SSC CHSL Previous Paper 3 (Held On: 17 March 2020 Shift 3) (Previous Year Paper)

SSC Combined Higher Secondary Level (CHSL) • 2020 • 100 questions • 60 minutes • Answer key and solutions

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ENGLISH LANGUAGE

Q1. Select the word which means the same as the group of words given.

A place where wild animals live

(a) Cage
(b) Kennel
(c) Hutch
(d) Lair

Q2. Select the word which means the same as the group of words given.

A solution or remedy for all difficulties or diseases

(a) Medicine
(b) Treatment
(c) Therapy
(d) Panacea

Q3. Select the alternative that will improve the underlined part of the sentence. In case there is no improvement select ‘No improvement’.

There was no sign of recognition on his face when they met after ten years.

(a) no sign to recognise
(b) no any sign of recognition
(c) No improvement
(d) no sign for recognition

Q4. Select the segment in the sentence, which contains the grammatical error.

We were busy at the work and went for lunch only at 2.30 pm.

(a) only at 2.30 pm
(b) at the work
(c) and went for lunch
(d) We were busy

Directions

In the following passage, some words have been deleted. Fill in the blanks with the help of the alternatives given. Select the most appropriate option for each blank.

Valley of Flowers National Park, an Indian national park located in North Chamoli in the state of Uttarakhand, is known for its meadows of endemic alpine flowers and variety of flora. (1)____ richly diverse area is also home (2)__ rare and endangered animals, including the Asiatic black bear, snow leopard, musk deer, brown bear, red fox, and blue sheep. Birds that are (3)__ in the park include the Himalayan monal pheasant and other (4)__ altitude birds. At 3352 to 3658 meters above sea level, the gentle (5)____ of the Valley of Flowers National Park complements the rugged mountain wilderness of Nanda Devi National Park to the east.

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

(a) That
(b) These
(c) This
(d) Which

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

(a) of
(b) to
(c) with
(d) in

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

(a) finding
(b) are found
(c) found
(d) find

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

(a) high
(b) flight
(c) far
(d) soaring

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

(a) shore
(b) scene
(c) movement
(d) landscape

Q10. Select the most appropriate meaning of the idiom.

Back in saddle

(a) Resume duty
(b) Put a new saddle
(c) Teach someone riding
(d) Learn how to ride

Q11. Given below are four jumbled sentences. Select the option that gives their correct order.

A. Just before the sacrifice, however, he noticed that one of the king's fingers was missing.
B. Once while traveling across a forest, the king was captured by a powerful tribe.
C. Since it was not acceptable to sacrifice an incomplete person to God, the king was released.
D. The tribal priest decided to sacrifice the king to their God.

(a) BDAC
(b) CDBA
(c) ADBC
(d) DACB

Q12. Select the most appropriate option to fill in the blank.

By accelerating digitisation and leveraging next-generation technologies, the life insurance sector can double its _____ to Rupees 70 lakh crores, a study said.

(a) funding
(b) reports
(c) policies
(d) assets

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Q13. Select the most appropriate ANTONYM of the given word.

PRIM

(a) Principle
(b) Intellectual
(c) Dishevelled
(d) Mature

Q14. In the following question select from among the four alternatives, the word opposite in meaning to the word given in capitals.

EXHALE

(a) Expel
(b) Inspire
(c) Inhale
(d) Respite

Q15. Given below are four jumbled sentences. Select the option that gives their correct order.

A. Problems in the absorption of vitamins are the main cause of vitamin deficiency.

B. This is the reason why people with metabolic disorders such as obesity, often suffer from vitamin deficiency

C. Hence, digestion and the absorption mechanism in the body are very important.

D. Vitamin deficiency is not just caused by a lack of vitamins in the diet.

(a) BCAD
(b) CBDA
(c) DABC
(d) ACBD

Q16. Select the word with the incorrect spelling

(a) Denounce
(b) Ascertain
(c) Systemetic
(d) Combination

Q17. Select the most appropriate synonym of the given word.

RESILIENT

(a) Supple
(b) Furious
(c) Lazy
(d) Baseless

Q18. Select the alternative that will improve the underlined part of the sentence. In case there is no improvement select 'No improvement'.

Carrots and sweet potatoes were airdrop for animals starving during the tragic bushfires in Australia.

(a) are airdropped for animals starved
(b) were airdropped for animals starving
(c) No improvement
(d) will be airdropping for animals starving

Q19. Select the most appropriate meaning of the underlined idiom in the given sentence.

When they read about the proposed strike of buses they said, "We'll cross that bridge when we come to it."

(a) Call them for talks
(b) Cancel our plans
(c) Prevent them
(d) Solve the problem

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Q20. Select the segment in the sentence, which contains the grammatical error.

No matter what that the mother did the baby didn't stop crying.

(a) the mother did
(b) what that
(c) No matter
(d) the baby didn't stop crying

Q21. Select the option that is the direct form of the sentence.

Experts said that several steps were being taken to promote foreign trade as it constituted 45% of the country's economy.

(a) Experts are saying, "Several steps were taken to promote foreign trade as it constituted 45% of the country's economy".
(b) Experts said, "Several steps should be taken to promote foreign trade as they constitute 45% of the country's economy".
(c) Experts said, "Several steps are being taken to promote foreign trade as it constitutes 45% of the country's economy".
(d) Experts said, "Several steps had been taken for promoting foreign trade as it constitute 45% of the country's economy".

Q22. Select the most appropriate synonym of the given word.

OCCUR

(a) Hasten
(b) Happen
(c) Hinder
(d) Hamper

Q23. Select the option that is the passive form of the sentence.

Jiya wrote the research paper with the help of her tutor.

(a) The research paper was wrote by Jiya with the help of the tutor.
(b) The research paper is being written by Jiya with the help of her tutor.
(c) The research paper can be written by the tutor with the help of Jiya.
(d) The research paper was written by Jiya with the help of her tutor.

Q24. Select the most appropriate option to fill in the blank.

Madhuri is bringing _____ her sister's daughter after the death of the child's parents.

(a) in
(b) out
(c) up
(d) over

Q25. Select the word with the correct spelling.

(a) Avalaunche
(b) Capricious
(c) Ecstacy
(d) Complasent

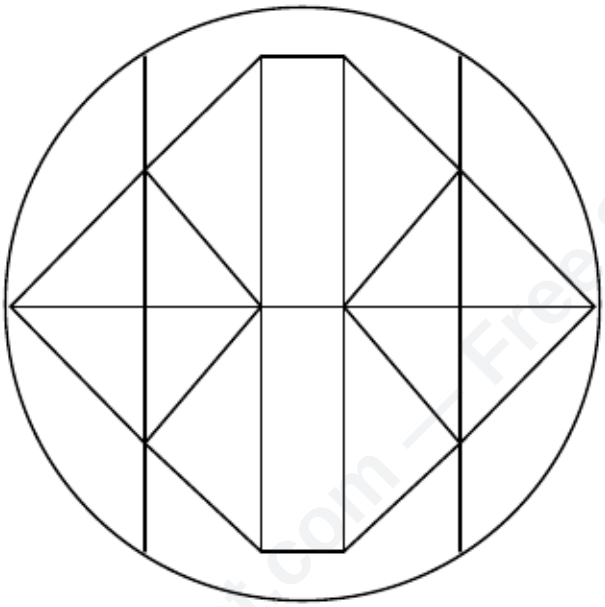
GENERAL INTELLIGENCE

Q26. Select the number that can replace the question mark (?) in the following series. 10, 26, 50, 82, ?

(a) 121
(b) 101
(c) 169
(d) 122

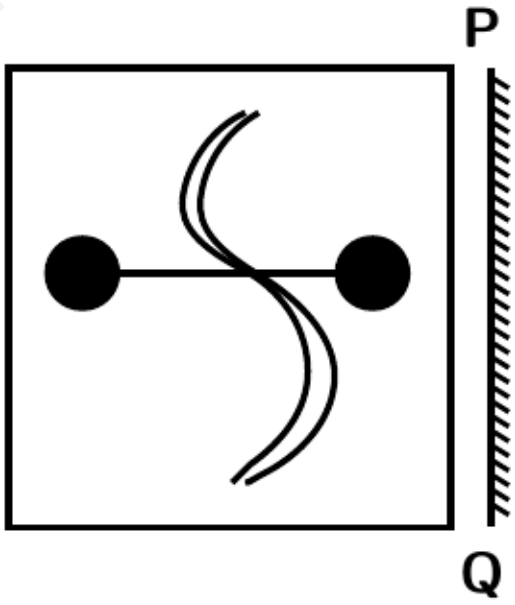
Q27. How many triangles are present in the given figure?

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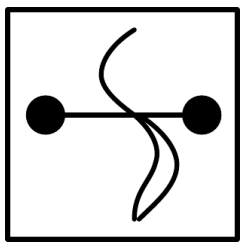


(a) 22
(b) 26
(c) 24
(d) 28

Q28. If a mirror is placed on line PQ in the question figure, then which of the given answer figures is the correct mirror image of the question figure?

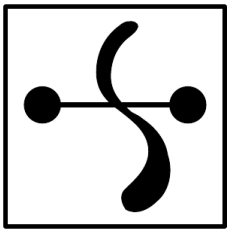


(a)

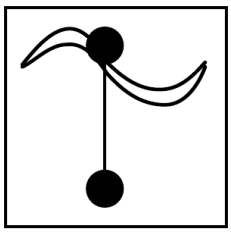


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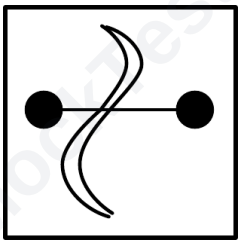
(b)



(c)



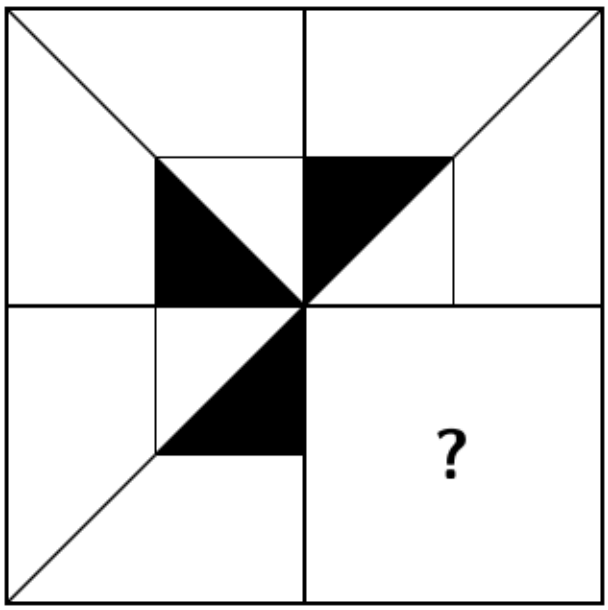
(d)



Q29. Select the combination of letters that when sequentially placed in the blanks of the given series will complete the series. rtx_sx_z_txy_ _ yz

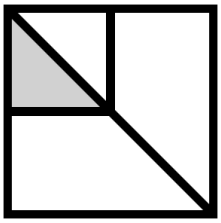
(a) yyrsx
(b) yyrxs
(c) sysyx
(d) yxyrs

Q30. Select the answer figure that when placed in the blank space of the question figure will complete the pattern.

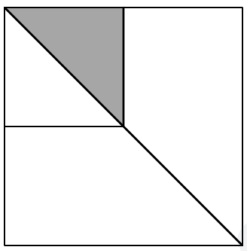


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(a)



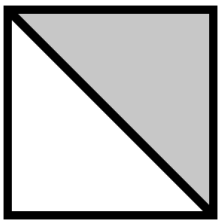
(b)



(c)



(d)



Q31. Which two signs should be interchanged to make the given equation correct?

(72 ÷ 18) + 30 × 8 − 4 = 20

(a) • and -

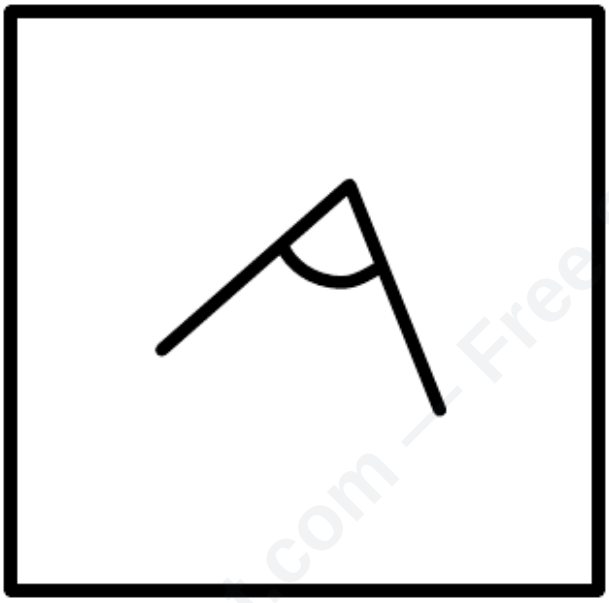
(b) • and ×

(c) × and ÷

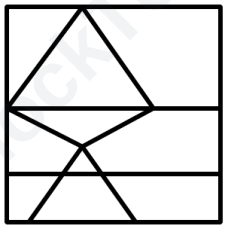
(d) • and ÷

Q32. Select the figure in which the question figure is embedded. (Rotation is not allowed)

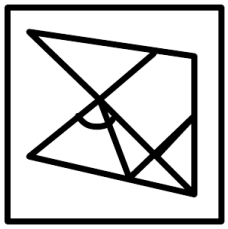
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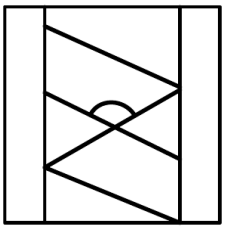
(a)



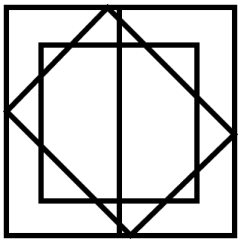
(b)



(c)



(d)



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Q33. Select the option that is related to the third term in the same way as the second term is related to the first term.

H18J : J22L:: P34R:?

(a) R38T
(b) R36T
(c) T38V
(d) R36S

Q34. Select the letter that can replace the question mark (?) in the following series.

L, M, O, K, R, I, U, ?

(a) R
(b) P
(c) G
(d) I

Q35. Identify the letter-cluster that does NOT belong to the following series.

DE, GH, JK, NM, PQ

(a) PQ
(b) NM
(c) JK
(d) GH

Q36. Select the option that is related to the third word in the same way as the second word is related to the first word.

Butter : Milk :: Oil : ?

(a) Seed
(b) Oil factory
(c) Root
(d) Tree

Q37. Study the given pattern carefully and select the number that can replace the question mark (?)in it.

*20c 13; *20c ; 11 *20c 108; *20c 26; *20c ; 9 *20c 55; *20c ?; *20c ; 14 *20c 157;

(a) 72
(b) 52
(c) 32
(d) 39

Q38. Four numbers have been given, out of which three are alike in some manner and one is different. Select the number that is different from the rest.

(a) 11982
(b) 12326
(c) 52477
(d) 14978

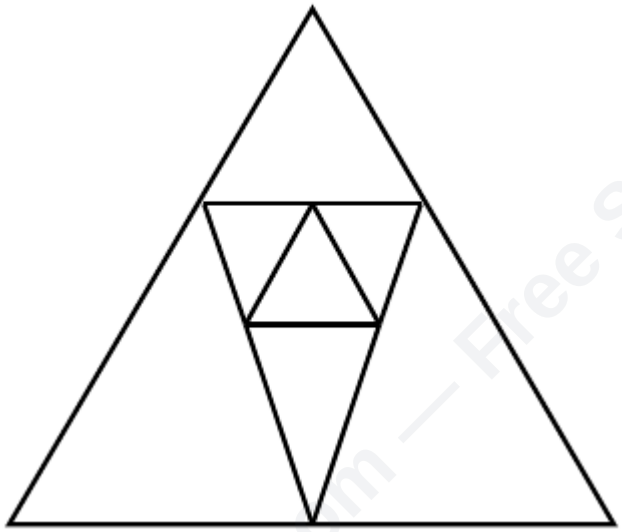
Q39. Select the pair of words from the given options that shares a similar relationship as,

Ship : Sailor

(a) Jail : Judge
(b) Laboratory : Scientist
(c) Doctor : Engineer
(d) Advocate : Office

Q40. Find the number of triangles in the given figure.

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(a) 9
(b) 13
(c) 17
(d) 7

Q41. Select the number that can replace the question mark (?) in the following series.

25, 5, 49, 10, 81, 20, 121, ?

(a) 30
(b) 40
(c) 35
(d) 25

Q42. The sum of the ages of a mother, daughter and son is 96 years. What will be the sum of their ages after 5 years?

(a) 111
(b) 105
(c) 110
(d) 101

Q43. In a certain code language, OPERATION is written as POFQBSJNO. How will INVISIBLE be written as in that language?

(a) JMUHTHCKD
(b) JMWHTHCID
(c) HNWHTHCKF
(d) JMWHTHCKF

Q44. In a certain code language, 214673 is coded as SEARCH, 73456 is coded as CHAIR and 961473 is coded as PREACH. How will 734673 be coded as in that language?

(a) CARRCH
(b) RHACRH
(c) CHARH
(d) CHARCH

Q45. Select the letter-cluster that can replace the question mark (?) in the following series.

BYT, WUQ, RQN, MMK, ?

(a) GIH
(b) IHJ
(c) HIH
(d) HJI

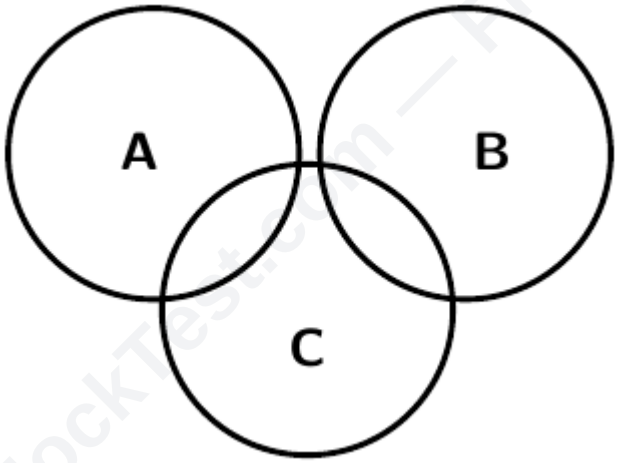
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Q46. Select the option that is related to the third number in the same way as the second number related to the first number.

19 : 23 :: 97 :?

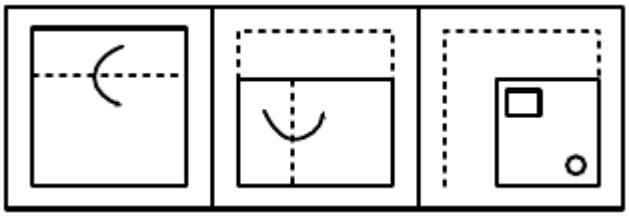
(a) 91
(b) 101
(c) 77
(d) 94

Q47. In the given Venn diagram, A likes milk, B likes bread and C likes meat. Who likes all the given eating materials?

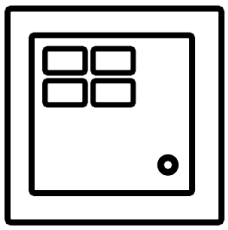


(a) Only B
(b) Only C
(c) Both B and C
(d) Both A and B

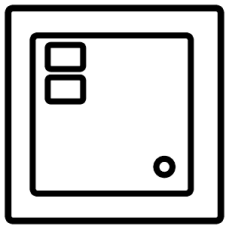
Q48. The sequence of folding a piece of paper and the manner in which the folded paper has been cut is shown in the question figure. Select the figure from the answer figures that would most closely resemble the unfolded paper.



(a)

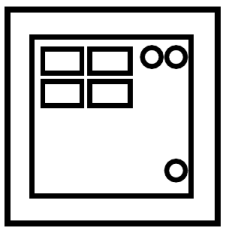


(b)

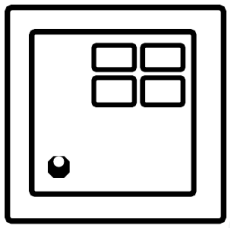


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(c)



(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:

1. Some cats are dogs.
2. Some trees are dogs.

Conclusions:

(I) Some dogs are cats.

(II) Some cats are trees.

(a) Both conclusions I and II follow.
(b) Either conclusion I or II follows.
(c) Only conclusion II follows.
(d) Only conclusion I follows.

Q50. Study the given pattern carefully and select the number that can replace the question mark (?) in it.

9	**14**	**7**
130	135	168
13	9	?

(a) 11
(b) 21
(c) 19
(d) 15

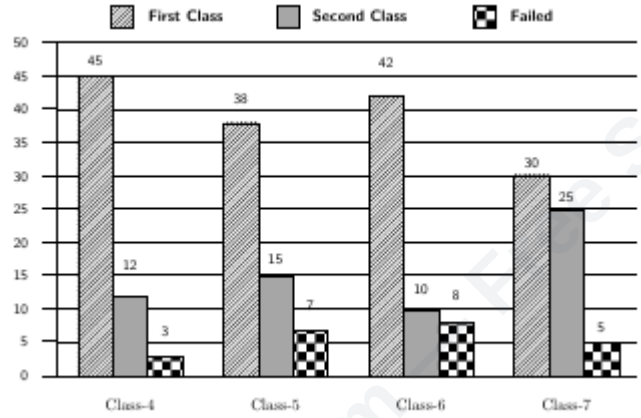
QUANTITATIVE APTITUDE

Q51. If $\sin\theta = 4/5$, Find the value of $\sin 3\theta$

(a) 12 over 25
(b) 44 over 125
(c) 64 over 125
(d) 32 over 45

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Q52. The given chart shows the number of students in Class 4, Class 5, Class 6 and Class 7 who got first class, second class and failed in the final examinations.



Which class has the highest number of students who passed?

(a) Class 4
(b) Class 7
(c) Class 6
(d) Class 5

Q53. The difference between a number and one-third of that number is 228. What is 20% of that number?

(a) 72.5
(b) 68.4
(c) 58.9
(d) 61.8

Q54. Find x if $2\sin^2 x - 1 = 0$

(a) π over 4
(b) π over 2
(c) 0
(d) π

Q55. What is the area of a triangle whose sides measure 5 cm, 6 cm and 7 cm?

(a) 16.4545 cm^2
(b) 14.6969 cm^2
(c) 10.9797 cm^2
(d) 12.8484 cm^2

Q56. Find one-fifth of three-eighth of one-third of 11760.

(a) 294
(b) 645
(c) 467
(d) 598

Q57. If $\cot\theta$ = 80 over 39, Find the value of $\operatorname{cosec}\theta$

(a) 89 over 39
(b) 39 over 89
(c) 89 over 80
(d) 39 over 80

Q58. Smith and Ajit can complete a task in 12 days and 18 days, respectively. If they work together on the task for 4 days, then the fraction of the task that will be left is:

(a) 4 over 9
(b) 1 over 9
(c) 2 over 9

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(d) 5 over 9

Q59. If the height of an equilateral triangle is 12 cm, then what is the area of the triangle?

(a) 25√3 cm²
(b) 48√3 cm²
(c) 29√3 cm²
(d) 30√5 cm²

Q60. A product, whose MRP is Rs 978, is sold for Rs 925 by a wholesale shop owner. What is the percentage of discount given by him?

(a) 9.2%
(b) 6.5%
(c) 5.4%
(d) 7.8%

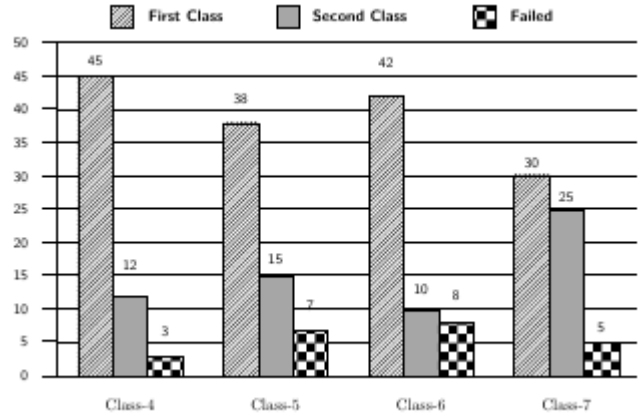
Q61. If x = 1 + √2, then find the value of √x + 1/(√x)

(a) 2.1014
(b) 2.1973
(c) 1.9996
(d) 1.9876

Q62. Which of the following numbers is divisible by 9?

(a) 734895
(b) 594327
(c) 346217
(d) 897342

Q63. The given chart shows the number of students in Class 4, Class 5, Class 6 and Class 7 who got first class, second class and failed in the final examinations.



What is the pass percentage of Class 6?

(a) 86.66%
(b) 90.12%
(c) 87.83%
(d) 89.96%

Q64. Two cars start from the same place at the same time at right angles to each other. Their speeds are 72 km/hr and 54 km/hr, respectively. After 20 seconds the distance between them will be:

(a) 720 m
(b) 480 m
(c) 500 m
(d) 540 m

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Q65. If the difference between two numbers is 6 and the difference between their squares is 60, what is the sum of their cubes ?

(a) 894
(b) 945
(c) 678
(d) 520

Q66. What is the equation of a circle with centre of origin and radius is 6 cm?

(a) $x^2 + y^2 - y = 36$
(b) x2 + y2 - x - y = 36
(c) x2 + y2 - 36 = 0
(d) x2 + y2 - x = 36

Q67. The ratio of tables and chairs in a room is 7 : 9. If there are 560 tables and chairs in the room, then what is the number of chairs ?

(a) 397
(b) 489
(c) 315
(d) 463

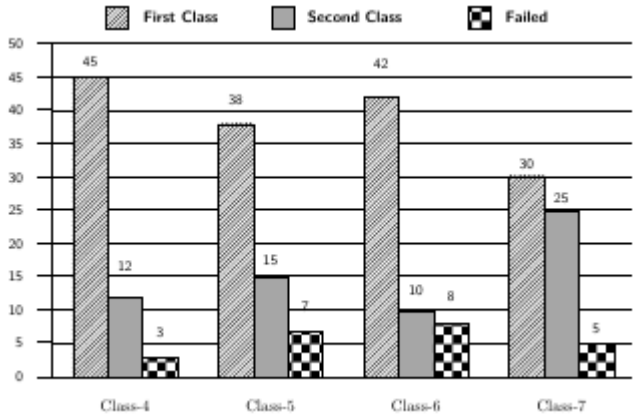
Q68. A chord of length 24 cm is at a distance of 5 cm from the center of a circle. Then what is the area of that circle?

(a) 120 cm^2
(b) 480.67 cm^2
(c) 531.14 cm^2
(d) 389.28 cm^2

Q69. The length and breadth of a rectangle are in the ratio 3 : 2. If its perimeter is 730 cm, what is the area of the rectangle?

(a) 31,974 cm^2
(b) 20,567 cm2
(c) 28,976 cm2
(d) 24,452 cm2

Q70. The given chart shows the number of students in Class 4, Class 5, Class 6 and Class 7 who got first class, second class and failed in the final examinations.

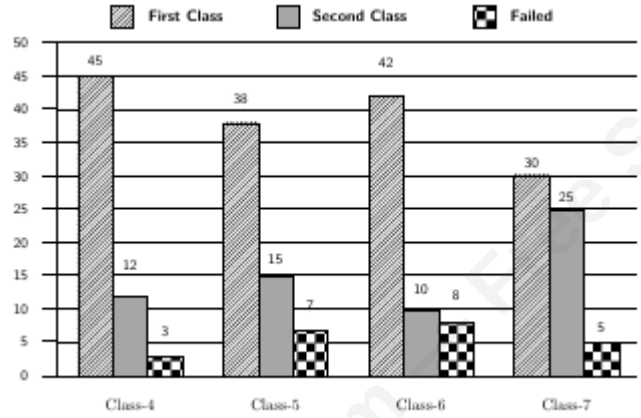


What is the pass percentage of Class 4?

(a) 94.66%
(b) 91.23%
(c) 90.45%
(d) 95%

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Q71. The given chart shows the number of students in Class 4, Class 5, Class 6 and Class 7 who got first class, second class and failed in the final examinations.



Which class has the least number of students who passed?

(a) Class 4
(b) Class 6
(c) Class 5
(d) Class 7

Q72. The sum of two numbers is 59 and their product is 840. Find the sum of their squares.

(a) 2961
(b) 1801
(c) 1875
(d) 1754

Q73. Ram deposited an amount of Rs. 8000 in a bank's savings account with interest 6.5% per annum compounded monthly. What amount will he get at the end of 18 months?

(a) Rs. 8816.97
(b) Rs. 8788.98
(c) Rs. 8907.56
(d) Rs. 8790.54

Q74. The average age of 16 students in a college is 20. Out of them, the average age of 5 students is 20 and the average age of the other 10 students is 20.4. Find the age of the 16th college student.

(a) 24
(b) 16
(c) 20
(d) 22

Q75. By selling an article for Rs 600, a shopkeeper makes a profit of 20%. At what price should he sell the article to incur a loss of 20% ?

(a) Rs. 500
(b) Rs. 400
(c) Rs. 300
(d) Rs. 600

GENERAL AWARENESS

Q76. Which of the following states is the Nizam Sagar Dam situated?

(a) Karnataka
(b) Telangana
(c) West Bengal
(d) Andhra Pradesh

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Q77. Atal Bhujal Yojana (ABY) is related to _____.

(a) employment
(b) climate change
(c) ground water
(d) organic farming

Q78. In which state is the Bankapura Peacock Sanctuary situated?

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

Q79. The first Commonwealth Games were held in _____.

(a) 1925
(b) 1935
(c) 1930
(d) 1920

Q80. The first Regional Rural Bank was established in India in the year:

(a) 1991
(b) 1975
(c) 1982
(d) 1980

Q81. Which instrument was used to detect gravitational waves for the very first time?

(a) GIGO
(b) TRIGO
(c) WIGO
(d) LIGO

Q82. When was the Muslim League founded?

(a) 1906
(b) 1901
(c) 1905
(d) 1903

Q83. What is the approximate length of the navigable inland waterways of India?

(a) 15,600 km
(b) 16,400 km
(c) 14,500 km
(d) 12,800 km

Q84. Python is a _____.

(a) low level language
(b) high level language
(c) machine language
(d) assembly language

Q85. How many windows are there on the outside walls of Hawa Mahal of Jaipur?

(a) 953
(b) 964
(c) 965
(d) 973

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Q86. When did Ibrahim Lodi become the Sultan of Delhi?

(a) 1526
(b) 1517
(c) 1527
(d) 1516

Q87. When was a landmark Motor Vehicles Agreement (MVA) for the Regulation of Passenger, Personal and Cargo Vehicular Traffic signed between sub-grouping of four SAARC nations, Bangladesh, Bhutan, India and Nepal (BBIN)?

(a) 2021
(b) 2015
(c) 2013
(d) 2010

Q88. With which game was Khashaba Dadasaheb Jadhav associated?

(a) Weight lifting
(b) Gymnastic
(c) Shooting
(d) Wrestling

Q89. After which former Indian Prime Minister was Rohtang pass tunnel named, in December 2019?

(a) Atal Bihari Vajpayee
(b) Rajiv Gandhi
(c) Lal Bahadur Shastri
(d) Jawahar Lal Nehru

Q90. Who won the Nobel prize 2019 in literature?

(a) Peter Handke
(b) Olga Tokarczuk
(c) Kazuo Ishiguro
(d) Bob Dylan

Q91. Who won the Miss World 2019 beauty pageant?

(a) Toni-Ann Singh
(b) Suman Rao
(c) Vanessa Ponce de Leon
(d) Manushi Chillar

Q92. What is the tenure of the Chief Election Commissioner of India?

(a) 4 years or up to the age of 65 years, whichever is earlier.
(b) 3 years or up to the age of 65 years, whichever is earlier.
(c) 5 years or up to the age of 65 years, whichever is earlier.
(d) 6 years or up to the age of 65 years, whichever is earlier.

Q93. Linux is _____.

(a) an operating system
(b) an assembly language
(c) a high level language
(d) an interpreter

Q94. Which tissue has heavily thickened lignified walls?

(a) Sclerenchyma
(b) Parenchyma
(c) Aerenchyma
(d) Collenchyma

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Q95. The concept of fundamental duties in the Constitution of India was taken from:

(a) USSR
(b) USA
(c) Germany
(d) Australia

Q96. The term 'white revolution' is related with:

(a) crops
(b) fish
(c) milk
(d) Leather

Q97. Which country publishes the Wisden Cricketers' Almanack - often labelled the 'Bible of cricket'?

(a) Australia
(b) South Africa
(c) New Zealand
(d) United Kingdom

Q98. Dhimsa is an official folk dance of which state?

(a) Karnataka
(b) Maharashtra
(c) Andhra Pradesh
(d) Rajasthan

Q99. Which one of the following pair is an example of Isobars?

(a) Chlorine and oxygen
(b) Calcium and argon
(c) Oxygen and carbon
(d) Hydrogen and helium

Q100. Which country ranked first among 97 countries in breastfeeding rate, according to a new survey conducted by the World Breastfeeding Trends Initiative (WBTi)?

(a) Sri Lanka
(b) India
(c) China
(d) Japan

ANSWER KEY

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

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SOLUTIONS

Q1. Answer: (d) Lair

The solution is in Hindi. Read it online.

Q2. Answer: (d) Panacea

The solution is in Hindi. Read it online.

Q3. Answer: (c) No improvement

The correct answer is No improvement.

Key Points

• An adjective is any member of a class of words that modify nouns and pronouns.

• Let's have a look at the meanings of the given adjectives:

• No- quantifier; used with either mass nouns or plural count nouns for indicating a complete or almost complete lack or zero quantity of

• Any- used to refer to one or some of a thing or number of things, no matter how much or how many

• The adjective 'no' is used with singular/plural countable nouns, whereas 'any' is used with singular countable nouns.

• Both of the adjectives are used in a negative sense and hence can't be used together.

• Since the required structure has already been followed in the given sentence, the 3rd option i.e. No improvement will be the correct choice.

Correct Sentence: There was no sign of recognition on his face when they met after ten years.

Q4. Answer: (b) at the work

The correct answer is at the work.

Key Points

• There are some fixed prepositional phrases given below:

• by the dint of, at work/home, come in contact with something, by the dozen, owing to, on a trip, for a change, etc.

• For example:

• If he’s not at home, he must still be at work.

• The phrase 'at work' means at the place where one works. In this phrase, A/an is not used.

• Thus the 2nd option is the correct choice.

Correct Sentence: We were busy at work and went for lunch only at 2.30 pm.

Additional Information

• There are some verbs/nouns/adjectives which are followed by fixed preposition given below:

• Exonerate from, refrain from, suspicious of, interested in, inured to, accused of, a predilection for, a respite from, vexed at, etc.

• Example:

• **After spending some time on the island they became inured to the hardships.

Q5. Answer: (c) This

The correct answer is This.

Key Points

• The pronouns that connect a clause or phrase to a noun or a pronoun, is called a relative pronoun.

• The demonstrative pronouns are used instead of a noun phrase to indicate distance in time or space in relation to the speaker.

• They also indicate grammatical number – singular or plural.

	singular	plural
near far	this that	these those

• Examples:

• Would you like to share some of this pizza with me?

• I’d like you to put these things away before we go.

• As the noun given after the 1st blank i.e. 'area' is singular and near to the speaker, the 3rd option i.e. This will be used in the 1st blank.

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Q6. Answer: (b) to

The correct answer is to.

Key Points

• There are some fixed prepositional phrases given below:

• by the dint of, out of jealousy, be home to someone/anyone, by the dozen, owing to, on a trip, for a change, etc.

• For example:

• His courtyard was home to a lot of birds.

• The phrase 'be home to someone/anyone' means to be the place where that thing is located or, in the case of living things, where they live.

• Thus the 2nd option i.e. to is the correct choice in the 2nd blank.

Q7. Answer: (c) found

The correct answer is found.

Key Points

• The pronoun that connects a clause or phrase to a noun or a pronoun, is called a relative pronoun.

• The most common relative pronouns are:

• who, whom, what, whose, where, which, that.

• Example:

• We don’t know the person who donated this money.

• You need to tick the box which says yes.

• We use 'who' in relative clauses to refer to people, and sometimes to pet animals. (refer to the above example)

• We use 'which' in relative clauses to refer to animals and things, to introduce defining and non-defining relative clauses.

• We use 'where' to find out the place or position.

• Since no relative pronoun has been used after the noun 'birds', the 3rd option i.e. found (the past participle form of the verb used as an adjective) will be used in the 3rd blank.

Q8. Answer: (a) high

The correct answer is high.

Key Points

• Let's look at the meanings of the given options:-

• high- at a great altitude

• flight- a formation of aircraft in flight

• far- located at a great distance in time or space or degree

• soaring- the act of rising upward into the air

• **As per the possible context of the sentence, the above-mentioned park contains various species of birds (Himalayan monal pheasant for instance) that fly at great altitudes.

• Hence, from the given meanings, we find that the 1st option i.e. high is the correct choice in the 4th blank.

Q9. Answer: (d) landscape

The correct answer is landscape.

Key Points

• Let's look at the meanings of the given options:-

• shore- the land along the edge of a body of water

• scene- the place where some action occurs

• movement- a change of position that does not entail a change of location

• landscape- an expanse of scenery that can be seen in a single view

• **As per the possible context of the sentence, the scenery of the Valley of Flowers National Park is accompanied by the Nanda Devi National Park.

• Hence, from the given meanings, we find that the 4th option i.e. landscape is the correct choice in the 5th blank.

Q10. Answer: (a) Resume duty

The correct answer is Resume duty.

Key Points

• Let's look at the meaning of the given idiom:

• Back in the saddle- doing something that you stopped doing for a period of time

• Example:

• I needed to take a break for a bit, but now, I'm back in the saddle.

• **Thus from the explanation given above, we find that the 1st option is the correct choice.

Additional Information

• Let's look at the origin of the idiom:

• The expression 'get back in the saddle' came into use in the 1800s. The image is of someone, such as a jockey or cowboy, who has fallen off a horse and must get back in the saddle to resume riding the horse. Common wisdom dictates that someone who falls off a horse must immediately return to the saddle in order to conquer the horse's temperament and one's fears.

Q11. Answer: (a) BDAC

The correct answer is BDAC.

Key Points

• While arranging the parts of the passage, we should find some grammatical or contextual connections between them:

• Sentence B introduces us to the subject 'the king getting captured by a tribe'. It is the introductory sentence and will be put in the first place.

• Sentence D tells us about the next step taken by the tribal priest. It will be put in second place.

• Sentence A tells us about the instance when the priest noticed that the king's finger was missing. It will be put in third place.

• The last sentence is C as it tells us the consequences of the above-mentioned instance.

Thus, the correct order is- Once while traveling across a forest, the king was captured by a powerful tribe. The tribal priest decided to sacrifice the king to their God. Just before the sacrifice, however, he noticed that one of the king's fingers was missing. Since it was not acceptable to sacrifice an incomplete person to God, the king was released.

Q12. Answer: (d) assets

The correct answer is assets.

Key Points

• Let's look at the meanings of the given options:

• funding- a reserve of money set aside for some purpose

• reports- a written document describing the findings of some individual or group

• policies- a plan of action adopted by an individual or social group

• assets- a resource with economic value that an individual, corporation, or country owns or controls with the expectation that it will provide a future benefit

• As per the context of the sentence, there is a possibility of doubling the resources of the life insurance sector by ramping up digitisation and leveraging next-generation technologies.

• Hence, from the given meanings, we find that the 4th option i.e. assets is the correct choice.

Correct Sentence: By accelerating digitisation and leveraging next-generation technologies, the life insurance sector can double its assets to Rupees 70 lakh crores, a study said.

Q13. Answer: (c) Dishevelled

The correct answer is Dishevelled.

Key Points

Let's look at the meanings of the given word and marked option:

• Prim- affectedly dainty or refined

• Dishevelled- in disarray; extremely disorderly

Let's look at the meanings of the other given options:

• Principle- a basic generalization that is accepted as true and that can be used as a basis for reasoning or conduct

• Intellectual- of or associated with or requiring the use of the mind

• Mature- fully considered and perfected

Hence from the given meanings, we find that Prim and Dishevelled are antonyms.

Q14. Answer: (c) Inhale

The correct answer is Inhale.

Key Points

• Let's look at the meanings of the given word and marked option:

• Exhale- to expel air
• Inhale- to draw deep into the lungs by breathing
• Let's look at the meanings of the other given options:
• Expel- to force to leave or move out
• Inspire- to heighten or intensify
• Respite- a (temporary) relief from harm or discomfort
• Hence from the given meanings, we find that Exhale and Inhale are antonyms.

Q15. Answer: (c) DABC

The correct answer is DABC.

Key Points

• While arranging the parts of the passage, we should find some grammatical or contextual connections between them:
• Sentence D introduces us to the subject 'Vitamin deficiency'. It is the introductory sentence and will be put in the first place.
• Sentence A tells us about the primary cause of vitamin deficiency. It will be put in second place.
• Sentence B tells us about the consequences one has to face who suffers from vitamin deficiency. It will be put in third place.
• The last sentence is C as it tells us the importance of the absorption of various nutrients through a sound digestive system.

Thus, the correct order is- Vitamin deficiency is not just caused by a lack of vitamins in the diet. Problems in the absorption of vitamins are the main cause of vitamin deficiency. This is the reason why people with metabolic disorders such as obesity, often suffer from vitamin deficiency. Hence, digestion and the absorption mechanism in the body are very important.

Q16. Answer: (c) Systemetic

The solution is in Hindi. Read it online.

Q17. Answer: (a) Supple

The correct answer is Supple.

Key Points

• Let's look at the meanings of the given word and marked option:
• Resilient- able to recoil or spring back into shape after bending, stretching, or being compressed
• Supple- moving and bending with ease
• Let's look at the meanings of the other given options:
• Furious- marked by the extreme and violent energy
• Lazy- moving slowly and gently
• Baseless- without a basis in reason or fact
• Hence from the given meanings, we find that Resilient and Supple are synonyms.

Q18. Answer: (b) were airdropped for animals starving

The correct answer is were airdropped for animals starving.

Key Points

• The simple past tense is used when we talk about things that happened or existed before now.
• The structure is given below:
• Subject + V2 + object. (Active Voice)
• Object + was/were + V3 + by + subject. (Passive Voice)
• Example:
• *He won the car race. *(active voice)
• The car race was won by him. (passive voice)
• Since the sentence follows the passive voice structure and takes place in the past tense, the 3rd form of the verb i.e. airdropped will be used instead of 'airdrop' in the underlined part.

Correct Sentence: Carrots and sweet potatoes were airdropped for animals starving during the tragic bushfires in Australia.

Q19. Answer: (d) Solve the problem

The correct answer is Solve the problem.

Key Points

• Let's look at the meaning of the given idiom:
• Cross that bridge when one comes to it- deal with a problem when and if it arises

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• Example:

• I don't know how we'll pay the bills if you quit your job, but we'll cross that bridge when we come to it.

• **Thus from the explanation given above, we find that the 4th option is the correct choice.

Additional Information

• Let's look at the origin of the idiom:

• Don't cross the bridge until you come to it is an English language idiom cliché. Though the history of where the phrase came from is unclear, it is believed to have originated from a proverb by Henry Wadsworth Longfellow.

Q20. Answer: (b) what that

The correct answer is what that.

Key Points

• The pronoun that connect a clause or phrase to a noun or a pronoun, is called a relative pronoun.

• The most common relative pronouns are:

• who, whom, what, whose, where, which, that.

• Example:

• We don’t know the person who donated this money.

• You need to tick the box which says yes.

• We use 'who' in relative clauses to refer to people, and sometimes to pet animals. (refer to the above example)

• We use 'which' in relative clauses to refer to animals and things, to introduce defining and non-defining relative clauses.

• We use 'where' to find out the place or position.

• Two relative pronouns can't be put together, hence 'that' will be removed from the part given in the 2nd option.

Correct Sentence: No matter what the mother did the baby didn’t stop crying.

Additional Information

• We use the objective case of pronoun after all the prepositions.

• Example:

• I believe in him. (Him-Objective case of 'He')

Q21. Answer: (c) Experts said, “Several steps are being taken to promote foreign trade as it constitutes 45% of the country’...

The correct answer is Experts said, “Several steps are being taken to promote foreign trade as it constitutes 45% of the country’s economy”.

Key Points

The indirect speech is in the assertive form, let's look at the steps to change the sentence from indirect to direct speech:

• The reporting verb said will remain the same as no object has been mentioned after it.

• The connector 'that' is replaced by a comma and inverted commas.

• The tense of indirect/reported speech is changed only when the reporting verb is in the past tense.

• The verb (passive voice) in the past continuous tense will be changed to the present continuous tense in direct speech resulting in the following changes:

• were being taken - are being taken.

• constituted - constitutes. (past simple into present simple)

At last, line up the remaining part, following these steps, we finally get - Experts said, “Several steps are being taken to promote foreign trade as it constitutes 45% of the country’s economy”.

Q22. Answer: (b) Happen

The correct answer is Happen.

Key Points

• Let's look at the meanings of the given word and marked option:

• Occur- take place

• Happen- to exist or begin to exist because of an action, situation, or event

• Let's look at the meanings of the other given options:

• Hasten- to act or move at high speed

• Hinder- to be a hindrance or obstacle to

• Hamper- to prevent the progress or free movement of
• Hence from the given meanings, we find that Occur and Happen are synonyms.

Q23. Answer: (d) The research paper was written by Jiya with the help of her tutor.

The correct answer is The research paper was written by Jiya with the help of her tutor.

Key Points

• The given sentence is in an active voice form, hence we need to convert it into a passive voice form.
• Find the subject (Jiya) and object (the research paper) of the sentence and exchange their places.
• The given sentence is in the simple past tense. The passive verb form for simple past is:
• was/were + past participle form of the verb.
• So, 'wrote' changes to 'was written'.
• At last line up the remaining part.

Following these steps, we get - The research paper was written by Jiya with the help of her tutor.

Q24. Answer: (c) up

The correct answer is up.

Key Points

• Let's look at the meanings of the following phrasal verbs:
• bring in- move something indoors
• bring out- elicit, evoke, or emphasize a particular quality
• bring up- to raise a child
• bring over- to take someone or something from one place to the place where someone else is, especially their home
• As per the context of the sentence, Madhuri took care of her sister's daughter after her parents passed away.
• The phrasal verb 'bring up' will be the correct choice in the blank part of the sentence.

Correct Sentence: Madhuri is bringing up her sister’s daughter after the death of the child’s parents.

Q25. Answer: (b) Capricious

The correct answer is Capricious.

Key Points

• Let's look at the meaning of the marked option:
• Capricious- changing mood or behaviour suddenly and unexpectedly
• Example:
• He was a cruel and capricious tyrant.

Let's look at the correct spelling and meaning of the other given options:

• Avalanche- a slide of large masses of snow and ice and mud down a mountain
• Ecstasy- a state of being carried away by overwhelming emotion
• Complaisant- showing a cheerful willingness to do favors for others

Q26. Answer: (d) 122

The logic is:

$3^2 + 1 = 9 + 1 = 10$

$52 + 1 = 25 + 1 = 26$

$72 + 1 = 49 + 1 = 50$

$92 + 1 = 81 + 1 = 82$

$112 + 1 = 121 + 1 = 122$

Hence, '122' is the correct answer.

Q27. Answer: (b) 26

The total number of triangles in the given figure is shown below:

Hence, ‘26’ is the correct answer.

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Q28. Answer: (d) [figure]

When the mirror is placed on line PQ in the question figure, the answer figure that is the correct mirror image of the question figure is shown below:

Hence, 'option 4' is the correct answer.

Q29. Answer: (a) yyrsx

1) yyrsx

Given: rtx_sx_z_txy_ _ yz

After filling the blanks with the letters in the option given above, we get:

rtxysxyz / rtxysxyz

A particular pattern is repeating itself when the sequence is divided into two equal parts.

2) yyrxs

Given: rtx_sx_z_txy_ _ yz

After filling the blanks with the letters in the option given above, we get:

rtxysxyz / rtxyxsyz

No particular pattern is repeating itself when the sequence is divided into two equal parts.

3) sysyx

Given: rtx_sx_z_txy_ _ yz

After filling the blanks with the letters in the option given above, we get:

rtxssxyz / stxyyxyz

No particular pattern is repeating itself when the sequence is divided into two equal parts.

4) yxyrs

Given: rtx_sx_z_txy_ _ yz

After filling the blanks with the letters in the option given above, we get:

rtxysxxzytxyrsyz

No particular pattern is repeating itself when the sequence is divided into two equal parts.

Hence, 'yyrsx' is the correct answer.

Q30. Answer: (b) [figure]

The answer figure that when placed in the blank space of the question figure will complete the pattern is shown below:

Hence, 'option 2' is the correct answer.

Q31. Answer: (d) • and ÷

1) + and –

Given equation: (72 ÷ 18) + 30 × 8 − 4 = 20

After interchanging the signs, we get:

L.H.S. = (72 ÷ 18) - 30 × 8 + 4

= 4 – 240 + 4

= 8 – 240

= -232 ≠ R.H.S

2) + and ×

Given equation: (72 ÷ 18) + 30 × 8 − 4 = 20

After interchanging the signs, we get:

L.H.S. = (72 ÷ 18) × 30 + 8 − 4

= 4 × 30 + 8 – 4

= 120 + 8 – 4

= 128 – 4

= 124 ≠ R.H.S

3) × and ÷

Given equation: (72 ÷ 18) + 30 × 8 − 4 = 20

After interchanging the signs, we get:

L.H.S. = (72 × 18) + 30 ÷ 8 − 4

= 1296 + 3.75 – 4

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= 1299.75 – 4
= 1295.75 ≠ R.H.S
4) + and ÷
Given equation: (72 ÷ 18) + 30 × 8 − 4 = 20
After interchanging the signs, we get:
L.H.S. = (72 + 18) ÷ 30 × 8 − 4
= 90 ÷ 30 × 8 – 4
= 3 × 8 – 4
= 24 – 4
= 20 = R.H.S.
Hence, '+ and ÷' is the correct answer.

Q32. Answer: (b) [figure]

The figure in which the question figure is embedded when Rotation is not allowed is shown below:
Hence, 'option 2' is the correct answer.

Q33. Answer: (a) R38T

The pattern followed here is:
According to the alphabetical positions of the letters,
Similarly,
Hence, 'R38T' is the correct answer.

Q34. Answer: (c) G

The pattern followed here is:
According to the alphabetical positions of the letters,
Hence, 'G' is the correct answer.

Q35. Answer: (b) NM

The pattern followed here is:
According to the alphabetical positions of the letters,
Instead of 'NM', it should be 'MN' in the series.
Hence, 'NM' is the correct answer.

Q36. Answer: (a) Seed

The logic is:
Butter : Milk → Butter is obtained from milk.
Similarly,
Oil : ? → Oil is obtained from oil seeds (endosperm) of some plants.
Hence, 'seed' is the correct answer.

Q37. Answer: (d) 39

The logic is:
First diagram: 13 + 108 = 11^2
=> 121 = 11^2
Second diagram:
26 + 55 = 92
=> 81 = 92
Similarly,
Third diagram: ? + 157 = 142
=> ? + 157 = 196
=> ? = 196 - 157
=> ? = 39
Hence, '39' is the correct answer.

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Q38. Answer: (c) 52477

All numbers except '52477' are even numbers, while '52477' is an odd number.

Hence, '52477' is the odd one out.

Q39. Answer: (b) Laboratory : Scientist

The logic is:

Ship : Sailor → Sailor is a person who works on a ship or a person who sails a boat.

Similarly,

Laboratory : Scientist → Scientist is a person who works in a Laboratory.

Hence, 'Laboratory : Scientist' is the correct answer.

Q40. Answer: (a) 9

The total number of triangles in the given figure is shown below:

Hence, '9' is the correct answer.

Q41. Answer: (b) 40

The logic is:

Hence, '40' is the correct answer.

Q42. Answer: (a) 111

The sum of the ages of a mother, daughter and son is 96 years.

Mother + Daughter + Son = 96

Sum of their ages after 5 years = 96 + 5 × 3

= 96 + 15

= 111

Hence, '111' is the correct answer.

Q43. Answer: (d) JMWHTHCKF

The pattern followed here is:

According to the alphabetical positions of the letters,

Similarly,

Hence, 'JMWHTHCKF' is the correct answer.

Q44. Answer: (d) CHARCH

The logic is:

2	1	4	6	7	3
S	E	A	R	C	H

7	3	4	5	6
C	H	A	I	R

9	6	1	4	7	3
P	R	E	A	C	H

Similarly,

7	3	4	6	7	3
C	H	A	R	C	H

Hence, 'CHARCH' is the correct answer.

Q45. Answer: (c) HIH

The pattern followed here is:

According to the alphabetical positions of the letters,

Hence, 'HIH' is the correct answer.

Q46. Answer: (b) 101

The logic is:

19 : 23 → 19 + 4 = 23

Similarly,

97 : ? → 97 + 4 = 101

Hence, '101' is the correct answer.

Q47. Answer: (b) Only C

The person who likes all the given eating materials is shown below:

C likes meat, and the shaded area shows that C likes both milk and bread.

Therefore, only C is the person who likes all the eating materials.

Hence, 'Only C' is the correct answer.

Q48. Answer: (a) [figure]

The paper when unfolded will appear as shown below:

Hence, 'option 1' is the correct answer.

Q49. Answer: (d) Only conclusion I follows.

The least possible Venn diagram is:

(I) Some dogs are cats. → True (As, Some cats are dogs)

(II) Some cats are trees. → False (As, there is no definite relation between cats and trees. Hence, false)

Hence, only conclusion I follows.

Q50. Answer: (b) 21

The logic is:

First diagram: 9 × 13 + 13 = 130

Second diagram: 14 × 9 + 9 = 135

Similarly,

Let the missing number is x.

Third diagram: 7 × x + x = 168

=> 8x = 168

=> x = 168 ÷ 8

=> x = 21

Hence, '21' is the correct answer.

Q51. Answer: (b) 44 over 125

Given:

$\sin\theta = 4/5$

Formula Used:

$\sin3\theta = 3\sin\theta - 4\sin^3\theta$

Calculation:

$\sin3\theta = 3\sin\theta - 4\sin3\theta$

$\Rightarrow \sin3\theta = 3(4/5) - 4(4/5)^3$

$\Rightarrow \sin3\theta = 12/5 - 256/125$

$\Rightarrow \sin3\theta = 44/125$

Therefore The answer is 44/125.

Q52. Answer: (a) Class 4

From the Graph,

The number of student passed in class 4 = 45 + 12 = 57

The number of student passed in class 5 = 38 + 15 = 53

The number of student passed in class 6 = 42 + 10 = 52

The number of student passed in class 7 = 30 + 25 = 55

57 > 55 > 53 > 52

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Therefore the highest number of student passed in class 4

Q53. Answer: (b) 68.4

Given:

The difference between a number and one-third of that number is 228.

Calculation:

Let number be x

According to Question,

x - (1/3)x = 228

=> 2x/3 = 228

=> x = 228 × 3/2 = 342

20% of the number = (20/100) × 342 = 68.4

Therefore 20% of the number is 68.4.

Q54. Answer: (a) π over 4

Given

2in2x - 1 = 0

Formula Used

Radian = (π/180) × angle in degree

Calculation

=> 2sin2x - 1 = 0

=> 2sin²x = 1

=> sinx = 1/√2

=> x = 45°

=> x (In radian) = (π/180) × 45° = π/4

Therefore the value of x is π/4

Q55. Answer: (b) 14.6969 cm²

Given:

The side of the triangle is 5, 6 and 7 cm

Formula Used:

Area of triangle = √[s(s - a)(s - b)(s-c)], where s = semiperimeter of the triangle

Semiperimeter (S) = (1/2) × Sum of sides of the triangle

Calculation:

Semiperimeter (s) = (a + b + c)/2 = (5 + 6 + 7)/2 = 9

=> Area of the triangle = √[s(s - a)(s - b)(s-c)]

=> √[9(9 - 5)(9 - 6)(9 - 7)] = √(9 × 4 × 3 × 2) = 14.69 cm²

Therefore the area of the triangle is 14.69 cm2

Q56. Answer: (a) 294

Calculation

According to question,

(1/5) of (3/8) of (1/3) of 11760

=> (1/5) × (3/8) × (1/3) × 11760 = 294

Therefore Required answer is 294.

Q57. Answer: (a) 89 over 39

Given:

cotθ = 80/39

Formula Used:

cosec²θ - cot²θ = 1

Calculation:

cosec²θ - (80/39)² = 1

=> cosecθ = √(1 + (80/39)² = 89/39

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Therefore The required value of cosecθ is 89/39

Q58. Answer: (a) 4 over 9

Given:
Smith can do the work in 12 days
Ajit can do the same work in 18 days
Formula used:
Work = Time × Efficiency
Calculation:
Take the LCM (12, 18) = 36
=> let the total work be 36 units
Efficiency of Smith = 36/12 = 3 units/day
Efficiency of Ajit = 36/18 = 2 units/day
Work completed by them in 4 days = (3 + 2) × 4 = 20 units
=> Remaining Work = 36 - 20 = 16 units
=> Fraction of remaining work of the total work = 16/36 = 4/9
Therefore Fraction of remaining work of the total work is 4/9.

Q59. Answer: (b) 48√3 cm²

Given:
Height of the equilateral triangle = 12 cm
Formula Used:
Height of triangle = (√3/2) × side of an equilateral triangle
Area of an equilateral triangle = (√3/4) × side²
Calculation:
Side of the triangle = (2/√3) × 12 = 8√3
Area of the triangle = (√3/4) × (8√3)²
=> (√3/4) × 64 × 3 = √3 × 16 × 3 = 48√3 cm²
Therefore The area of equilateral triangle is 48√3 cm²
Traditional Method
Height = 12 cm
Height = √3/2 × Side
12 = √3/2 × Side
Side = 24/√3 cm
Area of Eq Triangle = √3/4 × Side2
Area of Eq Triangle = (√3/4) × (24/√3) × (24/√3)
=> 6 × 24/√3
Now 6 can be written as 2 × √3 × √3
=> 2 × √3 × √3 × 24/√3 = 48√3 cm2

Q60. Answer: (c) 5.4%

Shortcut Trick
Discount Percentage = (Discount ÷ MRP) × 100
Discount = 978 − 925 = 53
Discount % = (53 ÷ 978) × 100 ≈ 5.4%
Therefore The correct answer is 5.4%.
Alternate Method
Given:
MRP (Marked Price) = Rs. 978
SP (Selling Price) = Rs. 925
Formula Used:
Discount = MRP − Selling Price
Discount % = (Discount / MRP) × 100

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Calculations:
=> Discount Amount = 978 − 925 = 53
=> Discount % = (53 ÷ 978) × 100
=> Discount % = 5300 ÷ 978
=> Discount % ≈ 5.419%
Therefore The correct answer is 5.4%.
Additional Information
Marked Price (MRP)
The price printed on the product label, also known as the List Price or Tag Price. Discounts are always calculated on this value.
Successive Discounts
When two discounts d1% and d2% are given, the Effective Discount = (d1 + d2 − (d1 × d2)/100)%.
Profit/Loss Base
While Discount is calculated on Marked Price, Profit or Loss is always calculated on the Cost Price (CP).

Q61. Answer: (b) 2.1973

Given:
$x = 1 + \sqrt{2}$
Concept Used:
$a^2 + b^2 = (a + b)^2 - 2ab$
Calculation:
$x = 1 + \sqrt{2}$
$\Rightarrow 1/x = 1/(1 + \sqrt{2})$
$\Rightarrow 1/x = (\sqrt{2} - 1)/(\sqrt{2} + 1) \times (\sqrt{2} - 1)$
$\Rightarrow 1/x = (\sqrt{2} - 1)$
Now,
$x + 1/x = \sqrt{2} + 1 + \sqrt{2} - 1$
$\Rightarrow (\sqrt{x} + 1/\sqrt{x})^2 - 2 = 2\sqrt{2}$
$\Rightarrow (\sqrt{x} + 1/\sqrt{x})^2 = 2 + 2\sqrt{2}$
$\Rightarrow (\sqrt{x} + 1/\sqrt{x}) = \sqrt{4.8284}$ [$\sqrt{2} = 1.414$]
$\Rightarrow (\sqrt{x} + 1/\sqrt{x}) = 2.1973$
Therefore $(\sqrt{x} + 1/\sqrt{x}) = 2.1973$

Q62. Answer: (a) 734895

Concept used:
divisibility rule of 9 : If Sum of all digit is divisible by 9, then the number will be divisible by 9
Calculation:
=> From options
=> We consider option (1), number = 734895
=> sum of digit = 7 + 3 + 4 + 8 + 9 + 5 = 36
=> 36 is divisible by 9, so number is also divisible by 9
Therefore 734895 is divisible by 9

Q63. Answer: (a) 86.66%

From the Graph
Total Number of student of class 6 = 42 + 10 + 8 = 60
Number of student who pass of class 6 = 42 + 10 = 52
=> Pass percentage of class 6 = (52/60) × 100 = 86.66%
Therefore the pass percentage of class 6 is 86.66%

Q64. Answer: (c) 500 m

Given:
Speed of 1st car = 72 km/hr
speed of 2nd car = 54 km/hr

Formula Used:

x km/hr = x × (5/18) m/s

Distance = time × speed

Calculation:

The speed of the 1st car = 72 km/hr = 72 × 5/18 = 20 m/s

=> The distance "AB" travelled by car in 20 seconds is = 20 × 20 = 400 m

The speed of the 2nd car = 54 km/hr = 54 × 5/18 = 15 m/s

=> The distance "BC" travelled by car in 20 seconds is = 15 × 20 = 300 m

Since two cars are moving at right angles to each other, so we will apply the Pythagoras theorem to find the distance between them.

The distance "AC" between them after 20 seconds is, $\sqrt{(AB^2 + BC^2)}$

$=>\sqrt{(400^2 + 300^2)}$

=> √25000

=> 500 m

Therefore After 20 seconds the distance between them will be 500 m.

Q65. Answer: (d) 520

Given:

The difference between 2 numbers = 6

Formula Used:

$a^2 - b^2 = (a - b)(a + b)$

Calculation:

Let two number be a and b respectively [Where a > b]

Accordingly,

a - b = 6 ----(1)

And,

$a2 - b^2 = 60$

$=> 60 = (a + b)(a - b)$

$=> 60 = 6(a + b)$

$=> (a + b) = 10$ ----(2)

From (1) and (2) get,

a = 8, b = 2

Sum of their cube = $a^3 + b^3 = 8^3 + 2^3 = 512 + 8 = 520$

Therefore The sum of their cube is 520.

Q66. Answer: (c) x2 + y2 - 36 = 0

Given:

Radius of circle = 6 cm

Formula Used:

Equation : $(x - x1)^2 + (y - y1)^2 = c^2$

Where (x1, y1) is the center of the circle and c is the radius of the circle

Calculation:

The center is at the origin

So here, x1 = 0, y1 = 0

Radius of the circle (c) = 6 cm

Equation of circle is

(x - 0)2 + (y - 0)2 = 62

$=> x^2 + y^2 - 36 = 0$

Therefore The required equation of the circle is x2 + y2 - 36 = 0.

Q67. Answer: (c) 315

Shortcut Trick

Sum of ratio parts = 7 + 9 = 16 units

Total items given = 560
1 unit = 560 ÷ 16 = 35
Number of chairs (9 units) = 9 × 35 = 315
Therefore The correct answer is 315 chairs.
Alternate Method
Given: Ratio of tables to chairs = 7 : 9. Total tables and chairs = 560.
Formula Used: Value of a part = (Ratio of part ÷ Sum of ratios) × Total Value
=> Let the number of tables be 7x and chairs be 9x.
=> 7x + 9x = 560
=> 16x = 560
=> x = 560 ÷ 16 = 35
=> Number of chairs = 9 × 35 = 315
Therefore The correct answer is 315 chairs.
Additional Information
Ratio and Proportion
If a total quantity Q is divided in ratio a:b, then the first part is (a/(a+b)) × Q and the second part is (b/(a+b)) × Q.
Compound Ratio
For two ratios a:b and c:d, the compound ratio is (a × c) : (b × d).

Q68. Answer: (c) 531.14 cm²

Given:
Length of the chord = 24 cm
Formula Used:
If a perpendicular is drawn from the center of a triangle to any chord of the circle then the perpendicular will bisect the chord into two equal part.
(Hypotnuese)² = (perpendicular)² + base²
Area of circle = πR²
Calculation:
In ΔOAC, OA = radius of triangle
AC = 1/2(AB) [we know that, chord is divide in equal part by perpendicular from center to the chord]
=> $OA^2 = (AC)^2 + (OC)^2$
=> $OA = \sqrt{(12^2 + 5^2)} = 13$
Area of circle = πR²
=> $(22/7) \times 13^2$
=> 531.14 cm²
Therefore The area of the circle is 531.14 cm²

Q69. Answer: (a) 31,974 cm²

Given
Perimeter of Rectangle = 730 cm
Formula Used
Perimeter of rectangle = 2(L + B),
Area of rectangle = L × B, where L = length and B = Breadth
Calculation
=> let the length and breadth be 3x and 2x respectively
=> Perimeter = 730 cm
=> 2(5x) = 730
=> x = 73
so, length = 3x = 3 × 73 = 219 cm
Breadth = 2x = 2 × 73 = 146 cm
Area of rectangle = 219 × 146 = 31974 cm²
Therefore The area of rectangle is 31974 cm²

Q70. Answer: (d) 95%

Given:

	First-class	Second class	Third class
Class 4	45	12	3
Class 5	38	15	7
Class 6	42	10	8
Class 7	30	25	5

Concept used:

Total number of student in class 4 = 45 + 12 + 3 = 60

Number of student who passed in class 4 = 45 + 12 = 57

Pass percentage of class 4 = (57/60) × 100 = 95%

Therefore The pass percentage of class 4 is 95%

Q71. Answer: (b) Class 6

Given:

	First-class	Second class	Third class
Class 4	45	12	3
Class 5	38	15	7
Class 6	42	10	8
Class 7	30	25	5

Calculation:

=> The number of student passed in class 4 = 45 + 12 = 57

=> The number of student passed in class 5 = 38 + 15 = 53

=> The number of student passed in class 6 = 42 + 10 = 52

=> The number of student passed in class 7 = 30 + 25 = 55

Therefore The least number of student passed in class 6

Q72. Answer: (b) 1801

Shortcut Trick

The sum of squares of two numbers is given by the formula: $(Sum)^2 - 2 \times (Product)$.

=> Sum of squares = $59^2 - (2 \times 840)$

=> Sum of squares = $3481 - 1680$

=> Sum of squares = 1801

Therefore The correct answer is 1801.

Alternate Method

Given:

Sum of two numbers $(x + y) = 59$

Product of the numbers $(xy) = 840$

Formula Used:

We use the algebraic identity: $(x + y)^2 = x^2 + y^2 + 2xy$

Calculations:

=> $(59)^2 = x^2 + y^2 + 2 \times 840$

=> $3481 = x^2 + y^2 + 1680$

=> $x^2 + y^2 = 3481 - 1680$

=> $x^2 + y^2 = 1801$

Therefore The correct answer is 1801.

Additional Information

Square of a Difference

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The identity for the square of a difference is $(a - b)^2 = a^2 + b^2 - 2ab$. It can be related to the sum of squares as $a^2 + b^2 = (a - b)^2 + 2ab$.

Relationship between Identities

The two identities are linked by: $(a + b)^2 - (a - b)^2 = 4ab$. This is useful for finding the difference between numbers when the sum and product are known.

Difference of Two Squares

The formula $a^2 - b^2 = (a + b)(a - b)$ is another fundamental identity used to factorize the difference of two quadratic terms.

Q73. Answer: (a) Rs. 8816.97

Given

Principal = Rs 8000

Rate of interest = 6.5% per month

Formula Used

Amount = principal(1 + R/100)^t

Calculation

=> Amount = 8000[1 + 6.5/(12 × 100)]^(18)

=> Amount = 8000(1.0054)^(18)

=> Amount = 8000(1.1021) = 8816.97

Therefore The amount he will get at the end of 18 months is Rs 8816.97

We know that, by Binomial thorem,

$(1 + r)^n \approx 1 + nr + n(n - 1)/2 \times r^2 + ...$

Monthly interest rate, r = (6.5/12)%

Now, we can calculate the amount = 8000 × {1 + 18 × (6.5/12)% + (18 × 17)/2 × [(6.5/12)%]²}

Amount ≈ 8000 × {1 + 0.097 + 0.003}

Amount ≈ 8000 × 1.1 ≈ 8800

So, from the options, we can conclude that Rs 8816.97 will be the correct solution.

Important Points

Note that, in doing the second method, we only need to know, the binomial theorem, a basic two-power calculation to get the solution that is nearest to our required actual solution.

Q74. Answer: (b) 16

Given

The average age of 16 student = 20

the average age of 5 student = 20

Formula used

Average = Sum of observation/No. of observation

Calculation

Total age of 16 student = 16 × 20 = 320

=> Total age of 5 student = 5 × 20 = 100

=> Total age of 10 student = 10 × 20.4 = 204

=> Let the age of 16th student be x

=> 320 = 100 + 204 + x

=> x = 16

Therefore The age of 16th college student is 16.

Q75. Answer: (b) Rs. 400

Given

Selling price of an article at 20% profit = Rs 600

Formula Used

Cost price = selling price/(100 + profit%) × 100

Selling price = cost price/100 × (100 - loss%)

Calculation

Cost price = (600/120) × 100 = Rs 500

Selling price = (500/100) × 80 = Rs 400

Therefore The selling price of an article at 20% loss is Rs 400

Q76. Answer: (b) Telangana

The correct answer is Telangana.

• Nizam Sagar Dam is situated in Telangana.

Key Points

• Nizam Sagar Dam:

• The dam is located in Telangana.

• It is situated on the Manjira River.

• It was built in 1923 by Mir Osman Ali Khan, the then ruler of Hyderabad.

• Manjira river is a tributary of the Godavari.

• The Godavari originates from Trimbakeshwar in Nashik.

• It is also known as Dakshin Ganga

• Other tributaries of Godavari: Penganga, Wardha, Indravati, Sabri.

Additional Information

• Tungabhadra Project is on the river Tungabhadra in Karnataka.

• Nagarjuna Sagar Project is on Krishna in Andhra Pradesh.

• The main dam of the Mayurakshi Project, known as the Massanjore Dam (or Canada Dam), is indeed located in Dumka, Jharkhand.

Q77. Answer: (c) ground water

The correct answer is groundwater.

• Atal Bhujal Yojana (ABY) is related to groundwater.

Key Points

• Atal Bhujal Yojana (ABY):

• Atal Bhujal Yojana (ATAL JAL) is a Central Sector Scheme of the Ministry of Jal Shakti.

• The scheme was launched on 25th December 2019 on the special occasion of the 95th birth anniversary of former PM Atal Bihari Vajpayee.

• The aim of the scheme is to improve groundwater management through community participation.

• The States included in the Atal Bhujal Yojana are Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan and Uttar Pradesh.

Q78. Answer: (d) Karnataka

The correct answer is Karnataka.

• Bankapura Peacock Sanctuary is situated in Karnataka.

Key Points

• Bankapura Peacock Sanctuary:

• The sanctuary is famous for peacocks is situated in Karnataka.

• The sanctuary is located inside the Bankapura Fort.

• The sanctuary has more than 1000 peacocks.

• Other national parks and sanctuaries in Karnataka are Bandipur National Park, Nagarhole National Park, Dandeli Wildlife Sanctuary, Bhadra Wildlife Sanctuary, Ranganathittu Bird Sanctuary, Bannerghatta National Park and Kabini.

Additional Information

State	National Parks and Wildlife Sanctuary
Rajasthan	• Ranthambore National Park - Sariska National Park - Desert National Park - Keoladeo National Park - Kumbhalgarh Wildlife Sanctuary - Mount Abu Wildlife Sanctuary - Ramgarh Vishdhari Sanctuary - Mukundara Tiger Reserve
Maharashtra	• Chandoli National Park - Gugamal National Park - Nawegaon National Park - Sanjay Gandhi National Park - Tadoba National Park

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Madhya Pradesh	• Kanha National Park - Bandhavgarh National Park - Madhav National Park - Sanjay National Park - Van Vihar National Park - Satpura National Park - Pachmarhi - Pench National Park - Mandla Plant Fossils National Park

Q79. Answer: (c) 1930

The correct answer is 1930.

• The first Commonwealth Games were held in 1930.

Key Points

• The 1st Commonwealth Games were held in 1930 at Hamilton, Canada.

• After Olympics, Commonwealth Games is the second-largest sports festival in the world.

• The Games are held once in four years but only in between the Olympic years.

• The 1st Commonwealth Games were held in 1930 at Hamilton, Canada.

• India participated for the first time in the second Commonwealth games held in London in 1934.

Additional Information

• The Commonwealth Games is a festival of sports of the Commonwealth countries.

• Since 1930, the games have been conducted every four years except for 1942 and 1946.

• The 2018 Commonwealth Games were held in Goldcoast, Australia.

• The 2022 Commonwealth Games will be held in Birmingham, England.

Q80. Answer: (b) 1975

The correct answer is 1975.

• The first Regional Rural Bank was established in India in the year 1975.

Key Points

• Regional Rural Banks:

• The Regional Rural Banks (RRBs) are the newest form of banks that came into existence since the middle of the 1970s.

• It was sponsored by individual nationalised commercial banks with the objective of developing the rural economy by providing crediting and depositing facilities for agriculture and other productive activities of all kinds in rural areas.

• Regional Rural Banks (RRBs) were set up under the terms of the 26 September 1975 ordinance and the RRB Act of 1976.

• First Regional Rural Bank was established on 2 October 1975.

• The Prathama Bank of Moradabad, Uttar Pradesh was the first RRB.

• Currently, there are 43 RRBs in India.

Additional Information

• Oudh Commercial Bank was the first complete Commercial Bank of India.

• The Imperial Bank was established in the year 1921 by merging three main Presidency Banks.

• It was later rechristened as State Bank of India in 1955.

• Nationalisation of Banks was done in 1969.

Q81. Answer: (d) LIGO

The correct answer is LIGO.

• LIGO was used to detect gravitational waves for the very first time.

Key Points

• LIGO is Laser Interferometer Gravitational-Wave Observatory.

• It is located in Richland, Washington.

• In 2015, scientists detected gravitational waves for the very first time.

• A gravitational wave is an invisible ripple in space.

• These first gravitational waves occurred when two black holes crashed into one another.

• The collision took place 1.3 billion years ago. But, the ripples didn’t make it to Earth until 2015.

• Causes of a gravitational wave are:

• When a star explodes asymmetrically.

• When two big stars orbit each other.

• When two black holes orbit each other and merge.

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Q82. Answer: (a) 1906

The correct answer is 1906.

• The Muslim League was founded in 1906.

Key Points

• Formation of the Muslim League:

• It was set up in 1906 AD, under the leadership of Aga Khan, Nawab Salimullah of Dhaka and Nawab Mohsin-ul-Mulk.

• Aga Khan was the first president of the Muslim League.

• It supported the partition of Bengal, opposed the Swadeshi Movement, and demanded special safeguards for its community and a separate electorate for the Muslims.

• Muhammad Ali Jinnah joined the Muslim league in 1913.

• In 1930, Iqbal suggested the union of the Frontier Province–Baluchistan, Sindh and Kashmir–as a Muslim state within the federation.

• Chaudhry Rehmat Ali invented the term ‘Pakstan’ (later ‘Pakistan’) in 1935 AD.

• The Lahore Session of the Muslim League was held in March 1940 AD.

• Pakistan Resolution was passed and the Federal scheme was rejected as envisaged in the Government of India Act, 1935 AD.

Q83. Answer: (c) 14,500 km

The correct answer is 14,500 km.

• The approximate length of the navigable inland waterways of India is 14,500 km.

Key Points

• As per the National Waterways Act, 2016 a total of 111 have been declared as National Waterways (NW).

• The waterway from Haldia to Allahabad was made a National Waterway in 1986.

• The Inland Waterways Authority of India (IWAI) came into existence on 27 October 1986.

Additional Information

• Inland Waterways:

• Rivers, lakes, canals, backwaters and reservoirs primarily constitute the source for inland waterways.

• A stretch of water, not part of the sea, over which craft of a carrying capacity not less than 50 tonnes can navigate when normally loaded is called a navigable inland waterway.

Q84. Answer: (b) high level language

The correct answer is high-level language.

• Python is a high-level language.

Key Points

• Python

• It is a high-level language.

• It allows programming in Object-Oriented and Procedural paradigms.

• The language was created by Guido van Rossum.

• It was first released in 1991.

• It is used for web development (server-side), software development, mathematic, and system scripting.

• It can work on platforms like Windows, Mac, Linux, Raspberry Pi, etc

Additional Information

• Machine language and Assembly language are an example of a low-level language.

• Machine language is a low-level language that is comprised of binary digits i.e. ones and zeros.

• An assembly language is a language designed for a specific type of processor.

Q85. Answer: (a) 953

The correct answer is 953.

• There are 953 windows on the outside walls of Hawa Mahal of Jaipur.

Key Points

• Hawa Mahal was built by Maharaja Sawai Pratap Singh in 1799.

• Red and pink sandstone was used for constructing this marvellous monument.

• The construction was done in the shape of the crown because Sawai Pratap Singh was believed to be a great devotee of Lord Krishna and wanted to look it like Krishna’s crown.

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• The Hawa Mahal was made to allow royal ladies to watch the daily drama in the street below, without being noticed.
• It reflects a fusion of Islamic Mughal and Hindu Rajput architecture.

Q86. Answer: (b) 1517

The correct answer is 1517.
• Ibrahim Lodhi becomes the sultan of Delhi in 1517.

Key Points
• Ibrahim Lodhi:
• He was the last king of the Lodi dynasty and the last sultan of Delhi.
• He was the son of Sikandar Lodi.
• Daulat Khan Lodi, the Governor of Punjab, invited Bahur to overthrow Ibrahim.
• He captured Gwalior and was defeated by Rana Sanga of Mewar.
• Ibrahim Lodi was defeated and killed at the hands of Babur in the First Battle of Panipat in 1526 AD.

Additional Information
• Administration:
• The head of the military department was called Ariz-i-Mamalik.
• Diwan-i-Risalat dealt with the religious matter. The Qazi dispensed civil law based on Muslim law (Sharia).
• Diwan-i-Insha headed by Dahir-i-Mumalik managed the royal correspondence.
• The rulers posted intelligence agents called Barids in different parts of the empire.

Q87. Answer: (b) 2015

The correct answer is 2015.
• Motor Vehicles Agreement (MVA) for the Regulation of Passenger, Personal and Cargo Vehicular Traffic signed between sub-grouping of four SAARC nations, Bangladesh, Bhutan, India and Nepal (BBIN) was passed in 2015.

Key Points
• Motor Vehicles Agreement:
• India, Nepal, Bhutan and Bangladesh signed a Motor Vehicles Agreement (MVA) for the Regulation of Passenger, Personal and Cargo Vehicular Traffic among the four South Asian neighbours in Thimpu, Bhutan.
• The act will facilitate a way for a seamless movement of people and goods across their borders for the benefit and integration of the region and its economic development.
• The MVA Agreement was signed by the Union Minister of Road Transport & Highways and Shipping Mr Nitin Gadkari with Mr Obaidul Quader, Minister of Road Transport and Bridges of Bangladesh, Mr Lyonpo D. N. Dhungyel, Minister of Information and Communications, Bhutan, and Mr Bimalendra Nidhi, Minister of Physical Infrastructure and Transport, Nepal.

Additional Information
• South Asian Association for Regional Cooperation (SAARC):
• SAARC was established in Dhaka on 8 December 1985 with the signing of the SAARC Charter.
• The Headquarters and Secretariat of the SAARC are at Kathmandu, Nepal.
• It consists of countries like Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, Sri Lanka.
• Afghanistan became the newest member at the 13th annual summit of SAARC in 2005.
• There are nine Observers to SAARC they are Australia, China, the European Union, Iran, Japan, the Republic of Korea, Mauritius, Myanmar and the United States of America.

Q88. Answer: (d) Wrestling

The correct answer is Khashaba Dadasaheb Jadhav.
• Khashaba Dadasaheb Jadhav is associated with wrestling.

Key Points
• The First Indian to Win an Olympic Bronze is Khashaba Jadhav.
• Khashaba Dadasaheb Jadhav is associated with wrestling.
• The word associated with Wrestling is Freestyle, Hal Nelson, Point, Heave, etc.
• The famous person associated with wrestling is as follows: Sakshi Malik, Sushil Kumar Solanki, Udey Chand, Jatindra Charan Goho, Khashaba Dadasaheb Jadhav (K D Jadhav), Yogeshwar Dutt.

Additional Information

Sport	Famous person	Terminologies

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Weightlifting	Karnam Malleswari, Bharti Singh, Neelam Setti Laxmi, Saikhom Mirabai Chanu	Snatch, Jerk.
Gymnastics	Vir Singh, Khushi Ram, Pritam Singh, Sham Lal, Anant Ram, Dipa Karmarkar	Floor exercise, Pommel horse, Rings, Vault, Parallel bars, Horizontal bar.
Shooting	Saurabh Chaudhary, Rahi Sarnobat, Abhishek Verma, Divyansh Singh Panwar, Manu Bhaker	Rapidfire Pistol, Standard rifle, Air rifle, Free pistol, Range, Bull's eye.

Q89. Answer: (a) Atal Bihari Vajpayee

The correct answer is Atal Bihari Vajpayee.

• Rohtang Pass in Himachal Pradesh after former prime minister Atal Bihari Vajpayee in a tribute to him on his 95th birth anniversary.

Key Points

• Rohtang Tunnel connects Manali to Lahaul-Spiti valley.

• The tunnel is 9.02 km long.

• It is built in the Pir Panjal Range of the Himalayas at an altitude of 3000 metres from the Mean Sea Level (MSL).

• The tunnel is also known as the World's longest highway tunnel.

• It was built by Border Roads Organisation (BRO).

Q90. Answer: (a) Peter Handke

The correct answer is Peter Handke.

• Peter Handke won the Nobel prize 2019 in literature.

Key Points

• Peter Handke was awarded the 2019 Nobel prize in literature for an influential work that with linguistic ingenuity has explored the periphery and the specificity of human experience.

• The first man to win Nobel Prize for Literature was Sully Prudhomme.

• Nobel Prize:

• The Nobel Prizes are given under the will of Alfred Bernhard Nobel, who died in 1896.

• Nobel Prizes are given each year in the six fields.

• The Nobel Prizes for Peace, Physics, Chemistry, Medicine, and Literature were started in 1901.

• The Nobel Prize for Economics was started in 1968.

• The prize-awarding bodies are the Swedish Academy of literature awards the Prize in Literature.

• The Royal Swedish Academy of Sciences awards the prize in Physics and Chemistry.

• The Nobel Assembly of Karolinska Chirurgical (Sweden) awards the prize in Medicine (Physiology).

• The Bank of Sweden awards the Prize in Economics.

• The Committee of the Norwegian Parliament awards the prize for Peace.

Additional Information

• In 2018, Olga Tokarczuk won the Man Booker International Prize for her novel Flights.

• The 2016 Nobel Prize in Literature was awarded to Bob Dylan.

• Kazuo Ishiguro won the 2017 Nobel Prize for Literature.

Q91. Answer: (a) Toni-Ann Singh

The correct answer is Toni-Ann Singh.

• Toni-Ann Singh won the Miss World 2019 beauty pageant.

Key Points

• Toni-Ann Singh won the 69th Miss World beauty pageant.

• It was the first time in history that a black woman held the titles of Miss USA, Miss Teen USA, Miss America, Miss Universe and Miss World.

• The runners up were Ophély Mézino from France and Suman Rao from India.

Additional Information

• Vanessa Ponce de Leon was crowned Miss World 2018.

• Manushi Chillar was the winner of Miss World 2017

• Reita Faria Powell became the first Indian to win the Miss World title in 1966.

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• Sushmita Sen is the first Indian woman to win the Miss Universe contest in 1994.

Q92. Answer: (d) 6 years or up to the age of 65 years, whichever is earlier.

The correct answer is 6 years or up to the age of 65 years, whichever is earlier.

• Chief Election Commissioner has a tenure of 6 years, or up to the age of 65 years, whichever is earlier.

Key Points

• The President appoints the Chief Election Commissioner, who has a tenure of 6 years, or up to the age of 65 years, whichever is earlier.

• The Chief Election Commissioner enjoys the same status and receives the same salary and perks as available to Judges of the Supreme Court.

• The Chief Election Commissioner can be removed from his office only in a manner and on the grounds prescribed for removal of Judge of the Supreme Court.

• Other Election Commissioners can be removed by the President on the recommendation of the Chief Election Commissioner.

Additional Information

• The Election Commission has the power of superintendence, direction, and conduct of all elections to Parliament and the State Legislatures.

• It also conducts elections in the offices of the President and Vice-President.

Q93. Answer: (a) an operating system

The correct answer is an operating system.

• Linux is an operating system.

Key Points

• Linux was created in 1991 by Linus Torvalds and the Free Software Foundation (FSF).

• It is an open-source Unix-like operating system.

• An operating system helps users interact with the computer.

Additional Information

• Machine language and Assembly language are an example of a low-level language.

• Machine language is a low-level language that is comprised of binary digits i.e. ones and zeros.

• An assembly language is a language designed for a specific type of processor.

Q94. Answer: (a) Sclerenchyma

The correct answer is Sclerenchyma.

Sclerenchyma tissue has heavily thickened lignified walls.

Key Points

Sclerenchyma tissue:

• Sclerenchyma support tissue is composed of various kinds of hard woody cells.

• Mature cells are usually dead that have heavily thickened secondary walls containing lignin.

• Sclerenchyma cells occur in different shapes and sizes, its two main types are:

• fibres

• sclereids

• Fibres are greatly elongated cells whose long, tapering ends interlock each other thus providing maximum support to a plant.

• Sclereids are variable in shape and are present in various tissues of the plant, such as the periderm, cortex, pith, xylem, and phloem.

Additional Information

Parenchyma, tissue is composed of living cells that are thin-walled, unspecialized in structure, and therefore adaptable, with differentiation, to various functions.

Aerenchyma tissue contains enlarged gas spaces.

• It is formed either as part of normal development or in response to stress.

Collenchyma supports the tissue of living elongated cells with irregular cell walls.

• These cells have thick deposits of cellulose in their cell walls and appear polygonal in cross-section.

Q95. Answer: (a) USSR

The correct answer is USSR.

• The concept of fundamental duties in the Constitution of India was taken from the Union of Soviet Socialist Republics (USSR).

Key Points

• Fundamental Duties:

• In 1976, the Fundamental Duties of citizens were added by the 42nd Constitutional Amendment Act on the basis of the Swaran Singh Committee Report.

• Earlier there were 10 Fundamental Duties.

• to provide opportunities for education to his child or ward between the age of 6 to 14 years.

• This duty was added by the 86th Constitutional Amendment Act, 2002.

• According to Article 51A, of Part IV A, it shall be the duty of every citizen of India:

• to abide by the Constitution and respect its ideals and institutions, the National Flag and the National Anthem;

• to cherish and follow the noble ideals that inspired the national struggle for freedom;

• to uphold and protect the sovereignty, unity, and integrity of India;

• to promote harmony and the spirit of common brotherhood amongst all the people of India transcending religious, linguistic and regional or sectional diversities and to renounce practices derogatory to the dignity of women;

• to defend the country and render national service, when called upon to do so;

• to value and preserve the rich heritage of the country's composite culture;

• to protect and improve the natural environment including forests, lakes, rivers, and wildlife and to have compassion for living creatures;

• to develop scientific temper, humanism and the spirit of inquiry and reform;

• to safeguard public property and to abjure violence;

• to strive for excellence in all spheres of individual and collective activity.

• to provide opportunities for education to his child or as the case may be ward between the age of six and fourteen years.

• to strive toward excellence in all spheres of individual and collective activity so that the nation constantly rises to higher levels of endeavor and achievement;

Additional Information

Source	Features
Constitution of USA	Independence of judicial review, fundamental rights, removal of Supreme Court and High Court judges, Preamble and functions of President and Vice-President.
Weimar Constitution of Germany	Provisions concerning the suspension of fundamental rights during an emergency.
Australian Constitution	Concurrent List, Provision Regarding Trade, Commerce and industry, Languages of the Preamble.

Q96. Answer: (c) milk

The correct answer is Milk.

• White revolution is related to Milk.

Key Points

• The Father of Operation Flood was Dr Verghese Kurien.

• Operation Flood was the largest integrated dairy development Programme in the world.

• The speedy increase in the field of milk production is called White Revolution.

• To increase the pace of the White Revolution, Operation Flood was started.

Additional Information

• It was started by National Dairy Development Board in 1970.

• Green Revolution is related to crops.

• Blue Revolution is related to Fish.

• Brown Revolution is related to Leather.

Q97. Answer: (d) United Kingdom

The correct answer is the United Kingdom.

• The United Kingdom publishes the Wisden Cricketers' Almanack - often labelled the 'Bible of cricket'.

Key Points

• Wisden Cricketers' Almanack is an annual publication founded in 1864.

• It is named after John Wisden.
• He was also known as “the Little Wonder”.
• Each Wisden Almanack contains details of all the international cricket played in the previous calendar year.

Additional Information

• Cricket:
• The first official cricket test match was played in the year 1877 between Australia and England in Melbourne.
• Imperial Cricket Conference was formed in 1909, which gave birth to International Cricket Conference in 1956.
• The First One Day International cricket match was played in the year 1971 between England and Australia in Melbourne.
• The first World Cup of one-day matches was played in 1975 in London.
• The apex institution of world cricket is the ‘International Cricket Council’ (ICC) and its headquarters are now in Dubai.
• The ICC was founded in 1909.
• The Board of Control for Cricket in India (BCCI) was formed in 1928.

Q98. Answer: (c) Andhra Pradesh

The correct answer is Andhra Pradesh.

• Dhimsa is an official folk dance of Andhra Pradesh.

Key Points

• Dhimsa dance is for both men and women.
• This dance is done to establish friendship between the neighbouring villages.
• The tribes hold this dance during the months of March and April.
• Instruments in this dance include the Mori, Kiridi, Tudumu, Dappu and Jodukommulu.
• Boda Dhimsa and Gunderi Dhimsa are their types.
• Other folk dance of Andhra Pradesh includes Kuchipudi, Vilasini Natyam, Andhra Natyam, Bhamakalpam, Veeranatyam, Dappu, Tappeta Gullu, Lambadi, Kolattam, Butta Bommalu.

Additional Information

State	Folk Dance
Karnataka	Huttari, Suggi, Kunitha, Karga, Lambi, Yakshagan.
Maharashtra	Lavani, Nakata, Koli, Lezim, Gafa, Bohada.
Rajasthan	Jhulan Leela, Jhuma, Suisini, Ghapal, Kalbeliya,Ghumar, Chakri.

Q99. Answer: (b) Calcium and argon

The correct answer is Calcium and argon.

Explanation:

• Calcium and argon are examples of a pair of Isobars. Calcium and argon have a mass number of 40. The atomic number of argon 18 and an atomic number of calcium is 20.
• Isobars:
• These are atoms of the elements having the same mass number but different atomic numbers.
• They differ in the chemical property but has the same physical property.
• Example: argon, potassium and calcium.
• The mass number is the sum of a number of protons and neutrons in an atom of the elements is called the mass number.
• It is denoted by A.
• The atomic number is the number of proton or electrons in an atom of the element is called the atomic number.
• It is denoted by Z.

Additional Information

• Isotopes: These are atoms of the elements having the same atomic number but a different mass number.
• The isotopes of hydrogen are Protium, Deuterium and Tritium
• Isotones: These are atoms of different elements having the same number of neutrons.
• Isoelectronic: These are atoms/molecules/ ions containing the same number of electrons.

Q100. Answer: (a) Sri Lanka

The correct answer is Sri Lanka.

• Sri Lanka ranked first among 97 countries in breastfeeding rate, according to a new survey conducted by the World Breastfeeding Trends Initiative (WBTi).

Key Points

• World Breastfeeding Trends Initiative (WBTi):

• It was launched in the year 2004 by the experts at the Breastfeeding Promotion Network of India which is based in Delhi.

• 120 countries across the world have been involved in the initiative.

• Sri Lanka scored 91 out of 100 points and topped the survey.

• Sri Lanka was followed by countries like Cuba, Bangladesh, Gambia and Bolivia.

• India was ranked at 78th place with a score of 45.

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