citing the lack of standardised clinical trials, variability in diagnostic models, and challenges in evidence-based validation. Furthermore, pharmaceutical commercialisation of Ayurvedic formulations often sidelines traditional knowledge holders, reducing centuries-old practices to marketable commodities. The interface between Yoga and traditional medicine with modern healthcare is therefore both promising and fraught. While integrative models are being explored—especially in palliative care, mental health, and chronic disease management—they require epistemic humility and regulatory rigor. The danger lies in either romanticising these systems as panaceas or discarding them as pre-scientific relics. Ultimately, the relevance of Yoga and traditional medicine in contemporary India will depend on the country's ability to safeguard their philosophical depth while subjecting them to transparent, rigorous scrutiny. Neither dogmatic revivalism nor dismissive scientism will suffice. What is needed is a dialogical framework where tradition and modernity co-evolve—not in opposition, but in mutual enrichment.

91. What tension does the passage highlight regarding the global adoption of Yoga?
1. Lack of flexibility
  2. Loss of its philosophical essence

3. Shortage of teachers
  4. Over-regulation by India
92. Which of the following best reflects the Ayurvedic approach to disease?
1. Eradicating bacteria via antibiotics
  2. Using synthetic drugs for immediate relief
  3. Restoring body's internal balance through lifestyle
  4. Targeting genetic mutations
93. What is a potential danger of state patronage of AYUSH systems, as per the passage?
1. High cost of medicine
  2. Increased rural unemployment
  3. Marginalization of traditional knowledge holders
  4. Overdependence on foreign investment
94. What stance does the author taken on integrating traditional medicine with modern healthcare?
1. Traditional medicine must replace allopathy
  2. Modern science is superior to traditional systems
  3. Integration is possible with humility and standards
  4. The two should remain completely separate
95. According to the passage, what is required for the survival and relevance of Yoga and traditional medicine in modern India?
1. Blind national pride
  2. Scientific rejection of tradition
  3. Dialogical integration of ancient and modern systems
  4. Exclusive use of foreign validation techniques
96. A sentence is provided in direct speech. From the four given options, choose the one that most accurately conveys the sentence in its corresponding indirect speech.  
He said to me, "You should work harder."
1. He said me that I should work harder.
  2. He told me that I should work harder.
  3. He told me that you should work harder.
  4. He told that I should work harder.
97. A sentence is provided in direct speech. From the four given options, choose the one that most accurately conveys the sentence in its corresponding indirect speech.  
The scientist said, "We have been working on this project for months."
1. The scientist said they had been working on that project for months.
  2. The scientist said they have been working on this projects for months.
  3. The scientist said that they were working on that project.
  4. The scientist said that we had worked on this project.
98. A sentence is provided in indirect speech. From the four options given, choose the one that most accurately conveys the sentence in its corresponding direct speech.  
The diplomat said that only after the ceasefire would negotiations begin.
1. "Negotiations begin only after the ceasefire," said the diplomat.
  2. "Only after the ceasefire, negotiations would begin," said the diplomat.
  3. "Only after the ceasefire will negotiations begin," said the diplomat.
  4. "Negotiations would begin once the ceasefire is announced," said the diplomat.
99. Rearrange the following sentences in correct order to make a logical passage.
- (a) The blueprint is finalized after approval from stakeholders.
  - (b) First, a basic framework is proposed.
  - (c) Then revisions are made after discussions.

(d) Finally, execution begins as per plan.

1. (b), (c), (a), (d)                      2. (a), (c), (b), (d)

3. (c), (b), (a), (d)                      4. (b), (a), (c), (d)

100. Rearrange the following sentences to form a coherent paragraph:

(a) A central tenet of this approach is the concept of a "class," which acts as a blueprint for creating objects.

(b) Object-Oriented Programming (OOP) is a

programming paradigm based on the concept of "objects," which can contain data and code. (c) This allows a programmer to specify the structure and behavior of an object-oriented program. (d) The key advantage of this approach is that it models real-world entities, making complex systems easier to manage and debug.

1. (b), (a), (c), (d)

2. (d), (c), (b), (a)

3. (c), (a), (d), (b)

4. (a), (b), (c), (d)

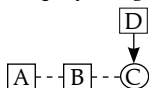
## Answer Key

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

### General Intelligence and Reasoning

1. **Option (1) is correct.**

To solve the questions of blood relation we need to simplify the given relations.



A is the brother of B. C is the sister of B. This means A, B, and C are siblings. D is the father of C. Since, D is the father of C and A is C's sibling, D is also the father of A.

2. **Option (2) is correct.**

The only option that matches with the address given in the question is option 2. Rest of the options have different states names in their address.

3. **Option (2) is correct.**

Statement I states that the bank's net profit increased, while statement II states that the bank implemented cost-cutting measures and improved loan recovery. The actions described in statement II (cost-cutting and improved loan recovery) are the reasons for the outcome described in Statement I (increased net profit). Therefore, statement II is the cause and Statement I is the effect.

4. **Option (4) is correct.**

The given equation is:  $18 + 6 \times 4 - 12 \div 3 = 17$

On interchanging + and  $\times$ , we get:

$$18 \times 6 + 4 - 12 \div 3 = 17$$

$$108 + 4 - 4 = 17$$

$$108 = 17 \text{ (false)}$$

On interchanging  $\times$  and  $\div$ , we get:

$$18 + 6 \div 4 - 12 \times 3 = 17$$

$$18 + 1.5 - 36 = 17$$

$$19.5 - 36 = 17$$

$$-16.5 = 17 \text{ (false)}$$

On interchanging + and -, we get:

$$18 - 6 \times 4 + 12 \div 3 = 17$$

$$18 - 24 + 4 = 17$$

$$-2 = 17 \text{ (false)}$$

On interchanging - and  $\div$ , we get

$$18 + 6 \times 4 \div 12 - 3 = 17$$

$$18 + 2 - 3 = 17$$

$$18 - 1 = 17$$

$$17 = 17 \text{ (true)}$$

5. **Option (2) is correct.**

The given statements are:  $J > K = L$ ,  $M \geq N < K$ ,  $O < J < P$ ,  $N > Q > R$

By combining the statement, we get:

$$P > J > K = L, M \geq N > Q > R.$$

This can be further combined to form a single equation of inequalities:

$$P > J > K = L > N > Q > R, M \geq N.$$

Evaluate conclusion I:  $P > M$

From the combined statement, we have:

This means:  $P > N$  and  $M \geq N$

However, we can't derive any direct relationship between P and M. Thus, it is not correct.

Evaluate conclusion II:  $N < P$

From the combined statement we get:

$$P = L > N. \text{ Therefore, } P > N \text{ is true.}$$

6. **Option (3) is correct.**

• 1st letters:  $B(2) \rightarrow D(4) \rightarrow F(6) \rightarrow H(8) \rightarrow J(10)$

• 2nd letters:  $E(5) \rightarrow G(7) \rightarrow I(9) \rightarrow K(11) \rightarrow M(13)$

• 3rd letters:  $K(11) \rightarrow M(13) \rightarrow O(15) \rightarrow Q(17) \rightarrow S(19)$

So, the next cluster is J M S.

7. **Option (2) is correct.**

The given sequence is: 3, 6, 18, 108, ?. The pattern exhibits a fix relationship between consecutive terms. The third term is the product of the first two terms in the sequence i.e.,  $3 \times 6 = 18$ ,  $6 \times 18 = 108$ ,  $18 \times 108 = 1944$ . Thus, the missing term is 1944.

8. **Option (1) is correct.**

The pattern followed is, from left to right, the differences between the two subsequent numbers doubles each time.

- $5 \rightarrow 9 (+4)$
- $9 \rightarrow 17 (+8)$
- $17 \rightarrow 33 (+16)$
- $33 \rightarrow 65 (+32)$

Next difference = +64,

So,

$$65 + 64 = 129.$$

**9. Option (1) is correct.**

The statement says that the government has reduced subsidies on LPG. A subsidy is a sum of money granted by the state or a public body to help an industry or business to keep the price of a commodity or service low. Therefore, if the subsidy is reduced, the cost for the consumer will increase. Conclusion I states that citizens will now have to pay more for LPG, which is a direct and logical consequence of the reduction in subsidies. Conclusion II states that the government has no money left. This is an assumption and not a direct conclusion from the statement. There could be other reasons for the reduction in subsidies, such as a policy change or a reallocation of funds to another sector.

**10. Option (1) is correct.**

The statement claims that due to the "intermittent nature" of renewable energy, "large-scale adoption will require significant investments in energy storage technologies to stabilize the grid." Assumption I is a valid prethought for the statement, as "intermittent nature" means they are not continuous, and the statement claims the need for energy storage. Assumption III states that "Energy storage technologies are a necessary component of a stable energy grid with high renewable energy input." It is also necessary for the statement's argument—that storage is required to achieve grid stability with high renewable input. Assumption II is contrary to the first part of the statement, which says that "technological advancements have made renewable sources more cost-competitive." Therefore, the premises in I and III must be true.

**11. Option (1) is correct.**

The statement says that traffic violations have decreased after the installation of speed cameras.

Conclusion I: "Surveillance discourages rule-breaking." This is a logical conclusion. The presence of speed cameras (a form of surveillance) is the reason given for the decrease in violations, which means the surveillance is discouraging people from breaking rules.

Conclusion II: "People respect traffic rules voluntarily." This conclusion is not supported by the statement. The statement implies that the decrease in violations is a result of an external factor (the speed cameras), not an internal change in people's behaviour or respect for the rules.

**12. Option (2) is correct.**

The address in options 1 and 3 are identical to the address given.

**13. Option (3) is correct.**

The problem states that "PLANET" is to "EAP LNT".

To solve it let us number the letters of the word PLANET: P(1) L(2) A(3) N(4) E(5) T(6).

- PLANET  $\rightarrow$  5E, 3A, 1P, 2L, 4N, 6T  $\rightarrow$  EAPLNT
- TARGET  $\rightarrow$  5E, 3R, 1T, 2A, 4G, 6T  $\rightarrow$  ERTAGT  $\rightarrow$  shown as "ERT AGT".

**14. Option (3) is correct.**

From the given list: All the individuals listed served as Prime Ministers of India, with the exception of Sardar Vallabhbhai Patel, who served as the first Deputy Prime Minister and Minister of Home Affairs.

**15. Option (2) is correct.**

"My wife's sister" is the man's sister-in-law. "My wife's sister's husband" is the man's brother-in-law. The boy is the son of the man's brother-in-law. So, the son of a man's brother-in-law is the man's nephew.

**16. Option (1) is correct.**

- 1st letters: M(13)  $\rightarrow$  P(16)  $\rightarrow$  S(19)  $\rightarrow$  +3  $\Rightarrow$  V(22)
  - 2nd letters: Z(26)  $\rightarrow$  X(24)  $\rightarrow$  V(22)  $\rightarrow$  -2  $\Rightarrow$  T(20)
  - 3rd letters: M(13)  $\rightarrow$  K(11)  $\rightarrow$  I(9)  $\rightarrow$  -2  $\Rightarrow$  G(7)
- So, the next term is V T G.

**17. Option (4) is correct.**

The options Alluvial Soil, Black Soil, and Red Soil are all types of soil. Igneous Rock is a type of rock, which is different from soil. Therefore, Igneous Rock is the odd one out.

**18. Option (2) is correct.**

SUN  $\rightarrow$  RTM

S  $\rightarrow$  R (-1)

U  $\rightarrow$  T (-1)

N  $\rightarrow$  M (-1)

MOON  $\rightarrow$  LNNP

M  $\rightarrow$  L (-1)

O  $\rightarrow$  N (-1)

O  $\rightarrow$  N (-1)

N  $\rightarrow$  P (-1)

**19. Option (2) is correct.**

The given information is: 25% of the number is 15. Let us assume the number as X.

Then,

$$25\% \text{ of } X = 15$$

$$\frac{25}{100} \times X = 15$$

$$\text{So, } X = \frac{1500}{25} = 60$$

**20. Option (4) is correct.**

The problem states that  $6 \times 3 = 54$  and  $8 \times 2 = 48$ .

To get the results shown in the problem, we can observe a pattern.

$$6 \times 3 = 18 \text{ and } 18 \times 3 = 54$$

Similarly,  $8 \times 2 = 16$  and  $16 \times 3 = 48$ .

The pattern is to perform the multiplication and then multiply the result by 3. Thus,

$$5 \times 4 = 20 \text{ and } 20 \times 3 = 60$$

**21. Option (3) is correct.**

The problem states that  $2 @ 3 = 13$  and  $3 @ 4 = 25$

The equations follows the following pattern:

$$2^2 + 3^2 = 4 + 9 = 13$$

$$3^2 + 4^2 = 9 + 16 = 25$$

$$\text{Similarly, } 4 @ 5 = 4^2 + 5^2 = 16 + 25 = 41$$

**22. Option (3) is correct.**

The total volume of the mixture is 30 L, and the ratio of milk to water is 3 : 2.

The sum of the ratio parts is  $(3 + 2 = 5)$ .

The quantity of milk is:

$$\frac{3}{5} \times 30 = 18 \text{ L}$$

The quantity of water is:

$$\frac{2}{5} \times 30 = 12 \text{ L}$$

To get ratio of  $\frac{4}{1}$  we need to add X amount of milk:

$$\frac{\text{Initial amount of Milk} + X}{\text{Initial amount of Water}} = \frac{4}{1}$$

Substitute to know the value of X:

$$\begin{aligned} \frac{18 + X}{12} &= \frac{4}{1} \\ 18 + X &= 4 \times 12 \\ 18 + X &= 48 \\ X &= 48 - 18 \\ X &= 30 \text{ L} \end{aligned}$$

So, the amount of milk to be added is 30 L.

**23. Option (1) is correct.**

After changing the signs, the given expression becomes:

$$= 8 + 2 - 3 \div 18 \times 6$$

$$= 8 + 2 - \frac{1}{6} \times 6$$

$$= 8 + 2 - 1$$

$$= 9$$

**24. Option (2) is correct.**

The given letters are: R, E, P, S and A. We can rearrange them and create name of a weapon as directed in the question: SPEAR. SPEAR is a thrusting or throwing weapon with long shaft and sharp head or blade.

**25. Option (4) is correct.**

The original expression is:  $36 \div 6 + 2 - 3 \times 3$

After substituting the symbols, we get:

$$36 \div 6 \times 2 - 3 = 6 \times 2 - 3 = 12 - 3 = 9$$

### General Awareness

**26. Option (3) is correct.**

In Raga Vibodha, Pandit Somnath defined a rāga through its Devamaya Svarupa (ethos), and the aspect denoting its tonal structure is called Swarlakshana. The term Swarlakshana refers to the specific arrangement and characteristics of notes (swaras) that give a raga its distinct melodic identity. While Talanga relates to rhythm, and Jati refers to note count classification (audava, shadava, sampurna), Swarlakshana precisely represents the melodic and tonal essence of a raga.

**27. Option (2) is correct.**

Akbar's tomb is situated in Sikandra, Agra, Uttar Pradesh. It was built using red sandstone. The shape of tomb is pyramidal and consists of five storeys. The true tomb lays below the first floor of the mausoleum.

**28. Option (3) is correct.**

Both Statement 1 and Statement 2 are correct. The seals of the Harappan culture were primarily made from steatite, a soft stone that was locally available and easily carved before being fired to harden it. These seals often depicted animal motifs such as the unicorn, bull, and elephant, along with inscriptions in the undeciphered Harappan script. They were used for trade, identification,

and administrative purposes, reflecting the advanced craftsmanship and organised nature of the Indus Valley Civilisation.

**29. Option (2) is correct.**

The festival of Bhagoria begins seven days before Holika Dahan. Celebrated mainly by the Bhil and Bhilala tribes of Madhya Pradesh and Maharashtra, Bhagoria marks the onset of the harvest season and the spirit of love and community. The festival is known for its vibrant fairs, traditional music, dance, and the unique custom where young men and women choose their partners. Its timing before Holika Dahan connects it closely with the celebrations of Holi.

**30. Option (2) is correct.**

The term specifically associated with the javelin throw is Sector. In javelin events, the sector refers to the marked angular area within which the javelin must land for the throw to be considered valid — typically a 28.96-degree angle on the field. The athlete must also release the javelin before crossing the foul line. While terms like glide and spin relate to shot put and discus throw techniques, the term sector is specific to the javelin throw.

**31. Option (2) is correct.**

The Tomara dynasty minted the famous "Dehliwal" coins in Delhi. These coins were primarily silver and became widely circulated due to their purity and trustworthiness in trade. Later, the Chauhans of Ajmer and even the early Delhi Sultans continued to use and issue similar coins because of their established reputation. The term "Dehliwal" literally means "of Delhi," highlighting the Tomaras' significant role in Delhi's early economic and political prominence before the rise of the Sultanate.

**32. Option (1) is correct.**

The correctly matched pair is the Charter Act, 1813 – Allocated funds for the promotion of education. The Charter Act of 1813 was the first British legislation to acknowledge the state's responsibility toward education in India, allocating one lakh rupees annually for the promotion of learning among Indians. In contrast, Macaulay's Minute (1835) promoted English education over traditional Sanskrit learning, the Serampore Mission focused on vernacular and religious education rather than technical training, and the Orientalist-Anglicist Debate was resolved in 1835, not by the Charter Act of 1833.

**33. Option (1) is correct.**

Simran won bronze in the women's 200 m T12 event at the 2024 Summer Paralympics. Navdeep Singh won gold in the men's javelin throw F41 event. Therefore, the correct pairing is Simran (bronze, 200m T12) and Navdeep Singh (gold, javelin F41).

**34. Option (2) is correct.**

India's operational and diplomatic approach to boundary demarcation with Myanmar has primarily involved joint surveys and the proposal of a Joint Boundary Working Group (JBWG), rather than unilateral measures or treaty-based arbitration. The two countries hold regular dialogue under institutional mechanisms such as Foreign Office Consultations and JBWG meetings, with joint surveys by both nations' survey departments and the construction of boundary pillars.

**35. Option (1) is correct.**

The author of the book "School to Startup: Navigating the Path of Entrepreneurship" is Rohit Sinha. The book



aims to inspire young minds to embrace innovation and entrepreneurship from an early stage. It provides practical insights into turning ideas into successful ventures, emphasising creativity, problem-solving, and leadership. Through real-life examples and guidance, Rohit Sinha encourages students to view entrepreneurship as a journey of learning, resilience and nation-building.

**36. Option (3) is correct.**

The 4<sup>th</sup> Karate India Organisation (KIO) National (Senior, U-21 & Para) Karate Championship, held from 26–29 March 2025, took place at the Gachibowli Indoor Stadium in Hyderabad.

**37. Option (1) is correct.**

Only Statement 1 is correct. Sahil Silwal won gold in the men's javelin throw at the 2024 Inter-State Senior Athletics Championships, and he crossed the 80 m mark for the first time this season with a throw of 81.81 m. However, the claim in Statement 2 — that Jyothika Sri Dandi and Amoj Jacob's 4×400 m relay team broke the Asian Games record at the event — is incorrect. While a mixed 4×400 m relay national record was set (3:12.87) at the championships, it was not an Asian Games record.

**38. Option (1) is correct.**

The minimum age required to contest the Presidential election in India is 35 years. This specific criterion is laid down in Article 58 of the Indian Constitution, making it mandatory for anyone aspiring to the highest constitutional office. This age of 35 years is also the minimum requirement for holding the offices of Vice-President of India (Article 66) and Governor of a State (Article 157), demonstrating the constitutional intent for seniority and maturity in these key executive roles. Other eligibility requirements include being a citizen of India and being qualified for election as a member of the Lok Sabha.

**39. Option (2) is correct.**

Only statements 2 and 3 are correct. In aerobic respiration, the Krebs cycle (or citric acid cycle) occurs in the mitochondrial matrix, where energy-rich molecules like NADH and FADH<sub>2</sub> are produced. The final electron acceptor in the electron transport chain is oxygen, which combines with electrons and hydrogen ions to form water. However, glycolysis does not occur in the mitochondria; it takes place in the cytoplasm, making statement 1 incorrect. Thus, statements 2 and 3 are correct.

**40. Option (1) is correct.**

Article 249 of the Indian Constitution empowers the Parliament to make laws on matters enumerated in the State List if the Rajya Sabha passes a resolution, supported by at least two-thirds of its members present and voting, declaring that it is necessary or expedient in the national interest. Such a law remains in force for one year, but it can be extended further with subsequent resolutions, ensuring flexibility in matters of national importance.

**41. Option (3) is correct.**

Vilasini Natyam is a classical dance form from Andhra Pradesh that was traditionally performed by Devadasis in temples and royal courts. It is deeply rooted in temple rituals, storytelling, and spiritual expression. After the decline of the Devadasi system, the art form nearly disappeared but was later revived in the late 20<sup>th</sup> century

by dedicated artists and scholars. Today, Vilasini Natyam is recognised as one of India's classical dance traditions, celebrated for its grace and devotional depth.

**42. Option (1) is correct.**

Only statement 1 is correct. The Production Possibility Frontier (PPF) represents the trade-offs and opportunity costs an economy faces when allocating limited resources between the production of two goods or services. It illustrates concepts like efficiency, scarcity, and economic growth. However, the PPF does not measure or estimate government revenue or expenditure — those are the components of fiscal policy and public finance, not production theory. Hence, only statement 1 is correct.

**43. Option (2) is correct.**

In the 2025 Index of Economic Freedom, one of the key components assessed under "Government Size" is the level of government spending. This indicator measures how much a government spends relative to the nation's Gross Domestic Product (GDP). Higher government spending often indicates a larger public sector presence, which may reduce economic freedom if it leads to inefficiency or excessive intervention. Conversely, moderate spending promotes fiscal discipline, allowing greater private sector participation and sustainable economic growth.

**44. Option (2) is correct.**

The Second Five-Year Plan (1956–1961) focused on the development of heavy industries, such as steel, coal, power, and machinery, to build the foundation for industrial growth in India. Guided by the Mahalanobis Model, the plan aimed to strengthen the public sector and promote self-reliance by reducing dependence on imports of industrial goods. This period saw the establishment of major industrial projects like the Bhilai, Rourkela, and Durgapur steel plants, marking a shift toward rapid industrialisation.

**45. Option (2) is correct.**

The correct option is "Climate Resilient Watershed Programme". Under the National Adaptation Fund for Climate Change (NAFCC), this initiative focuses on improving micro-climate resilience in semi-arid zones through community-led water-harvesting and watershed-development interventions.

**46. Option (4) is correct.**

Economic liberalisation, a policy of reducing government restrictions and encouraging private sector participation and foreign trade, ultimately affects all three major sectors of an economy: Primary, Secondary, and Tertiary. While the Secondary (manufacturing) and Tertiary (services) sectors often see the most significant and immediate transformation through increased competition, deregulation, and foreign direct investment, the Primary (agriculture) sector is also impacted through changes in trade policies and the introduction of new technologies. The overall goal is to boost economic growth and efficiency across the board.

**47. Option (1) is correct.**

The correct answer is Both A and R are true, and R is the correct explanation of A. The 1991 economic reforms in India led to a significant increase in foreign exchange reserves over time. This was primarily due to liberalised trade and investment policies, which encouraged exports, foreign direct investment (FDI), and capital inflows. The removal of trade barriers, devaluation

of the rupee, and reforms in the balance of payments system attracted global investors. Hence, the Reason (R) correctly explains why the Assertion (A) is true.

**48. Option (1) is correct.**

The correct answer is i-A, ii-B, iii-C, iv-D.

Here's the correct matching and explanation:

Panthi – A. Devotional hymns to Guru Ghasidas (Hari-Gaitri):

A spiritual dance of the Satnami community in Chhattisgarh, performed in devotion to Guru Ghasidas.

Gotipua – B. Krishna-Jagannath leela narratives:

An Odishan dance performed by young boys dressed as girls, depicting stories of Lord Krishna and Jagannath.

Kalbelia – C. Sensuous serpent metaphors:

A Rajasthani folk dance of the Kalbelia tribe, inspired by the movements of snakes.

Tippani – D. Work-song pounding couplets (Saathiyo Re):

A Gujarati folk dance performed by women using tippani sticks while singing rhythmic work songs.

**49. Option (2) is correct.**

The correct answer is only 2. The Sixth Schedule of the Indian Constitution provides for Autonomous District Councils (ADCs) in certain tribal areas of Assam, Meghalaya, Tripura, and Mizoram — not in Nagaland or Arunachal Pradesh. These councils are empowered to make laws on specified subjects such as land, forest management, and local governance to preserve tribal culture and autonomy. Therefore, Statement 1 is incorrect, while Statement 2 is correct, making the right answer only 2.

**50. Option (4) is correct.**

All of them are correct. The James Webb Space Telescope (JWST) is designed to observe the universe in the near-infrared and mid-infrared spectrum (Statement 1). It is stationed at the Sun-Earth Lagrange Point L2, about 1.5 million km from Earth, providing a stable and cold environment for observations (Statement 2). Additionally, JWST is equipped with coronagraphs in its instruments, such as NIRC2 and MIRI, to block starlight and detect exoplanets directly (Statement 3). Hence, all the three statements are correct.

### Quantitative Aptitude

**51. Option (1) is correct.**

Given that  $a + b = 5$  and  $ab = 6$

$$\begin{aligned} & (a^3 + b^3)^2 - 9a^2b^2(a + b)^2 \\ &= [(a + b)^3 - 3ab(a + b)]^2 - 9(ab)^2(a + b)^2 \\ &= [(5)^3 - 3 \times 6 \times 5]^2 - 9(6)^2(5)^2 \\ &= [125 - 90]^2 - 8100 \\ &= (35)^2 - 8100 = 1225 - 8100 = -6875 \end{aligned}$$

**52. Option (1) is correct.**

$$\frac{W}{X} = \frac{5 \times 4}{6 \times 4}; \frac{X}{Y} = \frac{3 \times 8}{7 \times 8}; \frac{Y}{Z} = \frac{8 \times 7}{9 \times 7}$$

$$\frac{W}{X} = \frac{20}{24}; \frac{X}{Y} = \frac{24}{56}; \frac{Y}{Z} = \frac{56}{63}$$

$$\therefore W : X : Y : Z = 20 : 24 : 56 : 63$$

**53. Option (1) is correct.**

$$\begin{aligned} \text{Let } y &= \sqrt{6 + \sqrt{6 + \sqrt{6} \dots}} \\ y &= \sqrt{6 + y} \end{aligned}$$

Squaring on both sides, we get

$$\begin{aligned} y^2 &= 6 + y \\ y^2 - y - 6 &= 0 \\ \Rightarrow y^2 - 3y + 2y - 6 &= 0 \\ \Rightarrow (y - 3)(y + 2) &= 0 \\ \Rightarrow y &= 3 \end{aligned}$$

**54. Option (3) is correct.**

Let marked price of 1 shirt be ₹1.

$$\therefore \text{C.P. of 1 shirt i.e., ₹} \frac{6}{7}$$

$$\text{S.P. of 1 shirt} = 1 \left( 1 - \frac{4}{100} \right) = \frac{24}{25}$$

$$\text{Profit} = \frac{24}{25} - \frac{6}{7} = \frac{168 - 150}{25 \times 7} = \frac{18}{25 \times 7}$$

$$\text{Profit \%} = \frac{18}{25 \times 7} \times 100 \times \frac{7}{6} = 12\%$$

**55. Option (1) is correct.**

L.C.M. of 16 and 24 = 48

So, efficiency of A = 3 and

Efficiency of B = 2

Efficiency of A and B both together in 4 minutes

$$= (3 + 2) \times 4 = 20$$

Remaining time = 48 - 20 = 28 mins

New efficiency of A = 6

New efficiency of B = 1

Together efficiency = 6 + 1 = 7

$$\text{So, remaining time} = \frac{28}{7} = 4 \text{ minutes}$$

**56. Option (2) is correct.**

$$\begin{aligned} \sqrt{12 + 6\sqrt{3}} &= \sqrt{(3)^2 + (\sqrt{3})^2 + 2 \cdot 3 \cdot \sqrt{3}} \\ &= \sqrt{(3 + \sqrt{3})^2} \\ &= 3 + \sqrt{3} \end{aligned}$$

**57. Option (2) is correct.**

Let ₹x lent for 12% and (10000 - x) for 7%

$$x \times \frac{12}{100} + (10000 - x) \times \frac{7}{100} = 900$$

$$\Rightarrow 12x + 70000 - 7x = 90000$$

$$\Rightarrow 5x = 90000 - 70000$$

$$\Rightarrow 5x = 20000$$

$$\Rightarrow x = 4000$$

**58. Option (1) is correct.**

Let original rate be R%

$$900 \times \frac{R}{100} + 600 \times \frac{1.5R}{100} \times \frac{3}{12} = 72$$

$$9R + 2.25R = 72$$

$$11.25R = 72$$

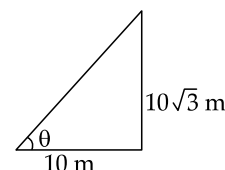
$$R = \frac{72}{11.25} = 6.4\%$$

**59. Option (3) is correct.**

$$\tan \theta = \frac{10\sqrt{3}}{10} = \sqrt{3}$$

$$\tan \theta = \tan 60^\circ$$

$$\text{So, } \theta = 60^\circ$$



**60. Option (1) is correct.**

Volume of hollow sphere =  $50 \times$  Volume of small sphere

$$\frac{4}{3}\pi(10^3 - r^3) = 50 \times \frac{4}{3}\pi(2)^3$$

$$\Rightarrow 1000 - r^3 = 400$$

$$\Rightarrow r^3 = 600$$

$$\Rightarrow r = 8.43 \text{ cm}$$

**61. Option (1) is correct.**

According to the question,

Volume of hemisphere =  $4 \times$  C.S.A.

$$\frac{2}{3}\pi r^3 = 4 \times 2\pi r^2$$

$$r = 4 \times 3$$

$$= 12 \text{ cm}$$

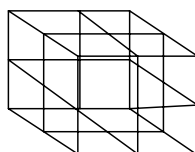
**62. Option (2) is correct.**

After 1 cut  $\rightarrow$  2 pieces.

After 2 cuts  $\rightarrow$  4 pieces (each cut passes through all previous pieces).

After 3 cuts  $\rightarrow$  8 pieces (again, each cut intersects all existing parts).

So, with 3 cuts, you can divide the cuboid into 8 equal smaller cuboids i.e., one cut along length, one along breadth, and one along height.

**63. Option (2) is correct.**

New height =  $3h$

and new radius =  $\frac{r}{2}$

$$\begin{aligned} \therefore \text{New volume} &= \frac{1}{3}\pi\left(\frac{r}{2}\right)^2 \times 3h \\ &= \frac{3}{4}\left(\frac{1}{3}\pi r^2 h\right) \\ &= \frac{3}{4} \text{ (old volume)} \end{aligned}$$

**64. Option (3) is correct.**

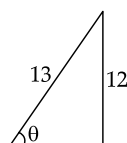
$$\sin \theta = \frac{12}{13} = \frac{p}{h}$$

$$b = \sqrt{h^2 - p^2}$$

$$= \sqrt{169 - 144}$$

$$= 5$$

$$\tan \theta = \frac{p}{b} = \frac{12}{5}$$

**65. Option (1) is correct.**

$$\therefore \tan A = 2$$

$$\tan A + \cot A = \tan A + \frac{1}{\tan A}$$

$$= 2 + \frac{1}{2}$$

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

**66. Option (1) is correct.**

$$2x + 3y = 6$$

$$3y = -2x + 6$$

$$y = \frac{-2x}{3} + 2$$

$$= mx + C$$

$$\therefore \text{Slope (m)} = \frac{-2}{3}$$

**67. Option (3) is correct.**

For 1st sector

$$\theta = 60^\circ$$

$$r = 8 \text{ cm}$$

$$A_1 = \frac{60^\circ}{360^\circ} \times \pi (8)^2$$

$$= \frac{1}{6}\pi (64)$$

For 2nd sector

$$\theta = \frac{\pi}{3} = 60^\circ$$

$$r = 8 \text{ cm}$$

$$A_2 = \frac{60^\circ}{360^\circ} \times \pi (8)^2$$

$$= \frac{1}{6}\pi (64)$$

$$\frac{A_1}{A_2} = 1 : 1$$

**68. Option (3) is correct.**

Since sum of angles of a triangle is  $180^\circ$

$\therefore$  A triangle can have only one right or one obtuse angle.

**69. Option (3) is correct.**

$$\text{Mid-point of } AB = \left(\frac{2+8}{2}, \frac{5-1}{2}\right) = (5, 2)$$

$$\text{Slope of } AB = \frac{-1-5}{8-2} = -1$$

$$\text{Slope of } L = \frac{-1}{-1} = 1$$

$\therefore$  Equation of

$$y - 5 = 1(x - 2)$$

$$y = x - 2 + 5$$

$$= x + 3$$

$$= mx + C$$

$$\therefore y\text{-intercept (C)} = 3$$

**70. Option (3) is correct.**

Given, ar  $\triangle ABC = 16 \text{ cm}^2$  and  $DE = 2AB$

$$\therefore \triangle ABC \sim \triangle DEF$$

$$\therefore \frac{\text{ar } \triangle ABC}{\text{ar } \triangle DEF} = \frac{(AB)^2}{(DE)^2} = \frac{AB^2}{(2AB)^2} = \frac{AB^2}{4AB^2}$$

$$\frac{16}{\text{ar } \triangle DEF} = \frac{1}{4}$$

$$\text{ar } \triangle DEF = 64 \text{ cm}^2$$

**71. Option (1) is correct.**

$$44^3 + 35^3 - 53^3 + 159$$

$$= 85184 + 42875 - 148877 + 159$$

$$= 128059 - 148877 + 159$$

$$= -20818 + 159$$

$$= -20659$$

**72. Option (4) is correct.**

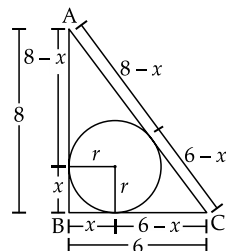
$$\therefore (\sin A + \cos A)^2 = \left(\frac{5}{4}\right)^2$$

$$\begin{aligned}\sin^2 A + \cos^2 A + 2 \sin A \cos A &= \frac{25}{16} \\ 1 + \sin 2A &= \frac{25}{16} \\ \sin 2A &= \frac{9}{16}\end{aligned}$$

**73. Option (3) is correct.**

We know that length of tangents drawn from external points are equal

$$\therefore PA = PB = 12 \text{ cm}$$

**74. Option (1) is correct.**

$$\begin{aligned}AC &= \sqrt{8^2 + 6^2} = \sqrt{64 + 36} \\ &= 10\end{aligned}$$

$$\therefore 8 - x + 6 - x = 10$$

$$\Rightarrow x = 2$$

$$\therefore \text{radius } (r) = 2 \text{ cm}$$

**75. Option (3) is correct.**

$$\begin{aligned}\therefore a + b + c &= 0.02 + 0.03 - 0.05 \\ &= 0\end{aligned}$$

Since,

$$a^3 + b^3 + c^3 - 3abc = (a + b + c) [a^2 + b^2 + c^2 - (ab + bc + ca)]$$

$$\therefore a^3 + b^3 + c^3 = 3abc$$

$$\Rightarrow \frac{a^3 + b^3 + c^3}{3abc} = 1$$

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**English Comprehension**


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**76. Option (4) is correct.**

"Luminous" means bright, shining and intense. Example: The luminous dial of his watch grabbed the attention of everyone. Among all the given options, "radiant" is the synonym of "luminous". The rest of the options given are: "dull" means lacking brightness, "dim" means not shining brightly, and "opaque" means not able to be seen through; not transparent.

**77. Option (1) is correct.**

"Exiguous" means scanty, very small in size and amount. Example: I got a teaching job at an exiguous rate of pay. The synonym for "exiguous" is "scanty". The rest of the options are: "huge" means big, "excessive" means more than needed, and "abundant" means more than needed. It is a synonym of excessive.

**78. Option (3) is correct.**

"Abrogate" means repeal or do away with, usually of a law or right or agreement. The antonym of "abrogate" is "uphold". "Uphold" means confirm, sustain, or support. The rest of the options – abolish, revoke, and annul – are synonyms of 'abrogate'.

**79. Option (3) is correct.**

Idioms are the group of words that have different meanings than their literal words. The idiom "to chew the cud of reflection" is used to reflect or think deeply about something, often in a calm or repetitive manner, much like a cow ruminates its food. To ponder at length: Spend significant time mulling over an idea, decision, or problem, carefully weighing all possibilities. Example: "The offer seems too good to be true; let's chew the cud and figure out what the catch is."

**80. Option (2) is correct.**

The sentence has an error of incorrect usage of the conjunction "nor". The sentence also lacks parallel structure. After the initial negative use of "rather than", it is not suggested to use another negative unless it is followed by an independent clause. So, better usage is "so devoid of legal merit, or so conspicuously intended..."

**81. Option (1) is correct.**

The correct spelling is "causticity", which means the property of a substance that makes it capable of causing injury to living tissue, typically by burning or corrosive action, and bitter and sharp. Example: Workers wore gloves to protect themselves from the causticity of the chemicals.

**82. Option (3) is correct.**

The correct answer is reformer. 'Reformer' means a person who makes changes to something in order to improve it. 'Conservative' means averse to change or innovation and holding traditional values. 'Radical' means (especially of change or action) relating to or affecting the fundamental nature of something; far-reaching or thorough. Constitutionality means the quality of being in accordance with a political constitution.

**83. Option (3) is correct.**

Extremely old-fashioned, belonging to the time before the biblical flood, is called antediluvian. Example: My mother has some hopelessly antediluvian ideas about the role of women. 'Tale' means 'story'. 'Obsolete' means 'outdated' or 'no more functional', but not necessarily belonging to the time before the biblical flood. 'Mediaeval' means related to the Middle Ages, uncivilised.

**84. Option (1) is correct.**

The word "controversial" suggests that the findings caused disagreement or disbelief among other experts. Therefore, instead of being welcomed or praised, they were likely *rejected* or *ignored* at first. Among the options — *celebrated*, *acclaimed*, *adopted*, and *disregarded* — only "disregarded" fits logically. The other words imply approval or acceptance, which contradicts the idea of controversy.

**85. Option (4) is correct.**

The given sentence has an error of pronoun. The pronouns "each, every, anyone, someone, somebody, no one, nobody" are treated as singular in number and thus, should be followed by a singular pronoun. Hence, in the given sentence the pronoun "their" should be replaced with "his/her".

**86. Option (3) is correct.**

In the given sentence, "they" is the subject, "were showing" is the verb in the past continuous tense, and "the movie" is the object. To change an active sentence into passive voice, we make the object of the active sentence

the subject of the passive one and use the structure 'was/were + being + past participle (V<sub>3</sub>)'. So, "the movie" becomes the new subject, "were showing" changes to "was being shown" (because "movie" is singular), and "at 7 pm" remains the same as it's an adverbial phrase of time.

**87. Option (1) is correct.**

The correct spelling is "persiflage", which means funny and non-serious conversation. Example: So, all this so-called economic justification is mere persiflage.

**88. Option (3) is correct.**

A homonym is a word that is spelt or pronounced the same as another word but has a different meaning. In the given sentence, simony refers to the buying or selling of ecclesiastical privileges or church offices, which is a religious term. However, in option 3, the word simony is used in a completely different context—referring to something in the alchemist's formulas, which gives it a different or incorrect meaning. This makes it a homonym of the original word. The other options (1, 2, and 4) use simony in its original religious sense, and therefore, they do not contain a homonym.

**89. Option (3) is correct.**

In the sentence, "A decision has been taken to have the proposal reviewed by an external panel," the structure is passive voice because the subject (the decision) is acted upon, and the actual agent (who made the decision) is not specified.

To convert this to active voice, standard rules require identifying the agent (the performer of the action) and making it the subject, while also preserving the tense and logical flow of the original. The phrase "has been taken" (present perfect passive) becomes "have decided" (present perfect active), and the agent ("they," implied decision-makers) carries out the decision. The intended action remains, instructing an external panel to review the proposal, reflecting both agency and timing.

Therefore, the revised active form is: "They have decided to get the proposal reviewed by an external panel." This rendering clarifies who is responsible for the action and aligns the voice, tense, and meaning precisely with the original passive construction.

**90. Option (3) is correct.**

The correct phrase to follow "confident" is "of" plus a gerund (a verb form ending in "-ing" that functions as a noun). Therefore, "confident of winning" is the grammatically correct option.

**91. Option (2) is correct.**

The passage states that in the modern era, yoga has "undergone commodification, particularly in the West, where its philosophical moorings are often diluted into mere physical exercise or stress-reduction techniques." This recontextualisation, while facilitating global popularity, raises questions about "cultural appropriation and epistemic erosion". Therefore, the tension highlighted is the loss of its philosophical essence.

**92. Option (3) is correct.**

The passage describes the need for a "dialogical framework where tradition and modernity co-evolve" and mentions "yoga and traditional medicine" as systems that require a balance between their philosophical depth and modern scrutiny. This suggests that the traditional approach, such as Ayurveda, focuses on holistic well-being and internal balance rather than solely on

external interventions like antibiotics or synthetic drugs or targeting specific genetic mutations. The option "Restoring internal bodily balance through lifestyle" aligns with this description of a traditional, holistic approach to health.

**93. Option (3) is correct.**

The passage states that "pharmaceutical commercialization of Ayurvedic formulations often sidelines traditional knowledge holders, reducing centuries-old practices to marketable commodities." This directly supports the idea that a potential danger of state patronage of AYUSH systems is the marginalisation of traditional knowledge holders.

**94. Option (3) is correct.**

The passage concludes by stating that a "dialogical framework where tradition and modernity co-evolve—not in opposition, but in mutual enrichment" is what is needed. It also mentions that the relevance of traditional medicine will depend on the country's ability to "safeguard their philosophical depth while subjecting them to transparent, rigorous scrutiny." These points support the idea that integration is possible, but it must be done with humility and standards.

**95. Option (3) is correct.**

The passage states, "What is needed is a dialogical framework where tradition and modernity co-evolve—not in opposition, but in mutual enrichment." This directly supports the option that a dialogical integration of ancient and modern systems is required for the survival and relevance of yoga and traditional medicine in modern India. The other options are explicitly or implicitly contradicted by the passage, which argues against "dogmatic revivalism" (blind national pride), "dismissive scientism" (scientific rejection of tradition), and relying solely on "foreign validation techniques."

**96. Option (2) is correct.**

When we change a sentence from direct speech to indirect speech, we report what someone said without quoting their exact words. In the given example, the direct speech is: He said to me, "You should work harder." To convert this into indirect speech, we follow a few important rules. First, the reporting verb "said to" changes to "told" when it is followed by an object (in this case, "me"). Next, we adjust the pronouns according to the context — since "you" in the direct speech refers to "me", it changes to "I" in the reported form. We also add the conjunction "that" to connect the reporting clause with the reported speech. Since the modal verb "should" does not change in indirect speech, it remains the same. Therefore, the correct indirect speech form of the sentence is "He told me that I should work harder."

**97. Option (1) is correct.**

When we change a sentence from direct speech to indirect speech, we report what someone said without quoting their exact words. The correct option is the one that accurately converts the direct speech. The scientist said, "We have been working on this project for months." The tense changes from present perfect continuous ("have been working") to past perfect continuous ("had been working"). The pronoun "we" is changed to "they", and "this" is changed to "that". Thus, the correct statement will be: The scientist said they had been working on the projects for months.

**98. Option (3) is correct.**

To convert the given sentence to direct speech, we need to find the option that most accurately represents the original words spoken by the diplomat. The original sentence is in indirect speech: "The diplomat said that only after the ceasefire would negotiations begin." We change "would" to "will" for converting the sentence from indirect to direct speech and bring the direct speech inside inverted commas. Thus, the correct statement will be: "Only after the ceasefire will negotiations begin," said the diplomat.

Option (1) "Negotiations begin only after the ceasefire," said the diplomat.

This is in the simple present tense ("begin"), which doesn't match the future tense implied by "would begin" in the indirect speech.

Option (2): "Only after the ceasefire, negotiations would begin," said the diplomat.

This option uses "would begin", which is typically used in indirect speech and not direct speech. The direct speech would use "will begin".

Option (4) "Negotiations would begin once the ceasefire is announced," said the diplomat.

This option changes "only after" to "once", which slightly alters the meaning. It also uses "would begin", which is incorrect for direct speech.

**99. Option (1) is correct.**

The correct sequence is (b), (c), (a), (d). This order ensures the passage flows in the logical manner projects are typically executed:

**(a) Start with a framework:** "First, a basic framework is proposed" allows stakeholders to see the initial idea and purpose behind the project, forming the foundation for further development.

**(b) Revise after discussion:** "Then revisions are made

after discussions" shows that the proposed idea is improved and refined through collaboration and feedback, making sure potential issues and improvements are addressed.

**(c) Finalise blueprint post-approval:** "The blueprint is finalised after approval from stakeholders" confirms that, only once all parties have agreed and approved, does the formal detailed plan get finalised.

**(d) Begin execution:** "Finally, execution begins as per plan" initiates the actual work or implementation, guided by the approved blueprint.

This progression, from concept to revision, approval, and execution, is standard in project workflows, helping students understand why (b), (c), (a), (d) is the most coherent and logical arrangement.

**100. Option (1) is correct.**

- (b) starts with the main topic, introducing Object-Oriented Programming (OOP) and explaining the basic idea of "objects" that contain data and code.
- (a) follows by explaining a central concept within OOP: the "class," which serves as a blueprint for creating objects and relates directly to the previously introduced topic.
- (c) comes next, showing how classes allow programmers to specify the structure and behaviour of OOP programs, connecting the abstract concept to practical programming.
- (d) closes by highlighting the advantage: OOP helps model real-world entities, making complex systems more manageable and easier to debug—this flows logically as the "result" of the prior concepts.

This sequence builds understanding from the general paradigm of OOP, through its foundational element (class), to application and benefit, guiding any reader step by step through the topic.