

STAFF SELECTION COMMISSION
Multi Tasking (Non-Technical) Staff

SOLVED PAPER

(14th November 2024: Shift-2)

Time Allotted- 90 Minutes

Max marks- 270

Important Instructions:-

- ⇒ This paper contains 90 questions which are divided into 4 sections.
 - ✓ General English : 25 Questions
 - ✓ General Intelligence and Reasoning : 20 Questions
 - ✓ Numerical Aptitude : 20 Questions
 - ✓ General Awareness : 25 Questions
- ⇒ There will be 3 marks for each correct answer. There is no negative marking in Numerical Aptitude & General Intelligence and Reasoning. General Awareness & General English, there is a negative marking of one mark for each wrong answer.
- ⇒ Each question is compulsory to attempt and there will be no negative marking for unattempted questions.

Numerical and Mathematical Ability

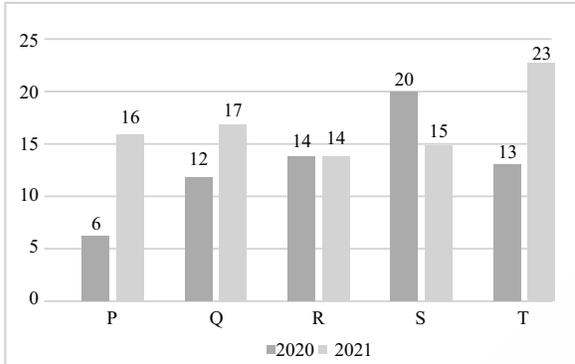
1. The sum of the radius of the base and the height of a solid cylinder is 96 metres. If the total surface area of the cylinder is 12672 m^2 , what are the curved surface area and volume of the cylinder respectively? (use $\pi = \frac{22}{7}$)
 1. $9900 \text{ m}^2, 103950 \text{ m}^3$
 2. $8600 \text{ m}^2, 105850 \text{ m}^3$
 3. $9500 \text{ m}^2, 113550 \text{ m}^3$
 4. $7660 \text{ m}^2, 93990 \text{ m}^3$
2. The average of 20, 40, 60, 80, 100, 120 and 140 is:
 1. 85
 2. 70
 3. 80
 4. 90
3. A hollow hemispherical steel bowl can contain $\frac{686}{3} \pi$ cubic unit of liquid. The outer radius is 9 units. How much steel is used in making the bowl?
 1. $\frac{772}{3} \pi$ cubic units
 2. $\frac{433}{3} \pi$ cubic units
 3. $\frac{727}{3} \pi$ cubic units
 4. $\frac{343}{3} \pi$ cubic units
4. Rice worth ₹84 per kg and ₹96 per kg is mixed with a third variety of rice in the ratio 1 : 1 : 2. If the mixture is worth ₹99 per kg, the price of the third variety per kg is:
 1. ₹108
 2. ₹115
 3. ₹112
 4. ₹110
5. Find the simple interest (in ₹) on ₹3000 as a sum borrowed at 4% per year rate of interest for 4 years.
 1. 440
 2. 520
 3. 480
 4. 420
6. The rate of interest p.a at which a sum becomes three times itself in 20 years at simple interest will be:
 1. 10%
 2. 8%
 3. 12%
 4. 6%
7. If 45% of the sum of the two numbers is equal to 60% of the difference between the two numbers, find the ratio of the smallest number to the greatest number.
 1. 4 : 3
 2. 3 : 4
 3. 7 : 1
 4. 1 : 7
8. The amount of profit and loss will be the same if an article is sold at ₹19,125 and ₹14,625. Find the percentage of profit if the article is sold at ₹19,125.
 1. $12\frac{1}{4}\%$
 2. $13\frac{1}{3}\%$
 3. 12%
 4. $11\frac{3}{5}\%$

9. Marks (out of 100) of four students in Hindi, English and Mathematics are given in the following table. Study the table carefully and answer the question that follows.

Students/Subjects	Hindi	English	Mathematics
Mukesh	75	80	95
Shivam	80	75	90
Soumya	70	65	85
Shilpee	80	70	81

- What is the overall percentage marks obtained by Shilpee in the given three subjects?
1. 77%
 2. 80%
 3. 78%
 4. 79%
10. What sum (in ₹) will earn a simple interest of ₹360 in 3 years at 8% per year rate of interest?
 1. 1500
 2. 750
 3. 2000
 4. 3000
 11. Rakesh travels the first 320 km by train at a speed of 80 km/h and the next 250 km by bus at 50 km/h. Ignoring the buffer time between different modes of travel, the average speed (in km/h) for his journey was:
 1. $61\frac{1}{2}$
 2. $60\frac{1}{4}$
 3. 69
 4. $63\frac{1}{3}$
 12. The average income of 25 persons is ₹2,400 and that of another 20 persons is ₹1,500. The average income of all of them together is:
 1. ₹2,100
 2. ₹2,000
 3. ₹2,150
 4. ₹1,950
 13. The scale of a map is given as 1:250. Two cities are 6.5 km apart on the map. The actual distance between them is:
 1. 1250 km
 2. 1200 km
 3. 1625 km
 4. 1000 km
 14. The LCM of $\frac{1}{6}, \frac{4}{15}, \frac{5}{9}, \frac{7}{27}, \frac{8}{3}$ is:
 1. $92\frac{1}{3}$
 2. $93\frac{1}{3}$
 3. $93\frac{2}{3}$
 4. $92\frac{2}{3}$
 15. Air is leaking from a spherical-shaped advertising balloon at the rate of 24 cubic feet per minute. If the radius of the balloon is 8 feet, how long will it take for the balloon to empty? Round your answer to the nearest minute. Use the approximate of value of π , that is 3.14.
 1. 89 minutes
 2. 80 minutes
 3. 65 minutes
 4. 94minutes

16. A boat can travel at a speed of 13 km/h in still water. If the speed of the stream is 4 km/h, find the time taken by the boat to go 68 km downstream.
 1. 4 hours 2. 3 hours 3. 6 hours 4. 5 hours
17. A shopkeeper normally gives a discount of 40%. To increase his sale before off season, he announces an additional discount of 4% up to a specific date. How much additional discount (in ₹) will a customer get on an item marked for ₹500?
 1. ₹12 2. ₹11 3. ₹15 4. ₹19
18. The following graph represents the production of electric scooters (in thousands) for the years 2020 and 2021 from five manufacturers P, Q, R, S and T.



What is the percentage by which the total production of all manufacturers in the year 2021 exceeds the total production of manufacturers in the year 2020? (Round to the nearest integer)

1. 42% 2. 31% 3. 38% 4. 29%
19. On selling a book for ₹348, a shopkeeper loses 13%. In order to gain 22%, he must sell that book for:
 1. ₹488 2. ₹379 3. ₹424 4. ₹369
20. The average of six numbers is 30. If one number is excluded, the average becomes 28. Find the excluded number.
 1. 30 2. 36 3. 35 4. 40

Reasoning Ability and Problem Solving

21. Which two numbers should be interchanged to make the given equation correct?
 $28 - 4 \times 5 + 36 \div 9 + 2 \times 3 = 53$
 (Note: Interchange should be done of entire number and not individual digits of a given number)
 1. 28 and 36 2. 5 and 3 3. 4 and 9 4. 2 and 9
22. 192 is related to 38 following a certain logic. Following the same logic, 270 is related to 51. To which of the following is 258 related, following the same logic?
 (NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. For example, 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.)
 1. 46 3. 41 2. 49 4. 43
23. In a certain code language, 'CREATE' is coded as '84' and 'FLOP' is coded as '56'. What is the code for 'PURPOSEFULLY' in the given code language?
 1. 170 2. 142 3. 168 4. 117
24. Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusions logically follow(s) from the

statements.

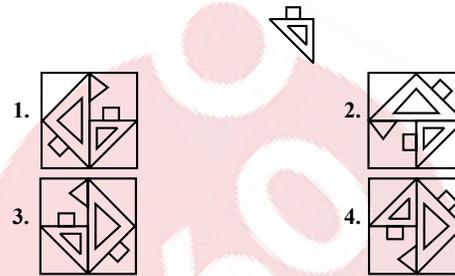
Statements:

- All hands are legs.
- Some hands are eyes.

Conclusion (I): All legs are hands.

Conclusion (II): Some legs are eyes.

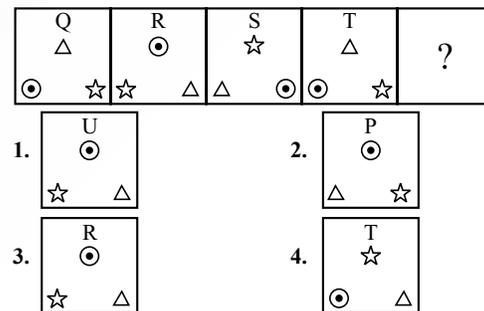
1. Neither Conclusion I nor II follows
 2. Only Conclusion I follows
 3. Only Conclusion II follows
 4. Both Conclusions I and II follow
25. NKBI is related to PIDG in a certain way based on the English alphabetical order. In the same way, SMFG is related to UKHE. Following the same logic, to which of the following is UPQR related?
 1. WRSD 2. TRDW 3. WNSP 4. YGBF
26. Select the option in which the given figure is embedded (rotation is NOT allowed).



27. M, N, O, P, Q, R and S are sitting around a circular table facing the centre (but not necessarily in the same order). P is sitting fourth to the right of N. Q is sitting third to the left of O. M is sitting to the immediate right of Q. R is sitting to the immediate right of N. How many people are sitting between P and S when counted from the left of S?
 1. 3 2. 4 3. 1 4. 2
28. What should come in place of the question mark (?) in the given series based on the English alphabetical order?
 CHK, GKO, ?, OQW, STA

1. KNT 3. LOT
 2. LOS 4. KNS

29. Identify the figure from the given options that when put in place of the question mark (?) will logically complete the series.



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

Statements:

- All lions are cheetahs.
- Some cheetahs are tigers.

Conclusions:

(I) Some tigers are not cheetahs.

(II) All cheetahs are lions.

1. Only Conclusion I follows

2. Both Conclusions I and II follow

3. Only Conclusion II follows

4. Neither Conclusion I nor II follows

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



1. a 8 2 6 P R

2. a 8 9 d Я

3. a 8 2 R P

4. 2 a 8 2 P R

32. RQ 45 is related to TS 50 in a certain way. In the same way, UX 19 is related to WZ 24. To which of the following is CF 68 related following the same logic?

1. ST 55

3. NV 37

2. NT 45

4. EH 73

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

(NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into their constituent digits. For example, 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.)

(1, 16, 5) (2, 19, 7)

1. (3, 35, 5)

2. (8, 22, 4)

3. (6, 40, 3)

4. (5, 20, 6)

34. A, B, C, L, M, Y and X are sitting around a circular table facing the centre (but not necessarily in the same order). C sits fourth to the left of M. Only one person sits between L and Y when counted from the left of L. Only one person sits between Y and X when counted from left of Y. Only two people sit between A and Y when counted from the right of A. Who sits third to the right of B?

1. A

2. L

3. C

4. X

35. What should come in place of the question mark (?) in the given series?

4, 7, 11, 18, 29, 47, 76, ?, 199

1. 125

2. 123

3. 130

4. 127

36. What will come in the place of '?' in the following equation, if '+' and '-' are interchanged and '×' and '÷' are interchanged? $16 - 4 \times 2 \div 3 + 6 = ?$

1. 24

2. 12

3. 8

4. 16

37. In a certain code language, 'he played well' is written as 'yt pu jk' and 'well in manner' is written as 'pu nt cr'. How is 'well' written in the given language?

1. cr

2. pu

3. jk

4. yt

38. In a certain code language, 'use the force' is coded as 'gp sb cn' and 'force is strong' is coded as 'hv sk gp'. How is 'force' coded in that language?

1. sk

3. gp

2. cn

4. hv

39. In a certain code language, 'shreya goes to temple' is written as 'ci bi di fi' and 'veer might visit temple' is written as 'ti fi ji vi'. How is 'temple' written in the given language?

1. ti

2. fi

3. ji

4. ci

40. Select the figure from among the given options that can replace the question mark (?) in the following series and complete the pattern.

4 = P X	X 4 = P	T X P 2	2 T X P	?
2 T	T 2	4 =	= 4	

1.

P X T 4	=
2 T	

2.

= X T 2	
4 P	

3.

T = 4 X	=
4 =	

4.

= 2 P 4	
T X	

General Awareness

41. The _____ Polo Club is the home of the Ezra Cup event, the world's oldest polo tournament, started in 1880.
1. Delhi
2. Jaipur
3. Calcutta
4. Hyderabad
42. The National Programme for Civil Services Capacity Building (NPCSCB) envisaged by the Central Government is called _____.
1. Seed Scheme
2. Mission Karmayogi
3. Sahakar Mitra Scheme
4. Seva Nidhi Scheme
43. In a food chain of Algae–Shrimp–Fish–Bird, if the energy available at the bird is 4 kJ, then the energy available at the shrimp is:
1. 400 kJ
2. 4000 kJ
3. 4 kJ
4. 0.04 kJ
44. Who is the first Indian female dancer to receive the highest Padma award, Padma Vibhushan?
1. Madhavi Mudgal
2. Shobha Naidu
3. Sonal Mansingh
4. Sanjukta Panigrahi
45. The Directive Principles of State Policy are considered fundamental in the governance of the country, but they are not enforceable by any court. This concept is mentioned in which Article?
1. Article 37
2. Article 32
3. Article 38
4. Article 49
46. Which of the following instruments is played by Shreya Bhattacharjee, an eminent musician from Assam?
1. Sitar
2. Tabla
3. Flute
4. Violin
47. According to the Census of India 2011, which Union Territory from the following has the highest sex ratio?
1. Chandigarh
2. Lakshadweep
3. Daman and Diu
4. Puducherry
48. 'Waiting for a Visa' is a 20-page autobiography of _____.
1. Jawahar Lal Nehru
2. Sadar Vallabhbai Patel
3. Dr Bhim Rao Ambedkar
4. Mahatma Gandhi
49. Which of the following Commissions was set up to investigate the incident of Jallianwala Bagh in 1919?
1. Sadler Commission
2. Hunter Commission
3. Simon Commission
4. Peel Commission
50. Name the Union Territory with the lowest density of population as per Census of India 2011.
1. New Delhi
2. Lakshadweep
3. Andaman and Nicobar Islands
4. Daman and Diu
51. Which of the following is an artificial port in India?
1. Mumbai port
2. Chennai port
3. Kolkata port
4. Deendayal port
52. In Maikal hills, which of the following minerals is deposited?
1. Copper
2. Iron
3. Bauxite
4. Coal

79. Select the most appropriate synonym of the underlined word in the given sentence.
Wine glass is very fragile; you must handle it with care.
1. resilient 2. sturdy 3. delicate 4. rough
80. Select the most appropriate option to substitute the underlined idiom/phrase in the given sentence.
The salesman informed the customers that if they had any questions, they could drop a line.
1. send a brief letter 2. complain against him
3. call his secretary 4. come back with the items
81. 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.
Tara has been playing / cricket with her friends / since noon.
1. Tara has been playing 3. Since noon
2. No error 4. Cricket with her friends
82. The following sentence has been split into four parts. Identify the part that contains a grammatical error.
Surprisingly! / dark chocolates / are most bitterer / in taste.
1. Surprisingly! 2. dark chocolates
3. in taste. 4. are most bitterer
83. Select the most appropriate option to fill in the blank.
His business was so successful that Mark was able to _____ at the age of 50.
1. admit 2. give up
3. succeed 4. retire
84. Select the option that rectifies the underlined spelling error.
The permissible limit of vehicle speed has been increased in India by the Road Transport Corporation.
1. permissible 2. parmissible
3. parmitted 4. permissiblle
85. Select the option with the correct spelling to replace the underlined word in the given sentence.
As the roller coaster reached its highest point, a surge of addrenalline coursed through her veins, making her heart race with excitement.
1. adrennaline 3. adrineline
2. adrenaline 4. adreline
- Comprehension (Qs. No. 86–90):** In the following passage, some words have been deleted. Read the passage carefully and select the most appropriate option to fill in each blank.
These letters are not intended to dominate your way of thinking or to persuade you to _____ 1 _____ to the way the writer thinks or feels. It is really a dialogue _____ 2 _____ two friends talking about their problems. You must have observed the state of our society, and that there must be a _____ 3 _____ transformation in the way human beings live, their relation to each other, and in every way possible. We are deeply concerned for our students. The teacher is the _____ 4 _____ important person in the school, for on her or him depends the future welfare of mankind. As the society is disintegrating, these schools must be centres for the regeneration _____ 5 _____ the mind.
86. Select the most appropriate option to fill in blank number 1.
1. affirm 2. conform 3. confirm 4. control
87. Select the most appropriate option to fill in blank number 2.
1. behind 2. between 3. unless 4. before
88. Select the most appropriate option to fill in blank number 3.
1. radical 2. radial 3. avoidable 4. highly
89. Select the most appropriate option to fill in blank number 4.
1. much 2. not 3. more 4. most
90. Select the most appropriate option to fill in blank number 5.
1. under 2. although 3. of 4. off

Answer Key

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

Answers with Explanations

1. Option (1) is correct.

Let r and h be the radius and height of cylinder according to the question,

$$r + h = 96$$

Since, TSA of cylinder = 12672

$$2\pi r(r + h) = 12672$$

$$\Rightarrow r = \frac{12672 \times 7}{2 \times 22 \times 96} = 21 \text{ cm}$$

$$\Rightarrow h = 96 - 21 = 75 \text{ cm}$$

\therefore Curved surface is = $2\pi rh$

$$= 2 \times \frac{22}{7} \times 21 \times 75$$

$$= 9900 \text{ m}^2$$

Volume of cylinder = $\pi r^2 h$

$$= \frac{22}{7} \times 21 \times 21 \times 75$$

$$= 103950 \text{ m}^3$$

2. Option (3) is correct.

$$\begin{aligned} \text{Average} &= \frac{\text{Total sum of all object}}{\text{No. of object}} \\ &= \frac{20 + 40 + 60 + 80 + 100 + 120 + 140}{7} \\ &= \frac{560}{7} = 80 \end{aligned}$$

3. Option (1) is correct.

Capacity of hollow hemispherical bowl = $\frac{686}{3} \pi$

$$\Rightarrow \frac{2}{3} \pi r^3 = \frac{686}{3} \pi$$

$$\Rightarrow r^3 = 343 \Rightarrow r = 7 \text{ units}$$

Outer radius = 9 units

\therefore Volume of steel used

$$= \frac{2}{3} \pi (9^3 - 7^3)$$

$$= \frac{2}{3} \pi \times 386 = \frac{772}{3} \pi \text{ cubic units}$$

4. Option (1) is correct.

Let the price of third variety be M according to the question,

$$(84 \times x) + (96 \times x) + (M \times 2x) = 99 \times 4x$$

$$\Rightarrow 84x + 96x + 2Mx = 396x$$

$$\Rightarrow 2Mx = 396x - 180x$$

$$\Rightarrow 2Mx = 216x$$

$$\Rightarrow M = 108$$

5. Option (3) is correct.

Principal = ₹ 3000

Rate = 4% p.a

Time = 4 years

$$SI = \frac{P \times R \times T}{100}$$

$$= \frac{3000 \times 4 \times 4}{100}$$

$$= ₹ 480$$

6. Option (1) is correct.

Principal = ₹ P , Amount = ₹ $3P$

Time = 20 years

So,

$$SI = \frac{P \times R \times T}{100}$$

$$\Rightarrow 3P - P = \frac{P \times R \times 20}{100}$$

$$\Rightarrow 2P = \frac{P \times R \times 20}{100}$$

$$\Rightarrow R = \frac{2 \times 100}{20} = 10\% \text{ p.a}$$

7. Option (4) is correct.

Let the two numbers be X and Y according to the question,

(Here, $X > Y$)

$$\frac{45}{100}(X + Y) = \frac{60}{100}(X - Y)$$

$$45X + 45Y = 60X - 60Y$$

$$\Rightarrow 105Y = 15X$$

$$\Rightarrow \frac{Y}{X} = \frac{15}{105} = \frac{1}{7}$$

\therefore Required ratio = 1 : 7

8. Option (2) is correct.

Let the amount of profit and has = ₹ x

According to the question,

$$19125 - x = x - 14625$$

$$\Rightarrow 2x = 19125 - 14625$$

$$\Rightarrow x = \frac{4500}{2} = 2250$$

$$\therefore \text{Cost price} = ₹(19125 - 2250) = ₹(16875)$$

$$\text{Now, profit\%} = \frac{2250}{16875} \times 100$$

$$= 13\frac{1}{3}\%$$

9. Option (1) is correct.

Total marks obtained by Shilpee in three subject = $80 + 70 + 81 = 231$

$$\text{So, required percentage} = \frac{231}{300} \times 100 = 77\%$$

10. Option (1) is correct.

SI = ₹ 360, Time = 3 years

Rate = 8% p.a

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

$$\Rightarrow 360 = \frac{P \times 8 \times 3}{100}$$

$$\Rightarrow P = \frac{360 \times 100}{24} = ₹ 1500$$

11. Option (4) is correct.

Required average speed

$$= \frac{320 + 250}{\frac{320}{80} + \frac{250}{50}}$$

$$= \frac{570}{9} = 63\frac{1}{3} \text{ km/h}$$

12. Option (2) is correct.

Average income of 25 person = ₹ 2400

$$\therefore \text{Sum of income of 25 persons} = ₹ 2400 \times 25$$

$$\begin{aligned}
 &= ₹ 60,000 \\
 \text{Average income of another 20 person} &= ₹ 1500 \\
 \therefore \text{Sum of income} &= ₹ 1500 \times 20 \\
 &= ₹ 30,000 \\
 \text{So, required average} &= \frac{60000 + 30000}{25 + 20} \\
 &= \frac{90000}{45} = ₹ 2000
 \end{aligned}$$

13. Option (3) is correct.

$$\begin{aligned}
 \text{Scale of map} &= 1 : 250 \\
 \text{So, actual distance between two cities} &= 6.5 \times 250 \\
 &= 1625 \text{ km}
 \end{aligned}$$

14. Option (2) is correct.

$$\begin{aligned}
 \text{LCM of 1, 4, 5, 7, 8} &= 8 \times 5 \times 7 = 280 \\
 \text{HCF of 6, 15, 9, 27} &= 3 \\
 \therefore \text{Required LCM} &= \frac{280}{3} = 93\frac{1}{3}
 \end{aligned}$$

15. Option (1) is correct.

$$\begin{aligned}
 \text{Volume of sphere} &= \frac{4}{3}\pi r^3 \\
 &= \frac{4}{3}\pi(8)^3 = 2143.57 \text{ cubic feet} \\
 \text{So, the required time} &= \frac{2143.57}{24} \\
 &= 89.31 \text{ min (approx. 89 min)}
 \end{aligned}$$

16. Option (1) is correct.

$$\begin{aligned}
 \text{Speed of boat in still water} &= 13 \text{ km/h} \\
 \text{Speed of stream} &= 4 \text{ km/h} \\
 \text{Downstream distance} &= 68 \text{ km} \\
 \text{Downstream speed} &= 13 + 4 = 17 \text{ km/h} \\
 \therefore \text{Required time} &= \frac{68}{17} = 4 \text{ h}
 \end{aligned}$$

17. Option (1) is correct.

$$\begin{aligned}
 \text{Marked price} &= ₹ 500 \\
 \text{Selling price after 1st discount} &= \frac{60}{100} \times ₹ 500 = ₹ 300 \\
 \text{So, discount amount after 2nd discount} &= \frac{4}{100} \times 300 \\
 &= ₹ 12
 \end{aligned}$$

18. Option (2) is correct.

$$\begin{aligned}
 \text{Total production of all manufacture in 2020} &= 6000 + 12000 + 14000 + 20000 + 13000 \\
 &= 65,000 \\
 \text{Total production of all manufacture in 2021} &= 16000 + 17000 + 14000 + 15000 + 23000 \\
 &= 85,000 \\
 \therefore \text{Required percentage} &= \frac{85000 - 65000}{65000} \times 100 \\
 &= 30.77\% \approx 31\%
 \end{aligned}$$

19. Option (1) is correct.

$$\begin{aligned}
 \text{SP} &= ₹ 348, \text{ loss\%} = 13\% \\
 \text{Loss \%} &= 100 \times \frac{(\text{CP} - \text{SP})}{\text{CP}} \\
 \Rightarrow \frac{13}{100} &= \frac{\text{CP} - 348}{\text{CP}} \times 100 \\
 \Rightarrow \frac{13 \text{ CP}}{100} &= \text{CP} - 348
 \end{aligned}$$

$$\Rightarrow 348 = \frac{87}{100} \text{CP}$$

$$\Rightarrow \text{CP} = \frac{34800}{87} = ₹ 400$$

$$\text{Now, CP} = ₹ 400, \text{ Profit\%} = 22\%$$

$$\therefore \text{Gain\%} = \frac{\text{SP} - \text{CP}}{\text{CP}} \times 100$$

$$\Rightarrow 22 = \frac{\text{SP} - 400}{400} \times 100$$

$$\Rightarrow 88 = \text{SP} - 400$$

$$\Rightarrow \text{SP} = ₹ 488$$

20. Option (4) is correct.

$$\begin{aligned}
 \text{Average of six numbers} &= 30 \\
 \therefore \text{Sum of six numbers} &= 30 \times 6 = 180 \\
 \text{Let the excluded numbers} &= x \\
 \text{So, according to question,}
 \end{aligned}$$

$$\frac{180 - x}{5} = 28$$

$$\Rightarrow 180 - x = 140$$

$$\Rightarrow x = 40$$

21. Option (4) is correct.

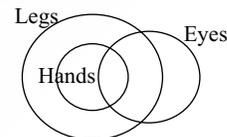
$$\begin{aligned}
 \text{After interchanging 2 and 9, we get} \\
 28 - 4 \times 5 + 36 \div 2 + 9 \times 3 &= 53 \\
 \Rightarrow 28 - 4 \times 5 + 18 + 9 \times 3 &= 53 \\
 \Rightarrow 28 - 20 + 18 + 27 &= 53 \\
 \Rightarrow 73 - 20 &= 53 \\
 \Rightarrow 53 &= 53 \text{ (correct)}
 \end{aligned}$$

22. Option (3) is correct.

$$\begin{aligned}
 \text{The rule followed is} \\
 192 : (192 \div 6) + 6 &= 32 + 6 = 38 \\
 270 : (270 \div 6) + 6 &= 45 + 6 = 51 \\
 \text{So, } 258 : (258 \div 6) + 6 &= 43 + 6 = 49
 \end{aligned}$$

23. Option (3) is correct.

$$\begin{aligned}
 \text{The rule followed is:} \\
 \text{Number of letters in the word} \times 14 &= \text{Number} \\
 \text{So, } 12 \times 14 &= 168
 \end{aligned}$$

24. Option (3) is correct.

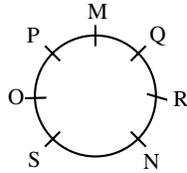
So, only Conclusion II follows.

25. Option (3) is correct.

$$\begin{array}{cccc}
 \text{We have,} & & & \\
 \text{N} & \text{K} & \text{B} & \text{I} \\
 +2 \downarrow & -2 \downarrow & +2 \downarrow & -2 \downarrow \\
 \text{P} & \text{I} & \text{D} & \text{G} \\
 \text{So,} & & & \\
 \text{U} & \text{P} & \text{Q} & \text{R} \\
 +2 \downarrow & -2 \downarrow & +2 \downarrow & -2 \downarrow \\
 \text{W} & \text{N} & \text{S} & \text{P}
 \end{array}$$

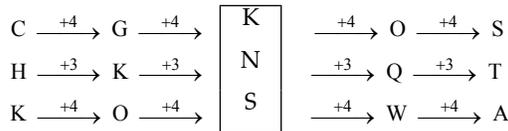
26. Option (3) is correct.

27. Option (3) is correct.



So, number of people sitting between P and S when counted from the left of S = 1

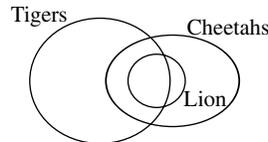
28. Option (4) is correct.



29. Option (1) is correct.

In every next figure, alphabets are written in alphabetical order. Rest of these elements moves in clockwise direction.

30. Option (4) is correct.



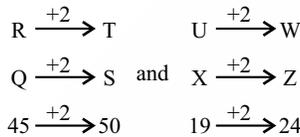
So, neither Conclusion I and nor II follows.

31. Option (1) is correct.

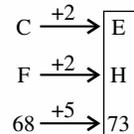


32. Option (4) is correct.

The rule followed is:



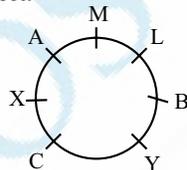
So,



33. Option (2) is correct.

Here, (1 + 5) + 10 = 16
and (2 + 7) + 10 = 19
So, (8 + 4) + 10 = 22

34. Option (1) is correct.



So, A sits third to the right of B.

35. Option (2) is correct.

Here every term is the sum of its previous two terms:

- 4 + 7 = 11
- 7 + 11 = 18
- 11 + 18 = 29
- 18 + 29 = 47
- 29 + 47 = 76
- 47 + 76 = 123

36. Option (4) is correct.

After interchanging the symbols we get

$$16 + 4 \div 2 \times 3 - 6 = 16 + 2 \times 3 - 6$$

$$= 16 + 6 - 6$$

$$= 22 - 6 = 16$$

37. Option (2) is correct.

We have,
he played well → yt pu jk ...
well in manner → pu nt cr ...
from (i) and (ii), the common word is well and the common code is pu.

38. Option (3) is correct.

We have,
use the force → gp sb cn ...
force is strong → hvsk gp ...
From (i) and (ii), the common word is force and the common code is gp.

39. Option (2) is correct.

We have,
Shreya goes to temple → ci bi di fi ...
Veer might visit temple → ti fi ji vi ...
From (i) and (ii), the common word is temple and the common code is fi.

40. Option (4) is correct.

In every alternate figure, the rule followed is



41. Option (3) is correct.

The Calcutta Polo Club, established in 1862, is the venue for the Ezra Cup, the world's oldest polo tournament. First held in 1880, the Ezra Cup is named after Sir Ezra, a prominent figure in the history of polo in India. The tournament remains a prestigious event in the world of polo, highlighting the rich history and tradition of the sport in India.

42. Option (2) is correct.

Mission Karmayogi is the National Programme for Civil Services Capacity Building (NPCSCB) envisioned by the Central Government to enhance the capacity of civil servants. The initiative aims to build a future-ready civil service with a focus on improving performance, governance and efficiency within the Indian bureaucracy.

43. Option (1) is correct.

Energy transfer between trophic levels in a food chain is not 100% efficient. Typically, only about 10% of the energy from one level is transferred to the next. Given that the bird receives 4 kJ of energy, we can work backwards to calculate the energy at the shrimp level: Fish to Bird: The bird received 10% of the fish's energy, so the fish must have had 4 kJ / 0.1 = 40 kJ. Shrimp to Fish: Similarly, the fish received 10% of the shrimp's energy, so the shrimp must have had 40 kJ / 0.1 = 400 kJ. Therefore, the energy available at the shrimp level is 400 kJ.

44. Option (3) is correct.

Sonal Mansingh, a renowned classical dancer, became the first Indian female dancer to receive the prestigious Padma Vibhushan, India's second-highest civilian award, in 2003. She is known for her expertise in Odissi and Bharatanatyam dance forms.

45. Option (1) is correct.

Article 37 of the Indian Constitution states that the Directive Principles of State Policy (DPSPs) are fundamental in the governance of the country. However, it also clarifies that these principles are not enforceable by any court, meaning they cannot be legally compelled or adjudicated by the judiciary.

46. Option (2) is correct.

Shreya Bhattacharjee is a talented Tabla artist from Assam. She has made significant achievements in her field, including setting a record for playing the Tabla for the longest duration in the India Book of Records at the age of 12 and winning several prestigious awards and competitions.

47. Option (4) is correct.

According to the 2011 Census, Puducherry has the highest sex ratio among Union Territories, with 1,037 females for every 1,000 males. As for India as a whole, the national sex ratio is 943 females for every 1,000 males. According to the Census 2011, the top five states/Union territories with the highest sex ratio are: Kerala: 1,084 females per 1,000 males
Puducherry: 1,038 females per 1,000 males
Tamil Nadu: 995 females per 1,000 males
Andhra Pradesh: 992 females per 1,000 males
Chhattisgarh: 991 females per 1,000 males

48. Option (3) is correct.

“Waiting for a Visa” is indeed a 20-page autobiographical account written by Dr. B. R. Ambedkar during the period 1935–36. The book reflects his experiences with untouchability and his struggles as a Dalit. It provides insights into the social discrimination he faced, starting from his childhood. The book is an important piece of literature and is even used as a textbook at Columbia University.

49. Option (2) is correct.

The Hunter Commission was set up in 1919 by the British government to investigate the Jallianwala Bagh massacre, which occurred on April 13, 1919, in Amritsar. The Commission was headed by Lord William Hunter and was tasked with examining the circumstances surrounding the incident and the actions of the British authorities involved.

50. Option (3) is correct.

As per the Census of India 2011, the National Capital Territory of Delhi has the highest population density, with 11,297 persons per square kilometre. On the other hand, the Andaman and Nicobar Islands have the lowest population density, with 46 persons per square kilometre.

51. Option (2) is correct.

Chennai Port, formerly known as Madras Port, is indeed an artificial port and holds the distinction of being the second-largest container port in India. It is also the largest port in the Bay of Bengal. Chennai Port plays a crucial role in handling cargo and container traffic in South India.

52. Option (3) is correct.

The Maikal Hills, located in the Satpura range in central India, are rich in bauxite deposits, which are a key source of aluminium. These hills are part of Chhattisgarh and Madhya Pradesh and are known for their mineral wealth, including bauxite.

53. Option (1) is correct.

The ostrich egg is the largest isolated single cell found in nature. It is a single reproductive cell or ovum and can weigh up to 1.4 kilograms, making it the largest cell by size. While organisms like amoeba are unicellular, their size is much smaller compared to an ostrich egg.

54. Option (4) is correct.

Here's how we can calculate the acceleration:

Formula: Acceleration (a) = (Final velocity (v) – Initial velocity (u)) / Time taken (t)

Given values: Initial velocity (u) = 5 m/s

Final velocity (v) = 10 m/s

Time taken (t) = 2 seconds

Calculation: $a = (10 \text{ m/s} - 5 \text{ m/s}) / 2 \text{ s}$

$a = 5 \text{ m/s} / 2 \text{ s}$

$a = 2.5 \text{ m/s}^2$

Therefore, the acceleration of the body is 2.5 m/s^2 .

55. Option (2) is correct.

In the Indian political system, if both the Speaker and the Deputy Speaker of the Lok Sabha are absent, a member of the House, nominated by the Speaker, presides over the proceedings. This provision ensures the smooth functioning of the House during their absence.

56. Option (2) is correct.

Mohiniattam, a classical dance form from Kerala, is known for its graceful movements and storytelling through dance. It often uses songs in the Manipravala language, which is a blend of Sanskrit and Malayalam, to express emotions and narrate stories, typically related to Hindu mythology.

57. Option (4) is correct.

The Home Rule League Movement, led by Bal Gangadhar Tilak, began in April 1916 in Belgaon. Tilak's league operated across Maharashtra, Karnataka, the Central Provinces, and Berar, specifically excluding Bombay. Its objective was to demand self-rule (Swaraj) for India within the British Empire.

58. Option (1) is correct.

Vihara refers to the residential place of Buddhist monks and priests. It is a monastery where they live, study and meditate. In contrast: A stupa is a dome-shaped structure housing relics. Stambha is a pillar, often inscribed with Buddhist teachings. A chaitya is a prayer hall or shrine.

59. Option (4) is correct.

Muharram is observed to commemorate the martyrdom of Hussain Ibn Ali, the grandson of Prophet Muhammad, who was killed in the Battle of Karbala in 680 CE. The 10th day of Muharram, known as Ashura, is marked with mourning rituals and processions by the Muslim community, particularly by Shia Muslims.

60. Option (3) is correct.

Mawsynram, known as the wettest place on Earth, is located in the Khasi Hills of Meghalaya, India. It receives the highest average annual rainfall due to its unique topography, which traps moisture-laden winds from the Bay of Bengal, causing heavy precipitation.

61. Option (2) is correct.

Net National Product at Factor Cost (NNP at Factor Cost) is generally recognised as the National Income of a country. It represents the total income earned by a nation's residents, both domestically and internationally, after accounting for depreciation and valued at factor cost (i.e., without indirect taxes and subsidies). This is a key measure of a country's economic performance.

62. Option (3) is correct.

Jimmy George was a legendary volleyball player from Kerala, India. He is widely regarded as one of the greatest volleyball players in Indian history and made significant contributions to the sport both nationally and internationally.

63. Option (3) is correct.

Janardan Prasad was appointed as the new Director General of the Geological Survey of India (GSI) in June 2023. He took charge of the 174-year-old institution, succeeding Dr. S. Raju. Prasad has an MSc in Geology from Patna University and joined GSI in 1988. He has extensive experience in metallurgy and mineral exploration studies.

64. Option (3) is correct.

Pulakeshin II was a famous ruler of the Chalukya dynasty. He is known for his military victories, including defeating the powerful Harshavardhana, and his patronage of arts and literature. His reign marked a golden age for the Chalukya dynasty.

65. Option (1) is correct.

The Sultan who established the Diwan-i-Amir-Kohi department for agricultural development was Muhammad Bin Tughlaq. This department aimed to increase agricultural productivity and land under cultivation.

66. Option (1) is correct.

The word is incorrectly spelled; the correct spelling is "hectic," which means chaotic or busy. The other options are spelled correctly: (2) Gentle – means kind or soft. (3) Brilliant – means very bright or highly talented. (4) Kinetic – means relating to motion.

67. Option (3) is correct.

This term is used as a one-word substitute for a person who is mentally ill, particularly someone who may exhibit extreme or irrational behaviour. The other options are incorrect: (1) Mercenary – refers to a professional soldier hired to serve in a foreign army or someone motivated by personal gain. (2) Psychiatrist – a medical doctor specialising in the diagnosis and treatment of mental illnesses. (4) Psychologist – a professional who studies mental processes and behaviour but does not prescribe medication.

68. Option (2) is correct.

The word "affirmative" means agreeing or supportive, which is synonymous with "positive." The other options are incorrect: (1) critical – means involving analysis or judgment, often with negative connotations. (3) detailed – means including many details or specific elements. (4) reflective – means thoughtful or considering something carefully.

69. Option (2) is correct.

The phrase "I'm not remembering" is not grammatically correct in the context of this answer. The correct form should be "I don't remember," as the simple present tense "don't remember" is used for general or habitual actions, whereas "am not remembering" is not commonly used in English. The other segments are correct: (1) She told me – the correct structure. (3) it now – correct structure. (4) her name but – correct structure.

70. Option (2) is correct.

The sentence has an article error. The phrase should be "a strange vintage car" to be grammatically correct. Without the article "a," the sentence feels incomplete or incorrect. The other parts of the sentence are correct: (1) He bought – correct structure. (3) on auction – correct usage. (4) from the customs department – correct usage.

71. Option (4) is correct.

The phrase "under the weather" is an idiomatic expression meaning to feel unwell or sick, which fits the actual meaning of the sentence perfectly. The other options are incorrect: (1) head in the clouds – means to be daydreaming or not paying attention to reality. (2) face like thunder – means to look very angry. (3) chase rainbows – means to pursue unrealistic or impractical goals.

72. Option (4) is correct.

This option correctly aligns the timing of the action. The sentence implies that the flight departed right before they arrived at the airport, so "Just before they reached" is the best choice. The other options are incorrect: (1) Just when they have reached – is not appropriate because it suggests that they had

already reached when the flight departed, which contradicts the intended meaning. (2) After they just reach – implies that the flight left after they reached, which changes the original meaning. (3) Just they reach – is not grammatically correct and does not fit the context.

73. Option (1) is correct.

The sentence describes Sathish's strength and determination in the face of danger. "Steel" is often used as a metaphor for strong, unyielding resolve, making it the most appropriate choice. The other options are incorrect: (2) still – means motionless or calm, which does not convey a sense of strength or resolve. (3) stall – means a small compartment or to delay, which doesn't fit the context. (4) steal – means to take something without permission, which is unrelated to the intended meaning of the sentence.

74. Option (3) is correct.

This choice correctly maintains the original meaning and fits appropriately within the context of the sentence. The revised sentence would be: "She confided in me about her anxiety, whispering her secrets between sips of coffee." This option is grammatically accurate and uses the noun "anxiety" to express her state of nervousness or worry. The other options are less suitable: (1) "on her anxiousness" is awkward and uncommon, (2) "about her anxious" is incomplete due to the lack of a noun form, and (4) "regarding herself's anxiousness" is incorrect as "herself's" is not proper usage in English.

75. Option (3) is correct.

The term "obliged" implies feeling indebted or grateful to someone for their help or kindness. An antonym would be a word that expresses the opposite sentiment, such as not feeling grateful or appreciative. "Thankless" means ungrateful or not showing appreciation, which contrasts with the idea of being "obliged" or thankful. The other options do not serve as antonyms: (1) "grateful" and (4) "indebted" are similar in meaning to "obliged," while (2) "pleased" is unrelated in this context.

76. Option (4) is correct.

The correct form should be "I had never seen" because the past perfect tense uses the past participle of the verb. In this case, "saw" (simple past) should be replaced with "seen" (past participle) to maintain grammatical correctness. The corrected sentence would read: "I had never seen such a sight before I visited Switzerland."

77. Option (1) is correct.

The sentence "Please bring some milk from the refrigerator in the kitchen" uses "the" because it refers to a specific refrigerator that both the speaker and the listener are aware of. The definite article "the" is used when referring to a particular noun that is known to both parties in the conversation.

78. Option (1) is correct.

The sentence "Though Amal took continuous medication, he was not able to heal his injury" uses "heal" because it means to recover or make an injury or wound healthy again. The other options are not appropriate within the context of the sentence as "heel" refers to the back part of the foot, "hail" means to greet or call out, and "hill" refers to a small mound of earth.

79. Option (3) is correct.

In the sentence "Wine glass is very fragile; you must handle it with care," the word "fragile" means something that is easily broken or damaged. "Delicate" is a synonym because it also refers to something fine, light, and easily damaged. The other options are inappropriate as "Resilient" means strong and able

to recover quickly, “Sturdy” means strong and durable, and “Rough” means not smooth or coarse, which is the opposite of fragile.

80. Option (1) is correct.

The idiom “drop a line” refers to sending a short, informal message or note to someone. In the context of the sentence, the salesman is suggesting that customers can reach out with any questions by sending a simple message. The other options do not align with this meaning: (2) “complain against him” implies lodging a formal complaint, (3) “call his secretary” refers to contacting a secretary, which is unrelated to sending a written message, and (4) “come back with the items” pertains to returning items, not communication. Therefore, (1) “send a brief letter” is the appropriate answer to replace “drop a line.”

81. Option (3) is correct.

The sentence “Tara has been playing cricket with her friends since noon” is grammatically correct. The structure of the sentence is proper, with the present perfect continuous tense (“has been playing”) being used appropriately to indicate an action that started in the past and continues to the present. The phrase “since noon” correctly indicates the starting point of the action, and “cricket with her friends” is the most correct description of the activity.

82. Option (4) is correct.

The grammatical error in this sentence is the use of “most bitterer.” The comparative form of “bitter” is “bitterer,” and it should not be preceded by “most” as “most” is used with superlative forms (e.g., “bitterest”). The sentence should be corrected to “dark chocolates are more bitter in taste.” The word “more” is used for comparatives like “bitter” or “bitterer,” and “most” should be used for superlative forms.

83. Option (4) is correct.

The sentence implies that Mark’s business was successful enough to allow him to stop working at the age of 50. The word “retire” means to stop working, because one has reached an age or financial stability where they no longer need to work. The other options don’t fit the context: “admit” means to confess or allow entry, “give up” implies quitting or surrendering, and “succeed” means to achieve something or do well, which doesn’t relate to stopping work.

84. Option (1) is correct.

The word “permissible” in the sentence is incorrectly spelled. The correct spelling should be “permissible,” which means allowed or permitted. The other options are incorrect or do not fit the context: (2) parmissible is not a valid word, (3) parmitted is not a word and has no meaning, and (4) permisibble contains an extra “b” and is misspelled. Thus, “permissible” is the appropriate choice for rectifying the spelling error in the sentence.

85. Option (2) is correct.

The word “addrenalline” in the sentence is misspelled. The correct spelling is “adrenaline,” which refers to the hormone

released during stress or excitement that increases heart rate and energy levels. The other options, (1) adrennaline, (3) adrineline, and (4) adreneline, are all incorrect spellings of the word.

86. Option (2) is correct.

The sentence implies that the letters are not meant to make the reader change their way of thinking to match the writer’s. The word “conform” means to comply with or adapt to a set of standards, rules, or norms, which fit the context of the sentence. The other options, (1) affirm (to state or assert positively), (2) confirm (to establish the truth or correctness of something), and (4) control (to exercise authority or influence over), do not fit the context as accurately as “conform” does.

87. Option (2) is correct.

The sentence states that the dialogue is between two friends talking about their problems. The word “between” is used to indicate the involvement or interaction between two entities, which is appropriate for the context of the passage. The other options, (1) behind (implying one is following or hidden), (2) unless (implying a condition), and (4) before (implying time), do not fit the context as correctly as “between” does.

88. Option (1) is correct.

The sentence implies that there needs to be a significant or fundamental change in the way human beings live and interact, which is best described by the word “radical.” It suggests a deep, transformative shift that goes beyond superficial or minor changes. The other options do not fit the context: (2) radial refers to something related to or resembling rays or radii, (3) avoidable means something that can be prevented or avoided, and (4) highly is an adverb and does not fit grammatically as a substitute for an adjective describing the type of transformation needed.

89. Option (4) is correct.

Most emphasises the teacher’s position as the most important individual in the school. The sentence underscores the critical role of the teacher in determining the future welfare of humanity, and “most” effectively conveys the highest degree of importance. The other options do not fit as well: (1) much suggests a significant degree but not the utmost, (2) not would make the sentence grammatically incorrect, and (3) more implies a comparative degree, which contradicts the idea of the teacher being the singularly most important figure in the school.

90. Option (3) is correct.

The phrase “regeneration of the mind” requires “of” to indicate the relationship between regeneration and the mind being transformed. The other options are not suitable: (1) under does not fit contextually with the idea of regeneration, (2) although is a conjunction that would not make sense in this context, and (4) off would be grammatically incorrect and does not convey the intended meaning.