SSC CHSL Tier-1 2024: Official Paper (Held On: 10 Jul, 2024 Shift 3) (Previous Year Paper)

SSC Combined Higher Secondary Level (CHSL) • 2024 • 100 questions • 60 minutes • Answer key and solutions

Take this paper as a timed mock test

Practise under exam conditions, then review your answers after you submit.

yourmocktest.com/pyq/ssc-chsl/ssc-chsl-tier-1-2024-official-paper-held-on-10-jul-2024-shift-3-p…

Scan the QR code or click the link to open it.

ENGLISH LANGUAGE

Q1. The following sentence has been split into four segments. Identify the segment that contains an error.

Shall have / you bring / your note-book / tomorrow?

(a) tomorrow
(b) your note-book
(c) Shall have
(d) you bring

Q2. The following sentence has been split into four segments. Identify the segment that contains a grammatical error.

I used to eat into / in the evening / when my parents / were on night shifts.

(a) when my parents
(b) I used to eat into
(c) in the evening
(d) were on night shifts

Q3. Select the option with the correct use of future tense.

(a) If you had work hard in the same manner, you will soon achieve success.
(b) If you work hard in the same manner, you will soon achieve success.
(c) If you have work hard in the same manner, you will soon achieve success.
(d) If you worked hard in the same manner, you will soon achieve success

Q4. The following sentence has been split into four segments. Identify the segment that contains a grammatical error.

(1) Ganga was (2) out shopping at the mall (3) and ran over (4) her schoolmate.

(a) 3
(b) 4
(c) 1
(d) 2

Directions

In the following passage, some words have been left out. Select the most appropriate option to fill in each blank.

In todays fast-paced and technology-driven world, (1) _____ is crucial to disconnect occasionally for the sake of our health. (2) _____exposure to screens and the demands of the digital era can lead to stress, anxiety and reduced well-being. Taking time to unplug and engage (3) _____activities that promote relaxation, such as spending time in nature, (4) ___hobbies or simply enjoying quality time with loved ones allows us to recharge, find balance and (5) _____our mental and physical health.

Q5. Select the most appropriate option to fill in blank no. 1.

(a) it
(b) these
(c) this
(d) that

Q6. Select the most appropriate option to fill in blank no. 2.

(a) Interrupted
(b) Redundant
(c) Constant
(d) Sporadic

Q7. Select the most appropriate option to fill in blank no. 3.

(a) into
(b) to
(c) for
(d) in

Q8. Select the most appropriate option to fill in blank no. 4.

(a) chasing
(b) constructing
(c) pursuing
(d) trailing

Q9. Select the most appropriate option to fill in blank no. 5.

(a) precede
(b) underscore
(c) focus
(d) prioritise

Q10. Select the most appropriate ANTONYM of the given word.

Calm

(a) Upset
(b) Urban
(c) Impressed
(d) Quiet

Q11. Select the most appropriate synonym of the given word.

Absurd

(a) Abstruse
(b) Irrational
(c) Sudden
(d) Arbitrary

Q12. There is a spelling error in the given sentence. Select the option that contains the INCORRECTLY spelt word.

The choice of buying a yahct was poor.

(a) buying
(b) choice
(c) yahct
(d) poor

Q13. Read the given sentence carefully. Change the meaning of the sentence by replacing the underlined word with its ANTONYM from the following options.

His father warned him not to use vulgar language at home.

(a) decorous
(b) impervious
(c) licentious
(d) ribald

YourMockTest.com — Free Study Material

Q14. Select the most appropriate ANTONYM of the underlined word in the given sentence.

The stone was also said to have occult powers.

(a) latent
(b) ambiguous
(c) intelligible
(d) unfathomable

Q15. Select the most appropriate option to substitute the underlined part of the given sentence.

Mr. Sengupta's complaint to the higher authority was only a red herring.

(a) fortunate evidence
(b) clever bluff
(c) discouraging act
(d) candid confession

Q16. Select the INCORRECTLY spelt word.

(a) Haphazard
(b) Circumlocution
(c) Disintigrate
(d) Connoisseur

Q17. Select the most appropriate idiom to complete the given sentence.

With the increasing market prices and stagnant salaries, he is _____.

(a) beating the rap
(b) taking a break
(c) getting it off his chest
(d) feeling the pinch

Q18. Select the most appropriate option to fill in the blank.

I don't like dirty cars, so you should keep it _____.

(a) spotless
(b) similar
(c) new
(d) shabby

Q19. Choose an appropriate word that can substitute the bracketed word and complete the sentence meaningfully.

Shelley was very happy (while) I accepted her invitation to her birthday party.

(a) when
(b) as
(c) before
(d) after

Q20. Complete the given sentence with an appropriate homophone from the given options.

There was no one _____ a few of my friends.

(a) except
(b) accept
(c) expect
(d) excerpt

Q21. Select the most appropriate ANTONYM of the given word.

Stoic

(a) Fervent
(b) Tolerant
(c) Apathetic
(d) Cooperative

YourMockTest.com — Free Study Material

Q22. Select the most appropriate option to substitute the underlined segment in the following sentence.

There was some drawing-pins in my desk.

(a) There are some
(b) There is some
(c) There has some
(d) Theirs some

Q23. Select the most appropriate option that can substitute the underlined segment in the given sentence.

The common masses have waited for three hours to meet the king in the royal court.

(a) have been waiting
(b) had waiting
(c) will waiting
(d) has been waiting

Q24. Select the option that will improve the underlined part of the given sentence.

She's under the allusion that she'll get the job.

(a) vision
(b) illusion
(c) hallucination
(d) unreality

Q25. Select the most appropriate word to fill in the blank.

He has _____ vision because of his illness.

(a) blurred
(b) obscured
(c) unfocused
(d) faded

GENERAL INTELLIGENCE

Q26. What should come in place of ? in the given series based on the English alphabetical order?

VOH YPN BQT ? HSF

(a) ERZ
(b) AXY
(c) MOJ
(d) JHI

Q27. Select the set in which the numbers are related in the same way as are the numbers of the following sets.

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

(84, 28, 7)

(144, 48, 12)

(a) (180, 50, 15)
(b) (180, 60, 15)
(c) (180, 60, 10)
(d) (160, 60, 15)

Q28. In a certain code language,

'A+ B' means 'A is the son of B',

'A – B' means 'A is the brother of B',

'A × B' means 'A is the wife of B',

'A ÷ B' means 'A is the daughter of B'.

YourMockTest.com — Free Study Material

Based on the above, how is L related to M if 'L – N ÷ O × M + P'?

(a) Father's father
(b) Father
(c) Brother
(d) Son

Q29. If 'A' stands for '÷', 'B' stands for '- 'C' stands for '×' and 'D' stands for '+', what will come in place of the question mark (?) in the following equation?

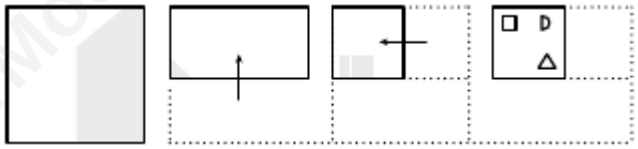
36 B 8 A 56 C 49 D 53 = ?

(a) 82
(b) 30
(c) 53
(d) 46

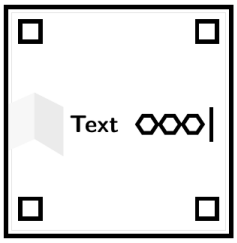
Q30. 'RENT' is related to 'IVMG' in a certain way based on the English alphabetical order. In the same way, 'PAYABLE' is related to 'KZBZYOV'. To which of the following is 'BARGUANDY' related, following the same logic?

(a) YZITFZMYB
(b) YZITVZMWB
(c) YZITFZMWB
(d) YZITFAMWB

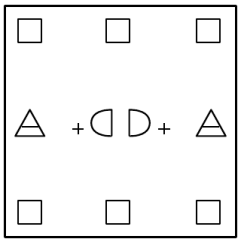
Q31. A paper is folded and cut as shown below. How will it appear when unfolded?



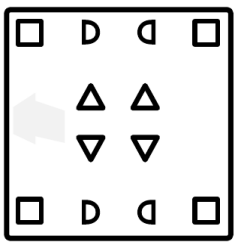
(a)



(b)

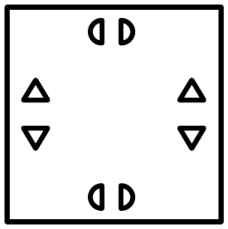


(c)

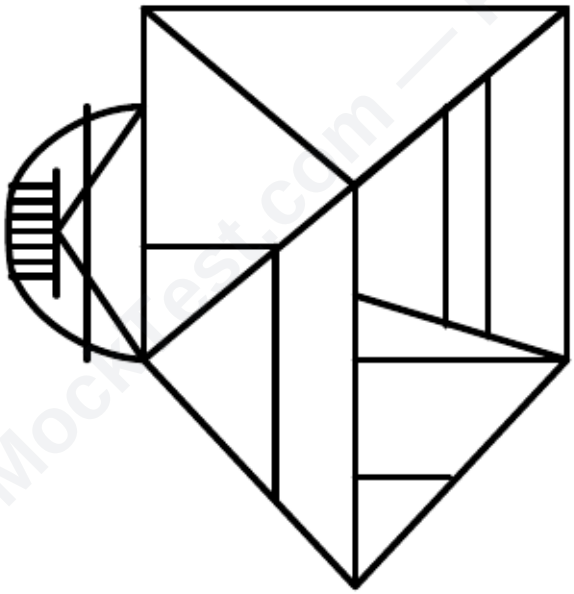


YourMockTest.com — Free Study Material

(d)



Q32. How many triangles are there in the given figure?



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

Q33. What will come in the place of '?' in the following equation, if '×' and '÷' are interchanged?

45 × 9 + 23 - 16 ÷ 7 = ?

(a) -76
(b) -84
(c) -64
(d) -79

Q34. 'A – B' means 'A is B's wife'.

'A + B' means 'A is B's brother'.

'A × B' means 'A is B's father'.

'A ÷ B' means 'A is B's sister'.

Using the same meaning of the mathematical operators as given above, in 'T × X ÷ Y + Z' what is T of Z's ?

(a) Father
(b) Brother
(c) Mother
(d) Son

Q35. The position of how many letters will remain unchanged if each of the letters in the word COMPLEXITY is arranged from left to right in alphabetical order?

(a) Three
(b) Two
(c) One

YourMockTest.com — Free Study Material

(d) None

Q36. What should come in place of the question mark (?) in the given series?

160, 187, 216, 247, ?

(a) 280
(b) 208
(c) 209
(d) 290

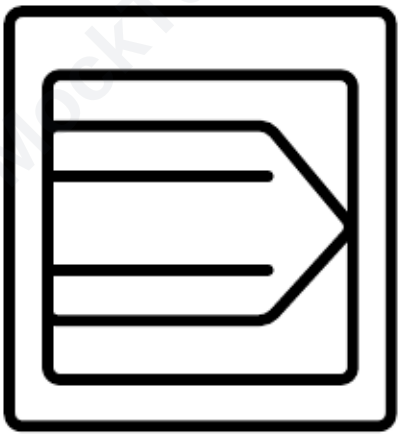
Q37. Select the word-pair that best represents a similar relationship to the one expressed in the pair of words given below.

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

Conquer: Surrender

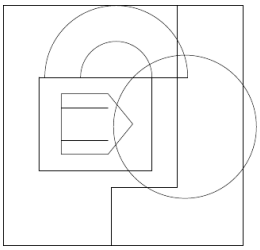
(a) Gentle : Mild
(b) Rich : Affluent
(c) Lively : Vibrant
(d) Unite : Divide

Q38. Select the option figure in which the given figure (X) is embedded as its part (rotation is NOT allowed).

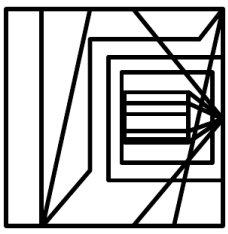


(X)

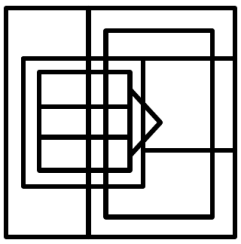
(a)



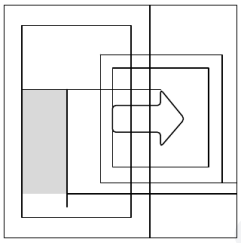
(b)



(c)



(d)

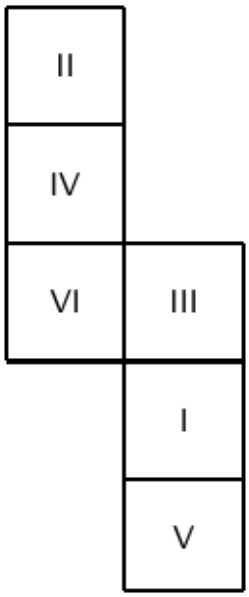


Q39. 15 is related to 195 following a certain logic. Following the same logic, 19 is related to 247. To which of the following is 24 related following the same logic?

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

(a) 300
(b) 322
(c) 332
(d) 312

Q40. What would be the Roman numeral on the opposite side of 'VI' if the given sheet is folded to form a cube?



(a) I
(b) II
(c) V
(d) III

Q41. What will come in the place of the question mark (?) in the following equation, if '+ 'and '÷' are interchanged and '×' and '-' are interchanged?

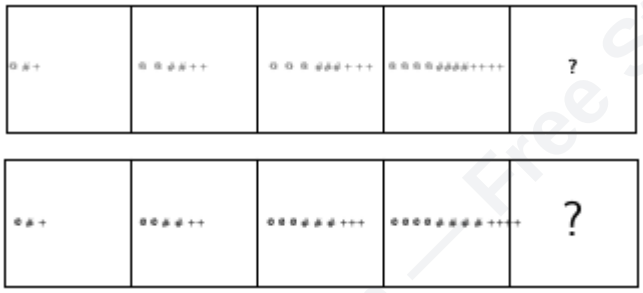
5 - 63 + 9 ÷ 10 × 6 = ?

(a) 30

YourMockTest.com — Free Study Material

(b) 39
(c) 36
(d) 33

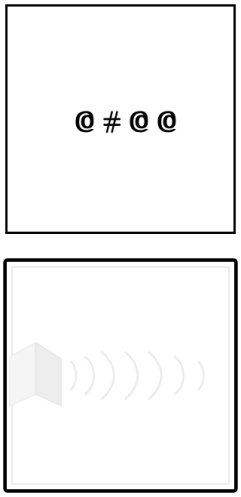
Q42. Identify the figure in the options that when put in place of the question mark (?) will logically complete the series?



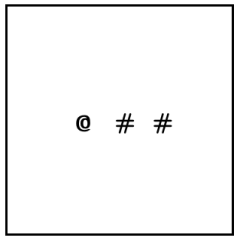
(a)



(b)

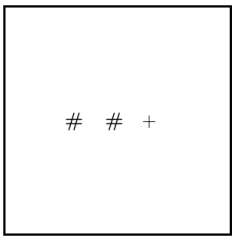


(c)



YourMockTest.com — Free Study Material

(d)



YourMockTest.com — Free Study Material

Q43. Which of the following numbers will replace the question mark (?) in the given series?

165 192 227 270 321 ?

(a) 392
(b) 361
(c) 380
(d) 347

Q44. In a certain code language, 'my best friend' is written as 'ck ri mk' and 'friend is life' is written as 'rt mp ck'. How is 'friend' written in the given language?

(a) rl
(b) ck
(c) lt
(d) mk

Q45. What should come in place of the question mark (?) in the given series?

23, 44, 65, 86, ?, 128

(a) 103
(b) 107
(c) 105
(d) 109

Q46. What should come in place of the question mark (?) in the given series based on the English alphabetical order?

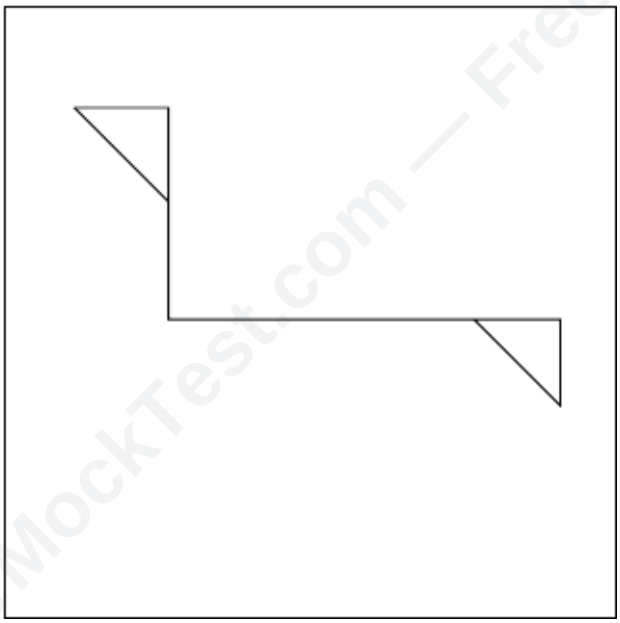
BRK, XUH, TXE, PAB, ?

(a) LDY
(b) MDX
(c) MCZ
(d) NCX

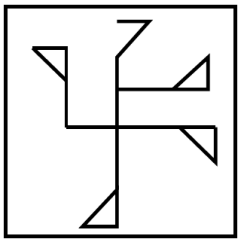
Q47. The position of how many letters will change if each of the letters in the word SKYLINE is arranged in alphabetical order?

(a) Five
(b) Six
(c) Seven
(d) Four

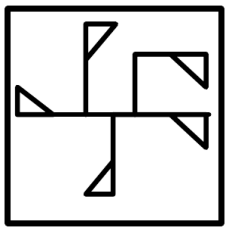
Q48. Select the option figure in which the given figure is embedded as its part (rotation is NOT allowed).



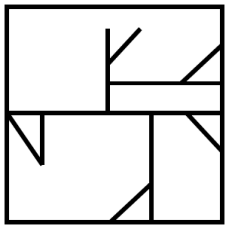
(a)



(b)

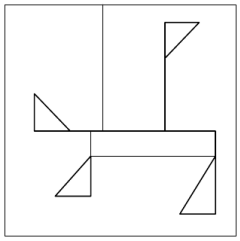


(c)



YourMockTest.com — Free Study Material

(d)



Q49. 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:

Some laptops are computers.

No computer is a robot.

Some robots are humans.

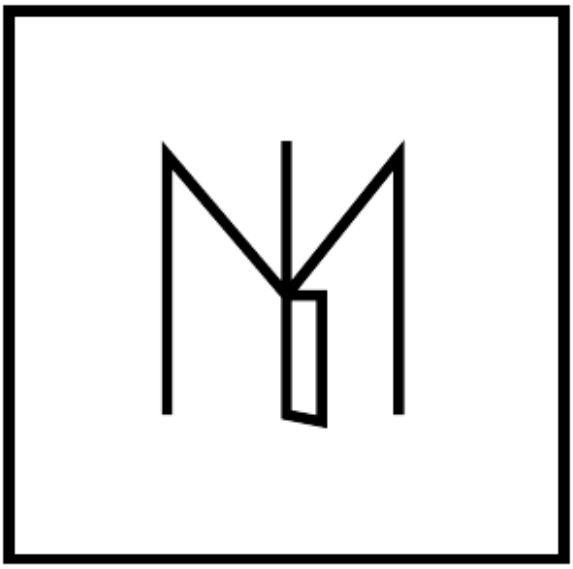
Conclusions:

(I) All humans can never be computers.

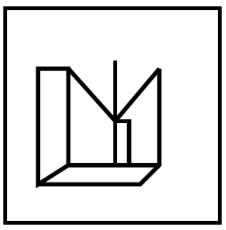
(II) Some robots are laptops

(a) None of the conclusions follow
(b) Both conclusions I and II follow
(c) Only conclusion I follows
(d) Only conclusion II follows

Q50. Select the option in which the given figure is embedded (rotation is NOT allowed).

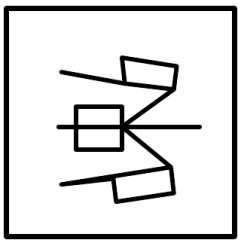


(a)

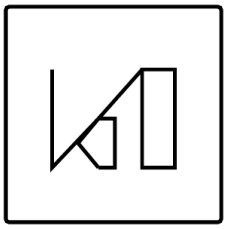


YourMockTest.com — Free Study Material

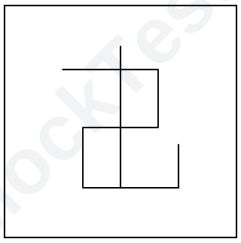
(b)



(c)



(d)



QUANTITATIVE APTITUDE

Q51. Two numbers are, respectively, 30% and 40% more than the third number. The ratio of the second number to the first number is:

(a) 39 : 42
(b) 26 : 28
(c) 13 : 14
(d) 14 : 13

Q52. The sides AB and AC of triangle ABC are produced to points D and E, respectively. The bisectors of angle CBD and angle BCE meet at P. If angle A = 72°, then the measure of angle P is:

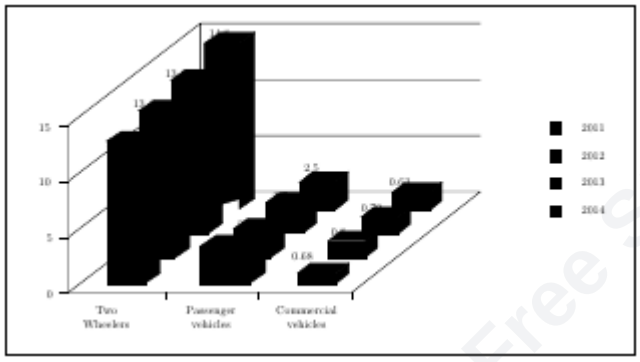
(a) 65°
(b) 55°
(c) 54°
(d) 35°

Q53. Due to decrease in manpower, the production in a factory decreases by 25%. By what per cent should the working hours be increased to restore the original production?

(a) 33 1/3 %
(b) 43 6/7 %
(c) 25%
(d) 50%

Q54. The given chart represents the sales of automobiles in India (by type, in million units) from the year 2011 to 2014. Study the chart and answer the question that follows.

YourMockTest.com — Free Study Material



The number of commercial vehicles sold in 2012 was approximately what percentage of the total number of vehicles sold in 2011? (Correct to two decimal places)

(a) 5.34%
(b) 3.88%
(c) 6.12%
(d) 4.56%

Q55. If $4\sin^2\theta - 4\sqrt{3}\sin\theta + 3 = 0$, then find the value of θ. $(0 < \theta < 90°)$

(a) 60°
(b) 30°
(c) 75°
(d) 45°

Q56. Total number of students in different subjects of a college and percentage of girls and boys are shown in the below table.

Girls students and boys student are NOT having multiple subjects.

Subjects	Number of Students	Girls %	Boys %
Mathematics	840	40	60
Chemistry	220	70	30
Physics	450	30	70
Biology	200	80	20

What is the ratio of girl students of Mathematics and Chemistry to the number of boy students of Physics and Biology?

(a) 36 : 49
(b) 61 : 98
(c) 98 : 71
(d) 49 : 39

Q57. An article is of size 9 cm × 6 cm × 3 cm. The number of such articles that can be packed in a box measuring 63 cm × 42 cm × 21 cm is:

(a) 49
(b) 343
(c) 243
(d) 196

Q58. In a triangle PQR, RS intersects PQ at point S. The sides of the triangle QR = 36 cm, SQ = 27 cm, RS = 18 cm and angle QRS = angle QPR. What is the ratio of the perimeter of ΔPRS to that of ΔQSR?

(a) 5/8
(b) 8/6
(c) 9/12
(d) 7/9

YourMockTest.com - Free Study Material

Q59. A cuboid with dimensions 20cm, 12cm, and 10 cm is cut into 8 identical pieces by 3 cuts. What will be the total surface area of all the pieces?

(a) 1220 cm^2
(b) 2240 cm2
(c) 3360 cm2
(d) 1680 cm2

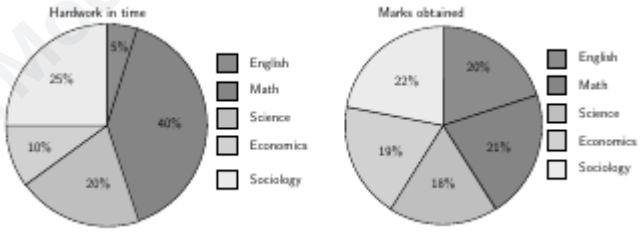
Q60. The value of $[3^3\{(40 \times 5) + (7 \times 6)\} \div 11] + (2^3 \times 15 \div 24)$ is:

(a) 599
(b) 559
(c) 595
(d) 959

Q61. Reena and Riya together can complete a piece of work in 36 days. Riya and Geeta together can complete it in 54 days. Reena and Geeta together can complete it in 81 days. In how many days can Reena alone complete the work?

(a) 97 4/7 days
(b) 87 4/7 days
(c) 92 4/7 days
(d) 82 4/7 days

Q62. A student has 5 subjects in an examination. The distribution of hard work of 16 hours a day over 5 subjects and marks obtained 400 out of 500 are shown in the charts.



In which subject did the student get the highest outcome of the hard work (ratio of marks to hard work is highest)?

(a) Economics
(b) Math
(c) Science
(d) English

Q63. Which of the following ratios is greater?

(a) 1 : 5
(b) 7 : 4
(c) 2 : 3
(d) 8 : 3

Q64. The bar graph given below shows the sales of books (in thousands) from five branches of a publishing company during two consecutive years 2015 and 2016.



What percentage (rounded off to 2 decimal places) of the average sales of branches P1, P3 and P5 in 2016 is the average

sales of branches P1, P2, P3 and P4 in 2015?

(a) 81.21%
(b) 80.12%
(c) 88.15%
(d) 76.53%

Q65. A public library has an average attendance of 410 on Sundays and 230 for the remaining days. The average attendance per day of a month of 30 days beginning with Sunday would be:

(a) 254
(b) 320
(c) 260
(d) 230

Q66. Let ABCD be a quadrilateral and AC, BD be diagonals. The length of BD = 20 cm and the heights of the triangles ABD and BCD are, respectively, 6 cm, 8 cm. Find the area of the quadrilateral ABCD (in cm2).

(a) 1282
(b) 140
(c) 148
(d) 120

Q67. Chords AB and CD of a circle, when produced, meet at a point P outside the circle. If AB = 6 cm, CD = 3 cm and PD = 5 cm, then PB is equal to:

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

Q68. With a uniform speed, a car covers a distance in 16 hours. Had the speed been increased by 20 km/h, the same distance would have been covered in 12 hours. The total distance covered by the car is:

(a) 480 km
(b) 720 km
(c) 960 km
(d) 1080 km

Q69. A coat marked at Rs. 145 is offered at Rs. 127.6. The rate of retail discount offered is:

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

Q70. If 42 ÷ 3 + k × 3 – 22 ÷ 11 + 4 = 28, then the value of k is:

(a) 0
(b) 4
(c) 2
(d) 1

Q71. The cost of 21 pencils and 9 pens is Rs. 276, and the cost of 6 pencils and 3 pens is Rs. 84. The cost of 1 pencil and 1 pen is:

(a) Rs. 20
(b) Rs. 10
(c) Rs. 40
(d) Rs. 30

YourMockTest.com — Free Study Material

Q72. A merchant sells 195 kg of wheat for Rs. 10,260 at a profit of Rs. 4.50 per kg of wheat. What is the cost price (in Rs., to the nearest integer) of 15 kg of wheat?

(a) 722
(b) 595
(c) 750
(d) 682

Q73. The centres of two circles of radii 20 cm and 32 cm are 60 cm apart. What is the ratio of the length of the direct common tangent to the length of the transverse common tangent to these circles?

(a) 3√3 : √7
(b) 3√2 : √7
(c) 7√3 : 3
(d) 3√7 : √3

Q74. A certain sum of money amounts to Rs. 1,860 in 2 years and to Rs. 2,130 in 31/2 years at simple interest. Find the sum and the rate of interest, respectively.

(a) Rs. 1,500, 12%
(b) Rs. 1,200, 10%
(c) Rs. 1,500, 15%
(d) Rs. 1,200, 12%

Q75. In an election, a candidate secures 40% of the votes, but is defeated by the only other candidate with a majority of 298 votes. Find the total number of votes recorded.

(a) 1,490
(b) 1,270
(c) 1,290
(d) 1,470

GENERAL AWARENESS

Q76. Which important event that started in 1930 played a significant role in motivating and mobilizing Indians to join the non-violent movement for independence?

(a) Salt Satyagraha
(b) Swadeshi movement
(c) Gadar Movement
(d) Quit India Movement

Q77. Where is the largest football stadium in India located?

(a) Kolkata
(b) New Delhi
(c) Goa
(d) Bengaluru

Q78. Annamacharya composed Sankirtans in praise of which God?

(a) Lord Krishna
(b) Lord Rama
(c) Lord Venkateshwara
(d) Lord Shiva

Q79. In July 2021, which state government announced the creation of an independent department to protect and preserve the ‘faith, culture and traditions of tribes and indigenous communities’ of the state?

(a) Bihar
(b) Uttar Pradesh
(c) Assam
(d) Karnataka

YourMockTest.com — Free Study Material

Q80. In April 2022, Chief Justice of India NV Ramana recommended the creation of an “independent umbrella institution”, so as to bring various agencies under one roof”. Which of the following agencies did he suggest be brought under this umbrella?

(a) CBI, SFIO and NIA
(b) ED and NIA
(c) SFIO and CBI
(d) ED, CBI and SFIO

Q81. All historical monuments have signages with instructions that public should not write on the walls. To which fundamental duty does the given statement belong?

(a) To develop the scientific temper
(b) To safeguard public property and to abjure violence
(c) To promote harmony and spirit of common brotherhood
(d) To defend the country and render national service

Q82. In which of the following years was the National Anthem adopted in its Hindi version by the Constituent Assembly?

(a) 1954
(b) 1942
(c) 1950
(d) 1947

Q83. In which direction is the general elevation of the peninsular plateau of India?

(a) From North to South
(b) From West to East
(c) From South to North
(d) From East to West

Q84. _____ oblong orbit overlaps the orbit of Neptune.

(a) Pluto’s
(b) Venus’
(c) Jupiter’s
(d) Mars'

Q85. _____ was posthumously conferred the second-highest civilian award in India, the Padma Vibhushan in the field of public affairs in 2023.

(a) Mulayam Singh Yadav
(b) GMC Balayogi
(c) Balkrishna Doshi
(d) Dilip Mahalanabis

Q86. A proton bonds to the oxygen atom of a solvent water to give a _____ hydronium ion.

(a) tetrahedral
(b) square pyramid
(c) square planar
(d) trigonal pyramidal

Q87. Match the columns.

List I	List II		
i.	National Manufacturing Policy	a.	2014
ii.	Make in India initiative	b.	2016
iii.	Startup India scheme	c.	2011
iv.	Smart City Project	d.	2015

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

YourMockTest.com — Free Study Material

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

Q88. What are the standard measurements of a cricket pitch?
(a) 22 yards by 10 ft
(b) 20 yards by 12 ft
(c) 22 yards by 12 ft
(d) 20 yards by 10 ft

Q89. Gurpurab is celebrated to commemorate the birthday of Guru Nank dev ji. He was the _____ guru of Sikhs?
(a) first
(b) third
(c) fourth
(d) second

Q90. Which non-essential amino acid is synthesised by the hydroxylation of phenylalanine in a reaction catalysed by phenylalanine hydroxylase?
(a) Glycine
(b) Tyrosine
(c) Glutamine
(d) Cysteine

Q91. Who invaded India during the rule of Tughlaq Dynasty?
(a) Muhammad Ghori
(b) Timur
(c) Mahmud of Ghazni
(d) Chengiz Khan

Q92. Who among the following is a Choreographer in Indian film Industry?
(a) Prabhu Deva
(b) Anu Malik
(c) Pritam
(d) Arijit Singh

Q93. 'Lai-Phi' and 'Chin-Phi' are the cultural costumes of which state?
(a) Manipur
(b) Uttarakhand
(c) Sikkim
(d) Nagaland

Q94. Lakshmibai National College of Physical Education is located at _____.
(a) Patiala, Punjab
(b) Thiruvananthapuram, Kerala
(c) Shahdara, Delhi
(d) Gwalior, Madhya Pradesh

Q95. The headquarters of the Indian Institute of Tourism and Travel Management are located at:
(a) New Delhi
(b) Bhuvneshwar
(c) Guwahati
(d) Gwalior

YourMockTest.com — Free Study Material

Q96. What is the impact of proportional taxes?

(a) Increases the autonomous expenditure multiplier
(b) Increases the induced expenditure multiplier
(c) Reduces the autonomous expenditure multiplier
(d) Increases the marginal propensity to consume

Q97. Which of the following word sequences is correct as per the Preamble to the Constitution?

(a) Sovereign, secular, socialist, democratic, republic
(b) Sovereign, socialist, secular, democratic, republic
(c) Secular, democratic, secular, socialist, sovereign
(d) Socialist, secular, democratic, republic, sovereign

Q98. In MS Word, which option allows you to copy the selected text or object to the Clipboard while simultaneously removing it from its original location?

(a) Paste
(b) Copy
(c) Cut
(d) Drag-and-Drop

Q99. What is the literacy rate of India as per the National Survey of India-2022?

(a) 74.2%
(b) 77.7%
(c) 78.3%
(d) 72.1%

Q100. Which does social networking service place the biggest emphasis on professional networking?

(a) Facebook
(b) Google+
(c) LinkedIn
(d) Twitter

ANSWER KEY

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

SOLUTIONS

Q1. Answer: (c) Shall have

The correct answer is Option 3)

Key Points

• The primary issue in the sentence is the incorrect usage of "Shall have" at the beginning of the question.
• In standard English, the correct form should be "Shall you have" or "Will you bring".

YourMockTest.com — Free Study Material

• The phrase "Shall have" is not typically used to form a question in this context.
• Thus, the error is located in part 3 of the sentence.
• Therefore, the correct answer is Option 3.

Correct Sentence: "Shall you bring your note-book tomorrow?"

Additional Information

• 1) "tomorrow" – This part of the sentence is correct and does not require any changes.
• 2) "your note-book" – This part of the sentence is correct and does not require any changes.
• 4) "you bring" – This part of the sentence is correct and does not require any changes.
• No error – This would be the correct option if there were no mistakes in the sentence, but there is an error in part 3.

Q2. Answer: (b) I used to eat into

The correct answer is Option 2)

Key Points

• The primary issue in the sentence is the use of the preposition "into" instead of "in".
• The correct phrase should be "I used to eat in the evening", ensuring grammatical correctness and clarity.
• Thus, the error is located in Option 2 of the sentence.

Correct Sentence: "I used to eat in the evening when my parents were on night shifts."

Additional Information

• Option 1: "when my parents" – This part of the sentence is grammatically correct and does not require any changes.
• Option 3: "in the evening" – This part of the sentence is grammatically correct and does not require any changes.
• Option 4: "were on night shifts" – This part of the sentence is grammatically correct and does not require any changes.
• No error – This would be the correct option if there were no mistakes in the sentence, but there is an error in Option 2.

Q3. Answer: (b) If you work hard in the same manner, you will soon achieve success.

The correct answer is Option 2)

Key Points

• The second option correctly uses the future tense by stating, "If you work hard in the same manner, you will soon achieve success."
• It properly combines the present simple tense "work" with the future simple tense "will achieve."
• This structure follows the first conditional format, which is used for real or possible situations in the future.
• Therefore, the correct answer is Option 2.

Correct Sentence: "If you work hard in the same manner, you will soon achieve success."

Additional Information

• Option 1: "If you had work hard in the same manner, you will soon achieve success." – This is incorrect because "had work" is not grammatically correct; it should be "had worked" for past perfect tense, but then it doesn't match with "will achieve."
• Option 3: "If you have work hard in the same manner, you will soon achieve success." – This is incorrect because "have work" is not correct; it should be "have worked," but the present perfect tense with "will achieve" is not the correct match in this conditional sentence structure.
• Option 4: "If you worked hard in the same manner, you will soon achieve success." – This is incorrect as it mixes past simple tense "worked" with future simple tense "will achieve," which typically demands a different conditional format (second conditional).

Q4. Answer: (a) 3

The correct answer is Option 1)

Key Points

• The primary issue in the sentence is the phrase "ran over" in part 3.
• The phrase "ran over" implies hitting someone with a vehicle, which is not the intended meaning here.
• A more appropriate phrase would be "ran into her schoolmate," which means meeting someone by chance.
• Thus, the error is located in part 3 of the sentence.
• Therefore, the correct answer is 3.

Correct Sentence: "Ganga was out shopping at the mall and ran into her schoolmate."

Additional Information

• 1: "Ganga was" – This part of the sentence is grammatically correct and does not require any changes.
• 2: "out shopping at the mall" – This part of the sentence is grammatically correct and does not require any changes.
• 3: "and ran over" – This part contains the error as explained above.

YourMockTest.com — Free Study Material

• No error – This would be the correct option if there were no mistakes in the sentence, but there is an error in part 3.

Q5. Answer: (a) it

The correct answer is Option 1)

Key Points

• The context of the passage suggests the need to disconnect occasionally for our health, indicating that the word should relate directly to the concept being discussed.

• The pronoun "it" properly concludes the sentiment, suggesting that disconnecting is crucial.

• Therefore, the correct answer is Option 1.

Correct Sentence: "In today's fast-paced and technology-driven world, it is crucial to disconnect occasionally for the sake of our health."

Additional Information

• Option 2: "these" – This is incorrect because "these" is a plural pronoun and does not fit the singular context of the necessity to disconnect.

• Option 3: "this" – This is incorrect because "this" would need a noun to follow, and the sentence structure does not support this format.

• Option 4: "that" – This is incorrect because "that" refers to something previously mentioned, and the sentence does not clearly provide such a reference.

Q6. Answer: (c) Constant

The correct answer is Option 3)

Key Points

• The context of the passage suggests a continuous or unbroken exposure to screens and digital demands that can lead to negative effects like stress and anxiety.

• The word "constant" accurately describes continuous exposure.

• Therefore, the correct answer is Option 3.

Correct Sentence: "In today's fast-paced and technology-driven world, it is crucial to disconnect occasionally for the sake of our health. Constant exposure to screens and the demands of the digital era can lead to stress, anxiety, and reduced well-being."

Additional Information

• Option 1: "Interrupted" – This is incorrect because "interrupted" suggests breaks or stops, which is not the intended meaning in this context.

• Option 2: "Redundant" – This is incorrect as "redundant" means unnecessary repetition, which does not fit the context of continuous exposure.

• Option 4: "Sporadic" – This is incorrect because "sporadic" indicates irregular or infrequent occurrences, which is the opposite of what the passage conveys.

Q7. Answer: (d) in

The correct answer is Option 4)

Key Points

• The phrase "engage in activities" is a common and grammatically correct expression. It means to participate or become involved in activities.

• "Engage" is usually followed by the preposition "in" when referring to activities or events.

• Therefore, the correct answer is Option 4.

Correct Sentence: "Taking time to unplug and engage in activities that promote relaxation, such as spending time in nature....."

Additional Information

• Option 1: "into" – This is incorrect because "engage into" is not a standard collocation in English.

• Option 2: "to" – This is incorrect because "engage to" is also not a standard collocation in English for this context.

• Option 3: "for" – This is incorrect because "engage for" does not fit the intended meaning and standard usage.

Q8. Answer: (c) pursuing

The correct answer is Option 3)

Key Points

• The verb "pursuing" fits well in this context, as it conveys the idea of actively engaging in or following activities that bring relaxation and enjoyment.

• "Pursuing hobbies" is a common collocation that means engaging in hobbies.

Therefore, the correct answer is Option 3.

Correct Sentence: "Taking time to unplug and engage in activities that promote relaxation, such as spending time in nature, pursuing hobbies, or simply enjoying quality time with loved ones....."

Additional Information

• Option 1: "chasing" – This is incorrect because "chasing" implies actively pursuing something in a relentless manner, which does not fit the relaxing and leisurely context of the sentence.

• Option 2: "constructing" – This is incorrect because "constructing" means building or creating something, which does not fit the context of engaging in hobbies for relaxation.

• Option 4: "trailing" – This is incorrect because "trailing" means following behind, which does not fit the context of engaging in relaxing activities.

Q9. Answer: (d) prioritise

The correct answer is Option 4)

Key Points

• The word "prioritise" fits well in this context as it conveys the action of giving more importance or precedence to mental and physical health.

• "Prioritise our mental and physical health" aligns with the intent of the passage to emphasize the importance of well-being.

• Therefore, the correct answer is Option 4.

Correct Sentence: "In today's fast-paced and technology-driven world, it is crucial to disconnect occasionally for the sake of our health. Constant exposure to screens and the demands of the digital era can lead to stress, anxiety, and reduced well-being. Taking time to unplug and engage in activities that promote relaxation, such as spending time in nature, pursuing hobbies, or simply enjoying quality time with loved ones allows us to recharge, find balance, and prioritise our mental and physical health."

Additional Information

• Option 1: "precede" – This is incorrect because "precede" means to come before something, which does not fit the context of emphasizing health.

• Option 2: "underscore" – This is incorrect because "underscore" means to emphasize, which is similar to the intended meaning but does not quite fit in this context as naturally as "prioritise."

• Option 3: "focus" – This is incorrect because "focus" can imply paying attention to, but it misses the nuance of giving priority to health over other aspects.

Q10. Answer: (a) Upset

The solution is in Hindi. Read it online.

Q11. Answer: (b) Irrational

The solution is in Hindi. Read it online.

Q12. Answer: (c) yahct

The solution is in Hindi. Read it online.

Q13. Answer: (a) decorous

The solution is in Hindi. Read it online.

Q14. Answer: (c) intelligible

The solution is in Hindi. Read it online.

Q15. Answer: (b) clever bluff

The correct answer is Option 2)

Key Points

• The phrase "red herring" means something that is misleading or distracting from the main issue.

• Option 2, "clever bluff," is the most appropriate substitute as it conveys a similar meaning of deceit or distraction.

• The other options do not adequately capture the essence of a "red herring."

Therefore, the correct answer is Option 2.

Correct Sentence: "Mr. Sengupta's complaint to the higher authority was only a clever bluff."

Additional Information

• Option 1: "fortunate evidence" - This does not fit the context of the sentence.

• Option 3: "discouraging act" - This phrase does not convey the idea of misleading or distraction.

YourMockTest.com — Free Study Material

• Option 4: "candid confession" - This is the opposite of a "red herring" as it implies honesty.

Q16. Answer: (c) Disintigrate

The solution is in Hindi. Read it online.

Q17. Answer: (d) feeling the pinch

The solution is in Hindi. Read it online.

Q18. Answer: (a) spotless

The correct answer is Option 1)

Key Points

• The sentence suggests a preference for cleanliness ("I don't like dirty cars").

• "Spotless" means completely clean, which aligns with the preference stated in the sentence.

• The other options (similar, new, shabby) do not fit the context of maintaining cleanliness.

• Therefore, the correct answer is Option 1.

Correct Sentence: "I don't like dirty cars, so you should keep it spotless."

Additional Information

• Similar: Resembling without being identical.

• New: Recently made or obtained.

• Shabby: In poor condition through long use or lack of care.

• No error: This would be the correct option if there were no mistakes in the sentence, but there is a clear preference for cleanliness stated.

Q19. Answer: (a) when

The solution is in Hindi. Read it online.

Q20. Answer: (a) except

The correct answer is Option 1)

Key Points

• The sentence requires a homophone that means "apart from" or "excluding".

• The word "except" fits this context, indicating exclusion.

• Other options like "accept", "expect", and "excerpt" do not fit the context of the sentence.

• Thus, the correct homophone is "except".

• Therefore, the correct answer is Option 1.

Correct Sentence: "There was no one except a few of my friends."

Additional Information

• except – Means to exclude or leave out.

• accept – Means to receive or agree to.

• expect – Means to anticipate or look forward to.

• excerpt – Means a short extract from a text.

Q21. Answer: (a) Fervent

The solution is in Hindi. Read it online.

Q22. Answer: (a) There are some

The solution is in Hindi. Read it online.

Q23. Answer: (a) have been waiting

The solution is in Hindi. Read it online.

Q24. Answer: (b) illusion

The solution is in Hindi. Read it online.

Q25. Answer: (a) blurred

The correct answer is Option 1)

Key Points

• The term "blurred" is the most appropriate word to describe vision that is affected by an illness. It accurately conveys the idea of

YourMockTest.com – Free Study Material

unclear or indistinct vision, which is a common symptom of various illnesses.

• The other options, such as "obscured," "unfocused," and "faded," do not precisely capture the typical way of describing vision problems due to illness.

• "Blurred vision" is a commonly used medical term that specifically refers to the loss of sharpness of vision and the inability to see fine details.

• Therefore, the correct answer is Option 1.

Correct Sentence: "He has blurred vision because of his illness."

Additional Information

• Option 2: "obscured" – This word suggests that something is blocking the vision, but it doesn't specifically describe the quality of the vision itself.

• Option 3: "unfocused" – This term implies that the vision is not sharp, but it is less commonly used in the context of vision problems due to illness.

• Option 4: "faded" – This word suggests a loss of color or brightness, which is not typically how vision problems are described.

Q26. Answer: (a) ERZ

The logic followed here is:

Hence, "Option 1" is the correct answer.

Q27. Answer: (b) (180, 60, 15)

The logic followed here is:

Logic: 1st number ÷ 3 = 2nd number; 2nd number ÷ 4 = 3rd number.

Now,

For, (84, 28, 7)

=> 84 ÷ 3 = 28 and 28 ÷ 4 = 7.

For, (144, 48, 12)

=> 144 ÷ 3 = 48 and 48 ÷ 4 = 12.

Similarly, for (180, 60, 15)

=> 180 ÷ 3 = 60 and 60 ÷ 4 = 15.

Hence, the correct answer is "Option 2".

Q28. Answer: (d) Son

Decoding the Symbols:

Symbol	•	–	×	÷
Meaning	Son	Brother	Wife	Daughter

Given: L – N ÷ O × M + P

L – N → L is the brother of N.

N ÷ O → N is the daughter of O.

O × M → O is the wife of M.

M + P → M is the son of P.

Here, L is the son of M.

Hence, the correct answer is "Option 4".

Q29. Answer: (a) 82

Given Equation: 36 B 8 A 56 C 49 D 53 = ?

BODMAS Rule:

Decoding the given information:

Alphabet	**A**	**B**	**C**	**D**
Meaning	÷	•	×	•

Now replacing the sign from left to right using BODMAS Rule, we get:

=> 36 - 8 ÷ 56 × 49 + 53 = ?

=> 36 - 7 + 53 = ?

=> 89 - 7 = 82.
Hence, the correct option is "Option 1".

Q30. Answer: (c) YZITFZMWB

Logic: Opposite letter according to the English alphabetic series is written.
So,
'RENT' is related to 'IVMG'

And,
'PAYABLE' is related to 'KZBZYOV'

Similarly,
'BARGUANDY' is related to

Hence, "Option 3" is the correct answer.

Q31. Answer: (c) [figure]

According to the given figure:
The figure will appear when it is opened as follows:
Hence, "Option 3" is the correct answer.

Q32. Answer: (b) 12

The number of triangles in the given figure is shown below :
Here, as marked there are a total of 12 triangles.
Hence, "12" is the correct answer.

Q33. Answer: (b) -84

Given : 45 × 9 + 23 - 16 ÷ 7 = ?
According to the question, after replacing the signs :
'×' and '÷' are interchanged
So,
45 ÷ 9 + 23 - 16 × 7 = ?
5 + 23 - 16 × 7 = ?
5 + 23 - 112 = ?
28 - 112 = ?
-84 = ?
Hence, "-84" is the correct answer.

Q34. Answer: (a) Father

Decoding the Symbols:

Symbol	**–**	**•**	**×**	**÷**
Meaning	Wife	Brother	Father	Sister

Given: T × X ÷ Y + Z
T × X → T is the father of X.
X ÷ Y → X is the sister of Y.
Y + Z → Y is the brother of Z.

Here, T is the father of Z.
Hence, the correct answer is "Option 1".

Q35. Answer: (b) Two

Given word: 'COMPLEXITY'
After arranged in alphabetical order:

Alphabets	C	O	M	P	L	E	X	I	T	Y
Alphabetical order	C	E	I	L	M	O	P	T	X	Y

Now,

there are Two alphabets "C" and "Y" that will remain unchanged if each of the letters in the word 'COMPLEXITY' is arranged in English alphabetical order.

Hence, the correct answer is "Option 2".

Q36. Answer: (a) 280

Logic: Odd number series is added subsequently.

Hence, "280" is the correct answer.

Q37. Answer: (d) Unite : Divide

The logic followed here is:

Logic: Opposites or Antonyms

Here,

Conquer : Surrender → Conquer is the opposite of Surrender.

Similarly,

Unite : Divide → Unite is the opposite of Divide.

Hence, the correct answer is "Option 4".

Q38. Answer: (b) [figure]

The image embedded in the given figure is as shown below :

Therefore Here, the given figure is embedded in option Figure - 2.

Hence, the correct answer is "Option 2".

Q39. Answer: (d) 312

The logic followed here is:

Logic: (1st number × 13) = 2nd number.

Now,

For, 15 : 195

=> (15 × 13) = 195.

For, 19 : 247

=> (19 × 13) = 247.

Similarly, for 24 : ?

=> (24 × 13) = 312.

Hence, the correct answer is "Option 4".

Q40. Answer: (b) II

The faces opposite to each other are shown below:

=> As the alternate positions become opposite to each other, the remaining two faces become opposite to each other.

So, opposite pairs are:

II → VI

IV → I

III → V

Therefore, 'II' is the opposite of 'VI'.

Hence, "II" is the correct answer.

Q41. Answer: (b) 39

Given : 5 - 63 + 9 ÷ 10 × 6 = ?

According to the question, after replacing the signs :

‘+’ and ‘÷’ are interchanged

‘×’ and ‘-’ are interchanged

YourMockTest.com — Free Study Material

So,

5 × 63 ÷ 9 + 10 - 6 = ?

5 × 7 + 10 - 6 = ?

35 + 10 - 6 = ?

45 - 6 = ?

39 = ?

Hence, "39" is the correct answer.

Q42. Answer: (a) [figure] [figure]

The logic followed here is: The number of each element i.e. '@', '#', and '+' is increasing subsequently.

Thus, the final series is :

Hence, "Option 1" is the correct answer.

Q43. Answer: (c) 380

The logic followed here is:

Hence, "380" is the correct answer.

Q44. Answer: (b) ck

According to the given information,

Thus, according to the given codes 'ck' is the code for the word 'friend'.

Hence, the correct answer is "ck".

Q45. Answer: (b) 107

The logic followed here is:

Hence, "107" is the correct answer.

Q46. Answer: (a) LDY

The logic followed here is:

Hence, "Option 1" is the correct answer.

Q47. Answer: (b) Six

Given word: 'SKYLINE'

After arranged in alphabetical order:

Alphabets	S	K	Y	L	I	N	E
Alphabetical order	E	I	K	L	N	S	Y

Now,

there are Six alphabets "S", "K", "Y", "L", "N", "E" that will change their positions if each of the letters in the word 'SKYLINE' is arranged in English alphabetical order.

Hence, the correct answer is "Option 2".

Q48. Answer: (a) [figure]

The image embedded in the given figure is as shown below :

Therefore Here, the given figure is embedded in option Figure - 1.

Hence, the correct answer is "Option 1".

Q49. Answer: (c) Only conclusion I follows

The least possible Venn diagram for the given statements is as shown below :

Conclusions:

I. All humans can never be computers → Follow (As no computer is a robot and some robots are humans. As some part of humans is common with robots which can not be computers, therefore, whole humans can not be computers.)

II. Some robots are laptops → Does not follow (As some laptops are computers and no computer is a robot. So it is possible but not definite.)

Therefore Here, Only conclusion I follow.

Hence, the correct answer is "Only conclusion I follows"

YourMockTest.com — Free Study Material

Q50. Answer: (a) [figure]

The image embedded in the given figure is as shown below :

Therefore Here, the given figure is embedded in option Figure - 1.

Hence, the correct answer is "Option 1".

Q51. Answer: (d) 14 : 13

Given:

Two numbers are, respectively, 30% and 40% more than the third number.

Concept:

Ratio comparison between two numbers derived from their percentage increases over a common number.

Calculation:

Let the third number be x.

First number = x + 30% of x

=> First number = x + 0.30x

=> First number = 1.30x

Second number = x + 40% of x

=> Second number = x + 0.40x

=> Second number = 1.40x

Ratio of second number to first number:

=> (1.40x) / (1.30x)

=> 1.40 / 1.30

=> 14 / 13

Hence, the ratio of the second number to the first number is 14 : 13.

Therefore The correct answer is option 4.

Q52. Answer: (c) 54°

Let angle DBP = angle PBC = a°

And also angle ECP + angle PCB = b°

angle ABC = 180° - 2a° and angle ACB = 180° - 2b°

In ΔABC,

180° - 2a° + 72° + 180° - 2b° = 180°

a° + b° = 126°

In ΔPBC,

a° + b° + x° = 180°

x° = 180° - 126° = 54°

angle BPC = 90° - (1/2) × angle A

Here, angle A = 72°

Therefore angle BPC = 90° - (1/2) × 72°

=> angle BPC = 90° - 36° = 54°

Q53. Answer: (a) 33 1/3 %

Given:

Due to decrease in manpower, the production in a factory decreases by 25%.

We need to find by what percent the working hours should be increased to restore the original production.

Concept:

To restore the original production, the product of manpower and working hours should remain constant.

Formula Used:

Let the original working hours be H and the increased working hours be H'.

Let the original production be P and the decreased production be 0.75P (since it decreased by 25%).

To restore the original production:

P = 0.75P × (H'/H)

Calculation:

We have,

=> 1 = 0.75 × (H'/H)

=> H'/H = 1/0.75

=> H'/H = 4/3

=> H' = 4H/3

Percentage increase in working hours:

=> [(4H/3) - H]/H × 100%

=> (4H - 3H)/(3H) × 100%

=> H/(3H) × 100%

=> 1/3 × 100

=> 33 (1/3)%

Therefore The correct answer is option 1.

Q54. Answer: (a) 5.34%

Calculation:

The number of commercial vehicles sold in 2012 = 0.8

The total number of vehicles sold in 2011 = 14.98

The number of commercial vehicles sold in 2012 was approximately what percentage of the total number of vehicles sold in 2011

=> (0.8/14.98)× 100

=> 5.34%

Therefore The number of commercial vehicles sold in 2012 was approximately what percentage of the total number of vehicles sold in 2011 is 5.34%

Q55. Answer: (a) 60°

Shortcut Trick

The given equation is $4\sin^2\theta - 4\sqrt{3}\sin\theta + 3 = 0$.

This is in the form of $(a - b)^2 = a^2 - 2ab + b^2$.

Here, $(2\sin\theta)^2 - 2(2\sin\theta)(\sqrt{3}) + (\sqrt{3})^2 = 0$.

=> $(2\sin\theta - \sqrt{3})^2 = 0$ => $2\sin\theta = \sqrt{3}$ => $\sin\theta = \sqrt{3}/2$.

Since $\sin 60° = \sqrt{3}/2$, the value of θ is 60°.

Therefore The correct answer is 60°.

Alternate Method

Given: $4\sin^2\theta - 4\sqrt{3}\sin\theta + 3 = 0$, where $0 < \theta < 90°$.

Formula Used: Quadratic formula $x = [-b \pm \sqrt{(b^2 - 4ac)}] / 2a$ or factorization.

Calculations:

Let $\sin\theta = x$. Then the equation becomes:

=> $4x^2 - 4\sqrt{3}x + 3 = 0$

=> $4x^2 - 2\sqrt{3}x - 2\sqrt{3}x + 3 = 0$

=> $2x(2x - \sqrt{3}) - \sqrt{3}(2x - \sqrt{3}) = 0$

=> $(2x - \sqrt{3})(2x - \sqrt{3}) = 0$

=> $(2x - \sqrt{3})^2 = 0$

=> $2x = \sqrt{3}$

=> $x = \sqrt{3}/2$

=> $\sin\theta = \sqrt{3}/2$

=> $\theta = \sin^{-1}(\sqrt{3}/2)$

=> θ = 60°

Therefore The correct answer is 60°.

Additional Information

Trigonometric Ratios of Standard Angles

Values of $\sin\theta$ for standard angles: $\sin 0° = 0$, $\sin 30° = 1/2$, $\sin 45° = 1/\sqrt{2}$, $\sin 60° = \sqrt{3}/2$, $\sin 90° = 1$.

Nature of Roots in Quadratic Equations

For $ax^2 + bx + c = 0$, the discriminant $D = b^2 - 4ac$ determines the nature. If D = 0, roots are real and equal.

YourMockTest.com — Free Study Material

Q56. Answer: (c) 98 : 71

Calculation:

The number of girls student of Mathematics and Chemistry = 840 × 40% + 220 × 70%

=> 336 + 154

=> 490

The number of boy students of Physics and Biology = 450 × 70% + 200 × 20%

=> 315 + 40

=> 355

According to the question,

=> 490 : 355

=> 98 : 71

Therefore The ratio of girl students of Mathematics and Chemistry to the number of boy students of Physics and Biology is 98 : 71.

Q57. Answer: (b) 343

Given:

Article size: 9 cm × 6 cm × 3 cm

Box size: 63 cm × 42 cm × 21 cm

Concept:

To find the number of articles that can fit into the box, we need to calculate the volume of both the article and the box. Then, we will divide the volume of the box by the volume of one article. Additionally, we need to ensure that the dimensions align correctly.

Formula Used:

Volume of a cuboid = length × width × height

Calculation:

Volume of one article:

=> 9 cm × 6 cm × 3 cm = 162 cm^3

Volume of the box:

=> 63 cm × 42 cm × 21 cm = 55,566 cm^3

Number of articles that can fit into the box:

=> 55,566 cm^3 / 162 cm^3

=> 343 articles

Therefore The correct answer is option 2.

Q58. Answer: (d) 7/9

Given:

In a ΔPQR, RS intersects PQ at point S.

QR = 36 cm

SQ = 27 cm

RS = 18 cm

angle QRS = angle QPR

Calculation:

In triangle PQR and QSR

angle QRS = angle QPR (Given)

angle Q = angle Q (Common)

So by AA rule, Δ PQR ~ ΔQSR,

27/36 = 18/PR

PR = 24 cm

So, (27 + PS) / 36 = 36 / 27

PS = 48 - 27

PS = 21 cm

So, the ratio of the perimeter of ΔPRS to that of ΔQSR:

ΔPRS / ΔQSR = (24 + 18 + 21) / (27 + 18 + 36)

= 63 / 81

= 7/9

Q59. Answer: (b) 2240 cm2

Shortcut Trick

To get 8 identical pieces from 3 cuts, one cut must be made along each dimension (length, width, and height).

Each cut creates 2 additional surfaces equal to the area of the face it is parallel to.

Total added area => 2(20×12) + 2(12×10) + 2(10×20) => 480 + 240 + 400 = 1120 cm².

Original TSA of cuboid = 2(240 + 120 + 200) = 1120 cm².

Total Surface Area = Original Area + Added Area = 1120 + 1120 = 2240 cm².

Therefore The correct answer is 2240 cm².

Alternate Method

Given: Length (L) = 20 cm, Width (W) = 12 cm, Height (H) = 10 cm.

Formula: Total Surface Area (TSA) of a cuboid = 2(LW + WH + LH).

=> Original TSA of the cuboid = 2 × (20 × 12 + 12 × 10 + 20 × 10)

=> Original TSA = 2 × (240 + 120 + 200) = 2 × 560 = 1120 cm².

=> For 8 identical pieces, dimensions of each small piece = (20/2) × (12/2) × (10/2) = 10 cm × 6 cm × 5 cm.

=> TSA of one small piece = 2 × (10 × 6 + 6 × 5 + 10 × 5)

=> TSA of one small piece = 2 × (60 + 30 + 50) = 2 × 140 = 280 cm².

=> Total TSA of 8 such pieces = 8 × 280 = 2240 cm².

Therefore The correct answer is 2240 cm².

Additional Information

Surface Area Added by Cuts

Each cut in a solid object increases the total surface area by twice the area of the cross-section created by that cut.

Maximum Pieces from N Cuts

To maximize pieces, distribute cuts as equally as possible among the three axes. Total pieces = (x+1)(y+1)(z+1) where x+y+z = N.

Volume of Cuboid

The total volume remains constant after cutting: Volume = L × W × H.

Q60. Answer: (a) 599

Calculation:

[33{(40 × 5) + (7 × 6)} ÷ 11] + (23 × 15 ÷ 24)]

=> [33{200 + 42} ÷ 11] + 5]

=> [27 × 22 + 5]

=> 594 + 5

=> 599

Therefore The value of [33{(40 × 5) + (7 × 6)} ÷ 11] + (23 × 15 ÷ 24)] is 599.

Q61. Answer: (c) 92 4/7 days

Given:

Reena and Riya together can complete a piece of work in 36 days.

Riya and Geeta together can complete it in 54 days

Reena and Geeta together can complete it in 81 days

Calculation:

Reena and Riya = 36

Riya and Geeta = 54

Reena and Geeta = 81

Total Work LCM (36, 54, 81) = 324

Efficiency of Reena and Riya = 9

Efficiency of Riya and Geeta = 6

Efficiency of Reena and Geeta = 4

Efficiency of Reena + Riya + Geeta = 19/2

Efficiency of Reena = 19/2 - 6

YourMockTest.com — Free Study Material

=> 7/2

According to the question,

=> 324/(7/2)

=> 648/7

Therefore Reena alone complete the work in 92 4/7 days.

Q62. Answer: (d) English

Given:

The student spent 16 hours per day distributed across five subjects. The percentage distribution of time and marks obtained in each subject is provided:

Hardwork in Time:

Math = 40%, Science = 20%, Economics = 10%, Sociology = 25%, English = 5%.

Marks Obtained:

Math = 21%, Science = 18%, Economics = 19%, Sociology = 22%, English = 20%.

Formula used:

The ratio of marks to time for each subject is calculated as:

(Marks Obtained)/(Time Spent)

Calculation:

For each subject:

Math/Time = 21/40 = 0.525

Science/Time = 18/20 = 0.9

Economics/Time = 19/10 = 1.9

Sociology/Time = 22/25 = 0.88

English/Time = 20/5 = 4

=> The highest ratio is for English.

Therefore The correct answer is option (4).

Q63. Answer: (d) 8 : 3

Given:

Ratios: 1 : 5, 7 : 4, 2 : 3, 8 : 3

Concept:

To compare the ratios, we convert each ratio to a decimal by dividing the first number by the second number.

Calculation:

We have,

=> 1 : 5 = 1 ÷ 5 = 0.2

=> 7 : 4 = 7 ÷ 4 = 1.75

=> 2 : 3 = 2 ÷ 3 = 0.6667

=> 8 : 3 = 8 ÷ 3 = 2.6667

Comparing the decimal values, we find:

0.2, 1.75, 0.6667, 2.6667

Hence, the greatest ratio is 8 : 3.

Therefore The correct answer is option 4.

Q64. Answer: (a) 81.21%

Calculation:

The average sales of branches P1, P3 and P5 in 2016

=> (120 + 110 + 96)/3

=> 108.66

The average sales of branches P1, P2, P3 and P4 in 2015

=> (85 + 78 + 100 + 90)/4

=> 88.25

According to the question,

=> (88.25/108.66)× 100

=> 81.21%

Therefore The required answer is 81.21%.

Q65. Answer: (c) 260

Shortcut Trick

Number of Sundays in a 30-day month starting with Sunday = 5 (1^(st), 8^(th), 15^(th), 22^(nd), 29^(th)).

Remaining days = 30 − 5 = 25 days.

Using deviation method: Assume base average = 230.

Extra attendance on 5 Sundays = 5 × (410 − 230) = 5 × 180 = 900.

Net increase in average = 900 ÷ 30 = 30.

Average attendance = 230 + 30 = 260.

Therefore The correct answer is 260.

Alternate Method

Given:

Average attendance on Sundays = 410

Average attendance on other days = 230

Total days in the month = 30 (Starts with Sunday)

Formula Used:

Average = (Total sum of attendance) ÷ (Total number of days)

Calculations:

=> Total attendance on Sundays = 5 × 410 = 2050

=> Total attendance on other days = (30 − 5) × 230 = 25 × 230 = 5750

=> Total attendance for 30 days = 2050 + 5750 = 7800

=> Average attendance per day = 7800 ÷ 30

=> Average attendance per day = 260

Therefore The correct answer is 260.

Additional Information

Weighted Average Formula

When a group is divided into two parts with counts n1, n2 and averages a1, a2, the combined average is (n1a1 + n2a2) / (n1 + n2).

Occurrence of Days in a Month

In a month of 30 days, any day that falls on the 1^(st) or 2^(nd) will occur 5 times; all other days will occur 4 times.

Deviation Method for Averages

New Average = Old Average + (Total Deviation / Total Number of terms). This is useful for large numbers to simplify multiplication.

Q66. Answer: (b) 140

Given:

Let ABCD be a quadrilateral and AC, BD be diagonals.

The length of BD = 20 cm and the heights of the triangles ABD and BCD are, respectively, 6 cm, 8 cm.

Calculation:

According to the question,

Area of Quadrilateral = Sum of Area (Triangle ABD + Triangle BCD)

=> (1/2)× 20 × 6 + (1/2)× 20 × 8

=> 60 + 80

=> 140

Therefore The area of the quadrilateral ABCD is 140 cm².

Q67. Answer: (d) 4 cm

Given:

Chords AB and CD of a circle, when produced, meet at a point P outside the circle. If AB = 6 cm, CD = 3 cm and PD = 5 cm

Calculation:

PA × PB = PC × PD

(6 + x) x = 8 × 5

YourMockTest.com — Free Study Material

=> $x^2 + 6x - 40 = 0$

=> $x^2 + 10x - 4x - 40$

=> $(x + 10)(x - 4) = 0$

=> $x = 4$

Therefore PB is equal to 4 cm.

Q68. Answer: (c) 960 km

Shortcut Trick

When distance is constant, speed and time are inversely proportional.

Ratio of Time = 16 : 12 = 4 : 3 => Ratio of Speed = 3 : 4

Difference in speed ratio (1 unit) = 20 km/h

Original speed = 3 units = 60 km/h

Total distance = 60 km/h × 16 h = 960 km

Therefore The correct answer is 960 km.

Alternate Method

Given:

Time taken at original speed = 16 hours

Time taken at increased speed = 12 hours

Increase in speed = 20 km/h

Formula Used:

Distance = Speed × Time

Distance = D

Scenario 1: Speed = S km/h

Time = 16 h

Distance = D

Scenario 2: Speed = S + 20 km/h

Time = 12 h

Distance is constant: S × 16 = (S + 20) × 12

Calculations:

Let the original speed be S km/h.

Since the distance covered in both cases is the same:

=> Distance1 = Distance2

=> S × 16 = (S + 20) × 12

=> 16S = 12S + 240

=> 16S − 12S = 240

=> 4S = 240

=> S = 60 km/h

Now, calculate the total distance covered by the car:

=> Distance = Speed × Time

=> Distance = 60 × 16 = 960 km

Therefore The correct answer is 960 km.

Additional Information

Proportionality in Speed, Time, and Distance

If Distance is constant, Speed prop. to 1 / Time. If Time is constant, Distance prop. to Speed. If Speed is constant, Distance prop. to Time.

Average Speed

Average Speed = Total Distance ÷ Total Time. For equal distances covered at speeds x and y, Average Speed = (2xy) ÷ (x + y).

Relative Speed

When two objects move in the same direction, relative speed = |S1 − S2|. In opposite directions, relative speed = S1 + S2.

YourMockTest.com — Free Study Material

Q69. Answer: (a) 12%

Given:

Marked price of the coat = Rs. 145

Offered price of the coat = Rs. 127.6

Concept:

The rate of retail discount is calculated using the formula:

Discount Rate (%) = [(Marked Price - Offered Price) / Marked Price] × 100

Calculation:

We have,

=> Marked Price = Rs. 145

=> Offered Price = Rs. 127.6

Using the formula,

=> Discount Rate (%) = [(145 - 127.6) / 145] × 100

=> Discount Rate (%) = [17.4 / 145] × 100

=> Discount Rate (%) = 0.12 × 100

=> Discount Rate (%) = 12%

Therefore The correct answer is option 1.

Q70. Answer: (b) 4

Given:

42 ÷ 3 + k × 3 – 22 ÷ 11 + 4 = 28

Concept:

To find the value of k, we need to solve the equation by performing the arithmetic operations step-by-step.

Calculation:

We have,

=> 42 ÷ 3 + k × 3 – 22 ÷ 11 + 4 = 28

First, perform the division operations:

=> 14 + k × 3 – 2 + 4 = 28

Next, simplify the constants:

=> 14 – 2 + 4 = 16

=> 16 + k × 3 = 28

Isolate the term with k:

=> k × 3 = 28 – 16

=> k × 3 = 12

Solve for k:

=> k = 12 ÷ 3

=> k = 4

Therefore The value of k is 4.

Q71. Answer: (a) Rs. 20

Given:

Cost of 21 pencils and 9 pens = Rs. 276

Cost of 6 pencils and 3 pens = Rs. 84

Concept:

We need to form and solve a system of linear equations to find the individual cost of one pencil and one pen.

Calculation:

Let the cost of one pencil be x and the cost of one pen be y.

We have the equations:

=> 21x + 9y = 276 ...(1)

=> 6x + 3y = 84 ...(2)

Divide equation (2) by 3:

=> 2x + y = 28 ...(3)

YourMockTest.com — Free Study Material

Multiply equation (3) by 9:
=> 18x + 9y = 252 ...(4)
Subtract equation (4) from equation (1):
=> (21x + 9y) - (18x + 9y) = 276 - 252
=> 3x = 24
=> x = 8
Substitute x = 8 into equation (3):
=> 2(8) + y = 28
=> 16 + y = 28
=> y = 12
Hence, the cost of one pencil and one pen is:
=> x + y = 8 + 12
=> x + y = 20
Therefore The cost of one pencil and one pen is Rs. 20.

Q72. Answer: (a) 722

Given:
Merchant sells 195 kg of wheat for Rs. 10,260 with a profit of Rs. 4.50 per kg.
Concept:
The cost price (CP) can be calculated by subtracting the total profit from the selling price (SP).
Formula Used:
Total Profit = Profit per kg × Total kg
Cost Price (CP) = Selling Price (SP) - Total Profit
CP per kg = Total CP / Total kg
Calculation:
We have,
=> Total kg = 195 kg
=> Selling Price (SP) = Rs. 10,260
=> Profit per kg = Rs. 4.50
=> Total Profit = 195 kg × Rs. 4.50
=> Total Profit = Rs. 877.50
=> Cost Price (CP) = Rs. 10,260 - Rs. 877.50
=> CP = Rs. 9,382.50
=> CP per kg = Rs. 9,382.50 / 195 kg
=> CP per kg = Rs. 48.10 (approx.)
Cost Price of 15 kg of wheat:
=> 15 kg × Rs. 48.10
=> Rs. 721.50
To the nearest integer, Cost Price of 15 kg of wheat is Rs. 722.
Therefore The correct answer is option 1.

Q73. Answer: (a) 3√3 : √7

Calculation:
r1 = 32 cm and r2 = 20 cm and the distance between the centers = D = 60 cm.
Length of direct common tangent = √(602 – (32 – 20)2) = √3456
Length of transverse common tangent = √(602 – (32 + 20)2) = √896
Required Ratio = √3456 : √896
divide the number by √128
=> 3√3 : √7
Therefore The ratio of the length of the direct common tangent to the length of the transverse common tangent to these circles is 3√3 : √7.

YourMockTest.com — Free Study Material

Q74. Answer: (a) Rs. 1,500, 12%

Given:

A certain sum of money amounts to Rs. 1,860 in 2 years and to Rs. 2,130 in 3½ years at simple interest.

Concept:

Simple Interest (SI) is calculated using the formula:

SI = Principal (P) × Rate (R) × Time (T) / 100

Amount (A) is given by:

A = Principal (P) + Simple Interest (SI)

Calculation:

Let the principal be P and the rate of interest be R%.

For the first condition:

=> A1 = P + (P × R × 2 / 100) = 1860

=> P (1 + 2R / 100) = 1860 ...(i)

For the second condition:

=> A2 = P + (P × R × 3.5 / 100) = 2130

=> P (1 + 3.5R / 100) = 2130 ...(ii)

From equation (i):

=> P (1 + 2R / 100) = 1860

=> P = 1860 / (1 + 2R / 100) ...(iii)

Substitute P from equation (iii) into equation (ii):

=> (1860 / (1 + 2R / 100)) × (1 + 3.5R / 100) = 2130

=> 1860 (1 + 3.5R / 100) = 2130 (1 + 2R / 100)

=> 1860 + 1860 × 3.5R / 100 = 2130 + 2130 × 2R / 100

=> 1860 + 65.1R = 2130 + 42.6R

=> 22.5R = 270

=> R = 270 / 22.5

=> R = 12%

Substitute R = 12% back into equation (iii) to find P:

=> P = 1860 / (1 + 2 × 12 / 100)

=> P = 1860 / 1.24

=> P = 1500

Therefore The sum is Rs. 1,500 and the rate of interest is 12%.

Q75. Answer: (a) 1,490

Given:

Candidate A secures 40% of the votes.

Candidate B secures the remaining votes, which is 60%.

Majority by Candidate B = 298 votes.

Calculations:

Let the total number of votes be V.

Votes secured by Candidate A = 0.40V.

Votes secured by Candidate B = 0.60V.

According to the problem, the difference in votes is:

Votes of Candidate B - Votes of Candidate A = 298.

Substituting the values gives:

0.60V - 0.40V = 298.

0.20V = 298.

Now solving for V:

V = 298 / 0.20 = 1490.

Therefore The total number of votes recorded is 1490.

YourMockTest.com — Free Study Material

Q76. Answer: (a) Salt Satyagraha

The correct answer is Salt Satyagraha

Key Points

• Salt Satyagraha was a significant event in India's struggle for independence, initiated by Mahatma Gandhi in 1930.

• This non-violent protest against the British salt tax mobilized millions of Indians to join the independence movement.

• The movement began with the Dandi March, where Gandhi and his followers marched 240 miles to the Arabian Sea to make their own salt, defying British laws.

• The Salt Satyagraha highlighted the unjust nature of British rule and united people across different regions and communities in India.

• This event is considered a pivotal moment in the Indian independence movement, showcasing the power of non-violent civil disobedience.

Additional Information

• The Salt Satyagraha was part of the larger Civil Disobedience Movement, which sought to challenge various British laws and policies through non-violent means.

• Mahatma Gandhi's philosophy of Satyagraha, or non-violent resistance, inspired similar movements worldwide, including the American Civil Rights Movement led by Martin Luther King Jr.

• The success of the Salt Satyagraha demonstrated the potential of mass mobilization and civil disobedience as effective tools for political change.

• The movement significantly weakened British authority in India and paved the way for future campaigns leading up to India's independence in 1947.

• The Salt March remains a symbol of the Indian struggle for freedom and the power of peaceful protest.

Q77. Answer: (a) Kolkata

The correct answer is Kolkata

Key Points

• Kolkata is home to the largest football stadium in India, known as the Salt Lake Stadium or officially the Vivekananda Yuba Bharati Krirangan.

• The stadium has a seating capacity of around 85,000 spectators after renovations, making it one of the largest football stadiums in the world.

• It was inaugurated in 1984 and has since hosted numerous national and international football matches, including the FIFA U-17 World Cup in 2017.

• The stadium is a multi-purpose venue but is primarily used for football matches and athletic events.

• It is the home ground for prominent football clubs like ATK Mohun Bagan and East Bengal FC.

Additional Information

• The Salt Lake Stadium was the largest football stadium in the world before its capacity was reduced from over 120,000 to 85,000 for safety and comfort reasons.

• The stadium has also hosted other events like concerts and political rallies.

• It is named after Swami Vivekananda, a key figure in the introduction of Indian philosophies of Vedanta and Yoga to the Western world.

• The stadium complex includes facilities for various other sports like athletics, swimming, and volleyball.

• It has been a crucial venue for promoting and developing football in India, contributing significantly to the sport's growth in the region.

Q78. Answer: (c) Lord Venkateshwara

The correct answer is Lord Venkateshwara

Key Points

• Annamacharya composed Sankirtans primarily in praise of Lord Venkateshwara.

• Annamacharya, also known as Tallapaka Annamacharya, was a 15th-century Hindu saint and the earliest known Indian musician to compose songs called Sankirtanas.

• His compositions are considered to be among the finest in Telugu literature and are dedicated to the deity of Tirumala Venkateswara Temple.

• Annamacharya is regarded as the pioneer of the Telugu keerthana and a significant figure in the Bhakti movement.

Additional Information

• Annamacharya is believed to have composed over 32,000 Sankirtanas, though only about 12,000 are available today.

• His works are preserved in the form of copper plates, which were hidden for centuries in a rock-built cell called the Sankeertana

Bhandaram at the Tirumala temple.

• These compositions are sung even today in the Tirumala temple and other Venkateswara temples around the world.

• The themes of his songs often revolve around devotion, morality, and the greatness of Lord Venkateshwara.

Q79. Answer: (c) Assam

The correct answer is Assam

Key Points

• In July 2021, the Assam government announced the creation of an independent department to protect and preserve the faith, culture, and traditions of tribes and indigenous communities of the state.

• This initiative is aimed at ensuring the development and safeguarding of the unique cultural heritage and practices of the state's indigenous populations.

• The department will work towards implementing policies and programs that support the preservation of cultural diversity and promote the welfare of tribal communities.

• Efforts will be made to document and revive traditional art forms, languages, and cultural practices that are at risk of being lost.

Additional Information

• The state of Assam is home to a diverse range of tribal and indigenous communities, each with its own distinct cultural practices and traditions.

• Preservation of these traditions is crucial for maintaining the state's rich cultural heritage and ensuring that future generations can learn about and appreciate their ancestral customs.

• The establishment of this department aligns with broader national and international efforts to protect the rights and cultures of indigenous peoples.

Q80. Answer: (d) ED, CBI and SFIO

The correct answer is ED, CBI and SFIO

Key Points

• In April 2022, Chief Justice of India NV Ramana recommended the creation of an "independent umbrella institution" to bring various agencies under one roof.

• He suggested that the ED, CBI, and SFIO be brought under this umbrella institution.

• This recommendation aims to ensure better coordination and efficiency among these agencies.

• Such a move is expected to help in tackling complex and high-profile cases more effectively.

Additional Information

• Central Bureau of Investigation (CBI) is the premier investigating agency of India.

• Serious Fraud Investigation Office (SFIO) is a multidisciplinary organization to investigate serious financial frauds.

• Enforcement Directorate (ED) is a specialized financial investigation agency under the Department of Revenue, Ministry of Finance.

• These agencies play a crucial role in maintaining financial and legal order in the country.

Q81. Answer: (b) To safeguard public property and to abjure violence

The correct answer is To safeguard public property and to abjure violence

Key Points

• To safeguard public property and to abjure violence is one of the fundamental duties listed in Article 51A of the Constitution of India.

• Writing on the walls of historical monuments is considered defacement and disrespect of public property, thus citizens are instructed to refrain from such actions.

• This duty emphasizes the importance of protecting and preserving public property and maintaining a civil and respectful attitude towards national heritage.

• It also aligns with the broader objective of promoting a sense of responsibility and discipline among citizens.

Additional Information

• The Constitution of India was adopted by the Constituent Assembly on 26th November 1949 and came into effect on 26th January 1950.

• It lays down the framework defining fundamental political principles, establishes the structure, procedures, powers, and duties of government institutions, and sets out fundamental rights, directive principles, and the duties of citizens.

• The Constitution of India is the longest written constitution of any country in the world.

• It declares India a sovereign, socialist, secular, and democratic republic, assuring its citizens justice, equality, and liberty, and endeavors to promote fraternity.

YourMockTest.com – FREE Study Material

• The Seventh Schedule of the Constitution contains three lists which delineate the subjects under the Union, State, and Concurrent lists.

• Amendments to the Constitution can be made through a process outlined in Article 368.

• The Union List has been amended several times to meet the evolving needs of the nation.

Q82. Answer: (c) 1950

The correct answer is 1950

Key Points

• The National Anthem of India, Jana Gana Mana, was adopted in its Hindi version by the Constituent Assembly on 24th January 1950.

• The anthem was originally composed in Bengali by Rabindranath Tagore in 1911.

• It was translated into Hindi and the version was adopted to instill a sense of national pride and unity among the citizens of India.

• The adoption of the National Anthem was part of the larger process of establishing national symbols post-independence to represent the identity and heritage of the country.

Additional Information

• The Constituent Assembly was responsible for drafting and adopting the Constitution of India, which was adopted on 26th November 1949 and came into effect on 26th January 1950.

• The adoption of national symbols, including the National Anthem, was a significant step in the nation-building process post-independence.

• Rabindranath Tagore, the composer of the National Anthem, was a Nobel laureate in Literature and a key figure in Indian literature and music.

• The anthem is sung on various national occasions and events, symbolizing the unity and integrity of the nation.

Q83. Answer: (b) From West to East

The correct answer is From West to East

Key Points

• The general elevation of the peninsular plateau of India is from West to East.

• This elevation pattern is due to the geological history and the tectonic movements that have shaped the region.

• The Western Ghats are higher in elevation compared to the Eastern Ghats, causing most rivers to flow eastward towards the Bay of Bengal.

• This west-to-east slope is a significant factor influencing the drainage pattern and river systems in the peninsular region.

Additional Information

• The Peninsular Plateau is one of the oldest and most stable landmasses in India.

• It is composed primarily of ancient crystalline, igneous, and metamorphic rocks.

• The plateau is divided into two major parts: the Central Highlands and the Deccan Plateau.

• Important rivers like the Godavari, Krishna, and Kaveri originate in the Western Ghats and flow eastward into the Bay of Bengal.

• The elevation decreases from the Western Ghats (which are higher) to the Eastern Ghats (which are lower), contributing to the eastward flow of these rivers.

Q84. Answer: (a) Pluto’s

The correct answer is Pluto's

Key Points

• Pluto's oblong orbit overlaps the orbit of Neptune.

• Pluto is classified as a dwarf planet in the Kuiper belt, a ring of bodies beyond Neptune.

• The orbit of Pluto is highly elliptical, taking it inside the orbit of Neptune for 20 years of its 248-year orbit around the Sun.

• This unique orbital characteristic means that at certain times, Pluto is closer to the Sun than Neptune.

• Despite this overlap, there is no risk of collision due to their respective orbital inclinations and resonance.

Additional Information

• Pluto was discovered by Clyde Tombaugh in 1930 and was originally classified as the ninth planet of the Solar System.

• In 2006, the International Astronomical Union (IAU) redefined the criteria for planet classification, and Pluto was reclassified as a dwarf planet.

• Pluto has five known moons: Charon, Styx, Nix, Kerberos, and Hydra.

• The New Horizons mission, launched by NASA, performed a flyby of Pluto in 2015, providing the most detailed images and data of the dwarf planet to date.

YourMockTest.com – Free Study Material

• Pluto's surface is composed of a mixture of frozen nitrogen, methane, and carbon monoxide ices.
• It has a thin atmosphere that expands when it is closer to the Sun and collapses as it moves farther away.

Q85. Answer: (a) Mulayam Singh Yadav

The correct answer is Mulayam Singh Yadav

Key Points

• Mulayam Singh Yadav was posthumously conferred the Padma Vibhushan in the field of public affairs in 2023.
• The Padma Vibhushan is the second-highest civilian award in India.
• Mulayam Singh Yadav was a prominent Indian politician and founder of the Samajwadi Party.
• He served as the Chief Minister of Uttar Pradesh and held various significant political positions throughout his career.

Additional Information

• The Padma Vibhushan is awarded for exceptional and distinguished service in any field including service rendered by Government servants.
• It was instituted on 2 January 1954 and is awarded by the President of India.
• Other notable recipients of the Padma Vibhushan in 2023 include Balkrishna Doshi and Dilip Mahalanabis.
• Mulayam Singh Yadav's contribution to Indian politics and his role in shaping the socio-political landscape of Uttar Pradesh are widely recognized.

Q86. Answer: (d) trigonal pyramidal

The correct answer is trigonal pyramidal

Key Points

• A proton bonds to the oxygen atom of a solvent water to give a trigonal pyramidal hydronium ion.
• The hydronium ion (H3O^+) has a central oxygen atom bonded to three hydrogen atoms and one lone pair of electrons, resulting in a trigonal pyramidal geometry.
• This structure is due to the VSEPR (Valence Shell Electron Pair Repulsion) theory, which states that electron pairs around a central atom arrange themselves to minimize repulsion.
• In the case of the hydronium ion, the lone pair on the oxygen atom forces the three hydrogen atoms into a trigonal pyramidal shape.

Additional Information

• The hydronium ion is a crucial species in acid-base chemistry, representing the protonated form of water.
• It plays a vital role in the pH of solutions, as the concentration of hydronium ions determines the acidity.
• In aqueous solutions, acids donate protons (H^+) to water molecules, forming hydronium ions.
• The geometry and properties of the hydronium ion are significant in understanding various chemical reactions and mechanisms.

Q87. Answer: (d) i - c, ii - a, iii - b, iv - d

The correct answer is i - c, ii - a, iii - b, iv - d

Key Points

• i. National Manufacturing Policy was introduced in 2011.
• ii. Make in India initiative was launched in 2014.
• iii. Startup India scheme was initiated in 2016.
• iv. Smart City Project was started in 2015.
• Thus, the correct matching is i - c, ii - a, iii - b, iv - d.

Additional Information

• The National Manufacturing Policy aims to increase the sector's growth rate to 12-14% per annum.
• The Make in India initiative focuses on making India a global manufacturing hub.
• The Startup India scheme aims to foster entrepreneurship and promote innovation.
• The Smart City Project aims to promote sustainable and inclusive cities that provide core infrastructure and give a decent quality of life to their citizens.

Q88. Answer: (a) 22 yards by 10 ft

The correct answer is 22 yards by 10 ft

Key Points

• The standard measurements of a cricket pitch are 22 yards (20.12 meters) in length and 10 feet (3.05 meters) in width.
• The pitch is the central strip of the cricket field where most of the action takes place.

YourMockTest.com — Free Study Material

• The length of 22 yards is also referred to as one chain in older imperial units.

• The pitch is marked with creases, including the bowling crease, popping crease, and return creases, which define the area within which the bowler and batsmen operate.

• The quality and preparation of the pitch can significantly affect the outcome of the game, influencing the behavior of the ball and the strategy of the teams.

Additional Information

• Cricket is a sport that originated in England and is now played worldwide, particularly in countries like India, Australia, and South Africa.

• The game is played between two teams of eleven players each, with the objective of scoring more runs than the opposing team.

• There are different formats of cricket including Test matches, One Day Internationals (ODIs), and Twenty20 (T20) matches, each with its own set of rules and duration.

• Cricket pitches can vary in terms of hardness, grass cover, and moisture, leading to different playing conditions, often described as "fast," "slow," "dry," or "damp." These conditions can favor either the batsmen or the bowlers.

• Maintaining the pitch is a specialized task carried out by groundsmen, who use various tools and techniques to prepare the pitch before and during the game.

Q89. Answer: (a) first

The correct answer is first

Key Points

• Guru Nanak Dev Ji is the first Guru of the Sikhs.

• He founded Sikhism in the 15th century and his teachings form the core tenets of the Sikh faith.

• Gurpurab, also known as Guru Nanak Jayanti, is one of the most significant festivals for Sikhs, celebrated with great devotion and enthusiasm.

• The day involves prayers, hymns, and reading of the Guru Granth Sahib, the holy scripture of Sikhism.

Additional Information

• Guru Nanak Dev Ji was born on 15th April 1469 in a village called Talwandi, now known as Nankana Sahib, in present-day Pakistan.

• His teachings emphasized the importance of equality, love, and goodness, rejecting the caste system and rituals prevalent in society.

• Guru Nanak traveled extensively to spread his message of peace and unity.

• The teachings of Guru Nanak Dev Ji are encapsulated in the sacred hymns of the Guru Granth Sahib.

• Gurpurab is marked by processions, community meals (Langar), and devotional singing (Kirtan).

Q90. Answer: (b) Tyrosine

The correct answer is Tyrosine

Key Points

• Tyrosine is the non-essential amino acid synthesized by the hydroxylation of phenylalanine.

• This reaction is catalyzed by the enzyme phenylalanine hydroxylase.

• Phenylalanine hydroxylase converts phenylalanine to tyrosine by adding a hydroxyl group (-OH) to the phenyl ring of phenylalanine.

• Tyrosine is crucial for the synthesis of neurotransmitters such as dopamine, epinephrine, and norepinephrine.

• It is also involved in the production of melanin, the pigment responsible for hair and skin color.

Additional Information

• Phenylketonuria (PKU) is a genetic disorder caused by a deficiency in phenylalanine hydroxylase, leading to the buildup of phenylalanine and potential brain damage.

• A diet low in phenylalanine is necessary for individuals with PKU to prevent complications.

• Tyrosine is considered non-essential because the body can produce it from phenylalanine, although it is conditionally essential in individuals with PKU.

• Tyrosine supplements are sometimes used to enhance cognitive performance and reduce stress.

Q91. Answer: (b) Timur

The correct answer is Timur

Key Points

• Timur invaded India during the rule of the Tughlaq Dynasty in 1398.

• He was a Turko-Mongol conqueror who founded the Timurid Empire in Persia and Central Asia.

YourMockTest.com — Free Study Material

• Timur's invasion led to widespread destruction and significant weakening of the Delhi Sultanate.
• The invasion is considered one of the most devastating events in Indian history, causing immense loss of life and property.

Additional Information

• Timur, also known as Tamerlane, aimed to restore the Mongol Empire of Genghis Khan.
• He claimed descent from the Mongol conqueror through his father.
• Timur's military campaigns extended from India to the Mediterranean, and from Russia to the Persian Gulf.
• His invasion of India was partly motivated by the wealth of the subcontinent and the desire to spread his influence.
• The impact of his invasion was felt for many years, contributing to the eventual decline of the Tughlaq Dynasty.

Q92. Answer: (a) Prabhu Deva

The correct answer is Prabhu Deva

Key Points

• Prabhu Deva is a renowned choreographer in the Indian film industry.
• He has choreographed numerous songs across various Indian languages, earning him significant acclaim.
• In addition to choreography, Prabhu Deva is also known for his work as a film director, producer, and actor.
• His contributions to dance and choreography have earned him several awards, including the National Film Award for Best Choreography.

Additional Information

• Anu Malik is a music director and singer in the Indian film industry.
• Pritam is a music composer and record producer known for his work in Bollywood.
• Arijit Singh is a playback singer and music programmer, highly popular for his singing in Hindi films.
• Choreographers in the Indian film industry play a crucial role in designing and directing dance sequences in movies.
• Choreography in Indian cinema is a blend of various dance styles, including classical, contemporary, and folk dances.

Q93. Answer: (a) Manipur

The correct answer is Manipur

Key Points

• Lai-Phi and Chin-Phi are traditional cultural costumes of the state of Manipur.
• These costumes are often worn during festivals, cultural events, and traditional ceremonies in Manipur.
• The attire reflects the rich cultural heritage and craftsmanship of the Manipuri people.
• Manipur, located in the northeastern part of India, is known for its diverse culture and traditions.

Additional Information

• Manipur is bordered by Nagaland to the north, Mizoram to the south, and Assam to the west. It also shares an international border with Myanmar to the east.
• The state is known for its classical dance form, Manipuri, which is one of the major Indian classical dance forms.
• Manipur's capital city is Imphal, and the state is often referred to as the "Jewel of India" due to its scenic beauty and rich culture.
• The people of Manipur celebrate several festivals such as Yaoshang, Lai Haraoba, Ningol Chakouba, and Kang.
• Manipur is also famous for its traditional sports like Polo and the indigenous game of Thang-Ta.

Q94. Answer: (b) Thiruvananthapuram, Kerala

The correct answer is Thiruvananthapuram, Kerala

Key Points

• Thiruvananthapuram, Kerala is the location of the Lakshmibai National College of Physical Education.
• The college is named after Rani Lakshmibai, the queen of Jhansi, who was a key figure in the Indian Rebellion of 1857.
• It is one of the premier institutions in India dedicated to physical education and sports.
• The college offers various undergraduate and postgraduate programs in physical education and sports science.

Additional Information

• The college is affiliated with the University of Kerala and is recognized by the National Council for Teacher Education (NCTE).
• It has been instrumental in promoting physical education and sports in India through its various programs and initiatives.
• The institute also plays a significant role in the preparation and training of athletes for national and international competitions.
• Facilities at the college include state-of-the-art training centers, sports complexes, and research laboratories dedicated to sports science.

YourMockTest.com — Free Study Material

Q95. Answer: (d) Gwalior

The correct answer is Gwalior

Key Points

• The headquarters of the Indian Institute of Tourism and Travel Management (IITTM) are located in Gwalior.

• IITTM is an autonomous organization under the Ministry of Tourism, Government of India.

• It offers education, training, research, and consultancy in the field of tourism, travel, and related sectors.

• The institute aims to provide quality education and training to develop skilled professionals for the tourism and travel industry.

Additional Information

• The Indian Institute of Tourism and Travel Management was established in 1983.

• It has several regional centers located in Bhubaneswar, Noida, Nellore, and Goa.

• IITTM is recognized for its academic excellence and industry-oriented programs.

• The institute collaborates with various national and international organizations to enhance its academic and research capabilities.

Q96. Answer: (c) Reduces the autonomous expenditure multiplier

The correct answer is Reduces the autonomous expenditure multiplier

Key Points

• Proportional taxes are taxes that maintain a consistent rate regardless of income level.

• These taxes reduce the autonomous expenditure multiplier because they decrease disposable income, leading to lower consumption and investment.

• The autonomous expenditure multiplier is a measure of the change in aggregate output caused by a change in autonomous spending.

• When disposable income is reduced, the overall consumption in the economy decreases, thereby reducing the multiplier effect.

• In contrast, the induced expenditure multiplier is influenced by changes in income levels and marginal propensities to consume.

• Proportional taxes do not increase the induced expenditure multiplier; rather, they generally have a contractionary effect on the economy.

Additional Information

• The marginal propensity to consume (MPC) is the fraction of additional income that a household consumes rather than saves.

• Proportional taxes do not directly affect the MPC but can influence overall consumption patterns by reducing disposable income.

• Understanding the impact of different types of taxes on multipliers is crucial for designing effective fiscal policies.

• Fiscal policy tools, such as altering tax rates and government spending, are used to manage economic activity and achieve macroeconomic objectives.

• Effective fiscal policy can help stabilize the economy, promote growth, and reduce unemployment.

Q97. Answer: (b) Sovereign, socialist, secular, democratic, republic

The correct answer is Sovereign, socialist, secular, democratic, republic

Key Points

• The correct sequence as per the Preamble to the Constitution of India is Sovereign, socialist, secular, democratic, republic.

• The Preamble serves as an introduction to the Constitution and reflects the fundamental values and guiding principles of the nation.

• It declares India to be a sovereign, socialist, secular, and democratic republic, ensuring justice, equality, and liberty for its citizens and promoting fraternity among them.

Additional Information

• The Preamble was adopted along with the Constitution on 26th November 1949 and came into effect on 26th January 1950.

• The Preamble is not enforceable by law but plays a crucial role in the interpretation of statutes and provisions of the Constitution.

• It encapsulates the essence of the Constitution and the vision of its framers for the nation.

• The terms "socialist" and "secular" were added to the Preamble by the 42nd Amendment in 1976.

Q98. Answer: (c) Cut

The correct answer is Cut

Key Points

• The Cut option allows you to copy the selected text or object to the Clipboard while simultaneously removing it from its original location.

• This is different from the Copy option, which only copies the text or object to the Clipboard without removing it from its original

location.

• Using the Cut option is useful when you want to move text or objects from one part of a document to another.

• After cutting, you can use the Paste option to insert the text or object at a new location.

Additional Information

• In MS Word, you can access the Cut option from the Ribbon, under the Home tab, or by using the keyboard shortcut Ctrl + X.

• The Clipboard is a temporary storage area for data that the user wants to copy from one place to another.

• Other options related to text manipulation in MS Word include Copy (Ctrl + C) and Paste (Ctrl + V).

• The Drag-and-Drop method can also be used to move text or objects, but it does not involve the Clipboard.

Q99. Answer: (b) 77.7%

The correct answer is 77.7%.

Key Points

• 77.7% is the literacy rate of India as per the National Survey of India-2022.

• The literacy rate measures the percentage of people aged 7 and above who can read and write with understanding.

• It is an important indicator of educational attainment and socio-economic development in the country.

• The survey conducted takes into account various demographic factors including age, gender, and region to provide a comprehensive overview of literacy in India.

Additional Information

• The National Survey of India is conducted periodically to assess various socio-economic indicators, including literacy rates.

• Efforts to improve literacy rates in India include various government initiatives like the Sarva Shiksha Abhiyan and the National Literacy Mission.

• Literacy is crucial for empowering individuals and enabling them to participate fully in the socio-economic development of the country.

• Continuous efforts are being made to bridge the literacy gap between different regions and demographic groups in India.

Q100. Answer: (c) LinkedIn

The correct answer is LinkedIn

Key Points

• LinkedIn places the biggest emphasis on professional networking.

• It is designed specifically for the business community, allowing users to create professional profiles, connect with colleagues, and search for jobs.

• LinkedIn also provides a platform for companies to post job openings and for professionals to showcase their skills and experience.

• It is widely used for networking, recruiting, and job searching within various industries.

Additional Information

• LinkedIn was founded in December 2002 and launched in May 2003.

• As of 2021, LinkedIn has over 774 million registered members from more than 200 countries and territories.

• LinkedIn also offers premium subscriptions that provide additional features such as enhanced search tools and the ability to send messages to people outside your network.

• It is a valuable tool for professionals looking to expand their network, discover job opportunities, and enhance their career development.

More previous year papers and mock tests: **www.yourmocktest.com/pyq**

YourMockTest.com — Free Study Material