SSC CHSL 2020 Official Paper 31 (Held on: 11 Aug 2021 Shift 1) (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 INCORRECTLY spelt word.

(a) allowance
(b) acceptence
(c) existence
(d) forbearance

Q2. Select the most appropriate ANTONYM of the given word.

Exclusive

(a) Expansive
(b) Extensive
(c) Incisive
(d) Inclusive

Q3. Select the option that can be used as a one-word substitute for the given group of words.

Certain to happen

(a) Inevitable
(b) Ineffective
(c) Unexpected
(d) Avoidable

Q4. Sentences of a paragraph are given below in jumbled order. Arrange the sentences in the right order to form a meaningful and coherent paragraph.

A. In other words, chess and basketball are contests.

B. As games, chess and basketball are obviously different from leapfrog and playing house.

C. One can win a game of basketball, but it makes no sense to ask who has won a game of leapfrog.

D. The first two games are competitive, the second two are not.

(a) ACDB
(b) DCBA
(c) BDCA
(d) BCAD

Q5. Select the most appropriate synonym of the given word.

CORDIAL

(a) Capable
(b) friendly
(c) unwilling
(d) hostile

Q6. Select the most appropriate option to substitute the underlined segment in the given sentence. If there is no need to substitute it, select 'No substitution required'.

Most of us hesitate to accept our mistakes.

(a) More of us
(b) No substitution required
(c) Lots many of us
(d) Much of us

Q7. Given below are four jumbled sentences. Out of the given options, select the one that gives its correct order.

A. He told his friends that his difficulties were a sign of God's confidence in him.

B. A businessman remained cheerful even though he suffered one catastrophe after another.

C. Therefore, when he was serving in the armed forces too, his senior officer had chosen him for dangerous missions because he knew he could be trusted.

D. First, his son had a serious accident and then he had huge losses in his business, but he was not perturbed.

(a) BCDA
(b) BDAC
(c) BACD
(d) BCAD

Q8. Select the most appropriate option to substitute the underlined segment in the given sentence. If there is no need to substitute it, select 'No substitution'.

If you tries to dictate your terms, I don't think we can work together.

(a) have try
(b) try
(c) were tried
(d) No substitution

Q9. Select the most appropriate meaning of the given idiom.

Off and on

(a) not soon
(b) every day
(c) sometimes but not regularly
(d) again and again

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

ABUNDANCE

(a) Scarcity
(b) gaiety
(c) generousity
(d) bounty

Q11. Select the most appropriate meaning of the given idiom.

Hang on every word

(a) Stop after hearing one word
(b) Listen very carefully
(c) Stammer while speaking
(d) Speak very slowly

Q12. The following sentence has been divided into parts. One of them may contain an error. Select the part that contains the error from the given options. If you don't find any error, mark 'No error' as your answer.

There is constant friction / between the executive members / of the Association

(a) between the executive members
(b) There is constant friction
(c) of the Association

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(d) No error

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

Travail

(a) Adventure
(b) Agony
(c) Journey
(d) Excursion

Q14. Select the option that expresses the given sentence in passive voice.

Arvind delivered the packet at the address given by Asha.

(a) The packet had been delivered at the address given by Arvind.
(b) The packet was delivered by Arvind at the address given by Asha
(c) The packet was being delivered by Arvind at the address given by Asha.
(d) Asha delivered the packet at the address given by Arvind.

Q15. Select the word which means the same as the group of words given.

People existing or living at the same time

(a) inhabitants
(b) community
(c) contemporaries
(d) population

Q16. In the given sentence, identify the segment which contains a grammatical error.

Each players must play according to his full potential and not think only about winning.

(a) must play
(b) according to
(c) only about winning
(d) Each players

Q17. Select the most appropriate word to fill in the blank.

Everything in the village was grown organically as the majority of the population indulged in farming for _____.

(a) nourishment
(b) nutrition
(c) sustenance
(d) maintenance

Q18. Select the INCORRECTLY spelt word.

(a) Doubtful
(b) Desscent
(c) Subtle
(d) Knead

Q19. Select the correct indirect form of the given sentence.

Sarita said to me, “I’m glad I did not leave my village.”

(a) Sarita told me I am glad she had not left her village.
(b) Sarita told me that she was glad she had not left her village.
(c) Sarita told me she is glad she had not left her village
(d) Sarita told me she was glad she was not leaving her village.

Q20. Select the most appropriate word to fill in the blank.

Doctors and nurses who are treating COVID-19 patients are finding it difficult _____ long working hours.

(a) to carry on
(b) to service for

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(c) to cope with
(d) for manage with

Directions

Direction: In the following passage, some words have been deleted. Select the most appropriate option to fill in each blank.

The short story in literature is usually concerned with a single effect conveyed in only one or (1) ___ few significant episodes or scenes. The (2)_ encourages economy of setting, (3)_ narrative, and the omission of a (4) _ plot; character is disclosed in action and a (5) ___ encounter but is seldom fully developed. Despite its relatively limited scope, though, a short story is often judged by its ability to provide a 'complete' or satisfying treatment of its characters and subject.

Q21. Select the most appropriate option to fill in blank no.1.

(a) a
(b) the
(c) limited
(d) little

Q22. Select the most appropriate option to fill in blank no.2.

(a) practice
(b) Procedure
(c) form
(d) shape

Q23. Select the most appropriate option to fill in blank no.3.

(a) concise
(b) lengthy
(c) long
(d) curt

Q24. Select the most appropriate option to fill in blank no.4.

(a) Compound
(b) slight
(c) fused
(d) complex

Q25. Select the most appropriate option to fill in blank no.5.

(a) harmonious
(b) melodious
(c) balanced
(d) dramatic

GENERAL INTELLIGENCE

Q26. Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusions logically follow(s) from the statements.

Statements:

All racks are books.

All racks are pens.

Conclusions:

I. All pens are books.

II. Some books are pens.

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

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(d) Neither conclusion I nor II follows.

Q27. Select the number from among the given options that can replace the question mark (?) in the following series.
89, 79, 71, ?, 53, 43

(a) 69
(b) 63
(c) 67
(d) 61

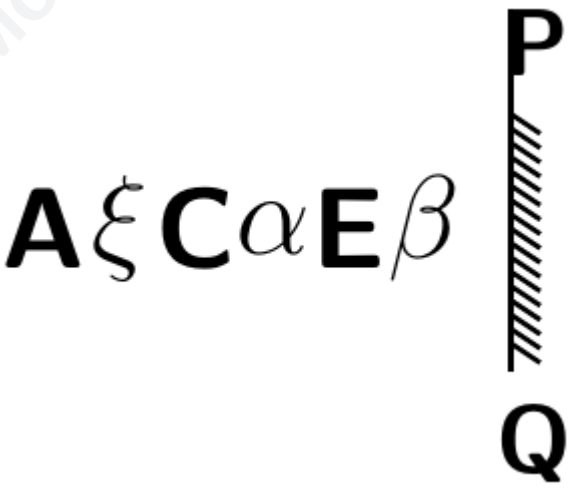
Q28. Three of the following number-pairs are alike in a certain way and one is different. Select the odd one.

(a) 181 : 12
(b) 271 : 15
(c) 305 : 16
(d) 398 : 18

Q29. A kid's mother's father-in-law's daughter is Rashmi, whose daughter is Pihoo. How is Pihoo related to the kid?

(a) Aunt
(b) Sister
(c) Niece
(d) Cousin

Q30. Select the correct mirror image of the given figure when the mirror is placed at the right side.



(a)



(b)



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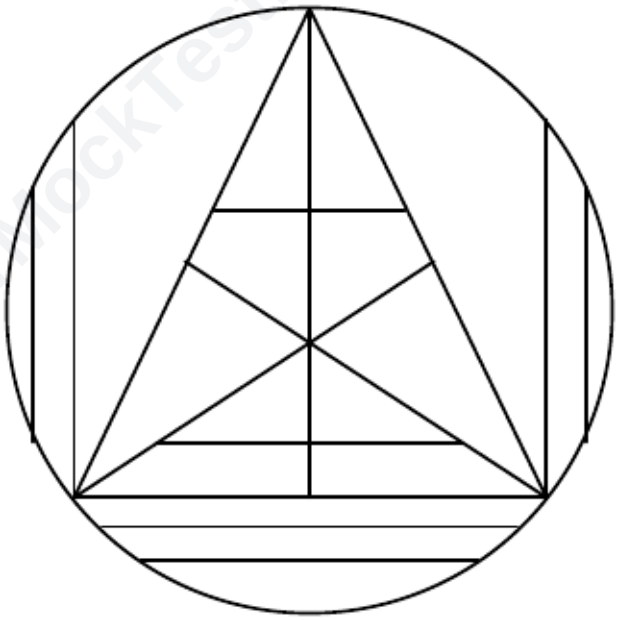
(c)



(d)



Q31. Find the number of triangles in the following figure.

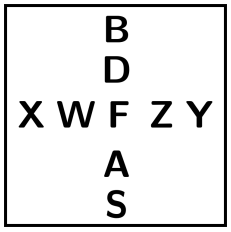


(a) 22
(b) 23
(c) 21
(d) 20

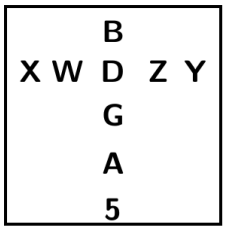
Q32. Select the figure that can replace the question mark (?) in the following figure series.



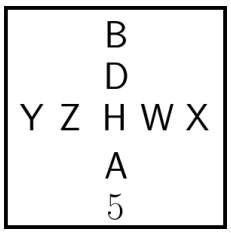
(a)



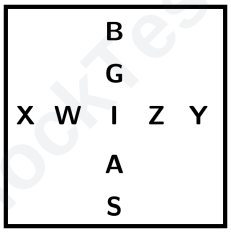
(b)



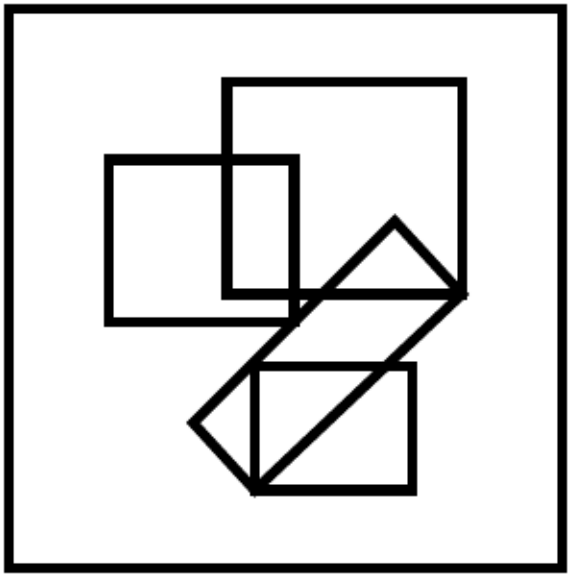
(c)



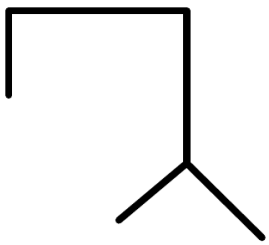
(d)



Q33. Select the option that is embedded in the given figure (rotation is NOT allowed).

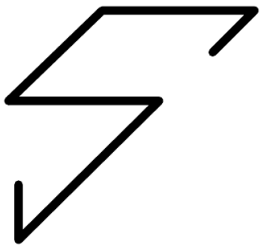


(a)

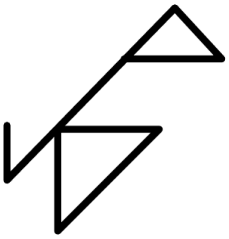


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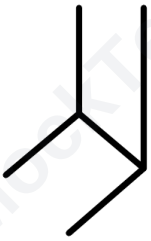
(b)



(c)



(d)



Q34. Which option represents the correct order of the given words as they would appear in an English dictionary?

1. Pamphlet
2. Paleface
3. Painless
4. Partiality
5. Pabulums

(a) 5, 3, 2, 1, 4
(b) 5, 2, 3, 1, 4
(c) 5, 2, 1, 3, 4
(d) 5, 3, 1, 2, 4

Q35. Four words are given, three of which are alike in a certain way and one is different. Select a different word.

(a) Grunt
(b) Bleat
(c) Growl
(d) Waddle

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

9 : 99 : : 15 : ?

(a) 255
(b) 552
(c) 252
(d) 525

Q37. Select the combination of letters that when sequentially placed in the blanks of the given series will complete the series.

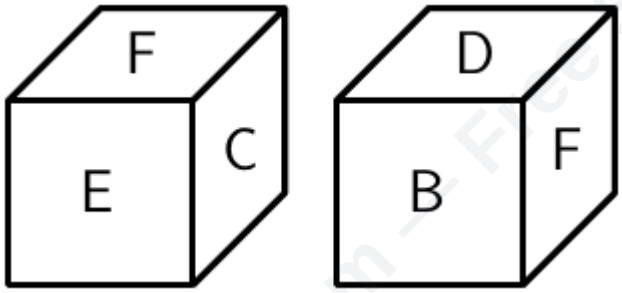
K _ T Z _ Y _ M _ Z O _ K _ T _ O Y

(a) M O T T Y N Z

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(b) M N K T Y K Z
(c) M O T Y K M Z
(d) M O K T Y M Z

Q38. Two different positions of the same dice are shown. Select the letter that will be on the face opposite to the face showing "c",

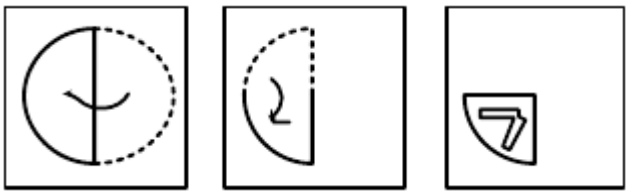


(a) B
(b) A
(c) D
(d) F

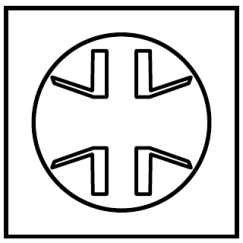
Q39. In an entrance test, Tiwari scored 25% marks and failed by 64 marks. If he had scored 40% marks, then he would have secured 32 marks more than the pass marks. Find the pass marks.

(a) 250
(b) 295
(c) 224
(d) 150

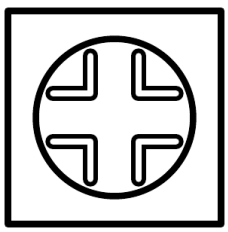
Q40. The sequence of folding a piece of paper and the manner in which the folded paper has been cut are shown in the following figures. How would this paper look when unfolded?



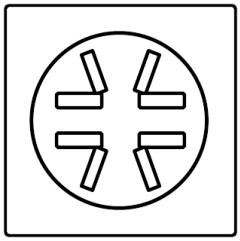
(a)



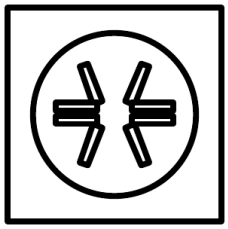
(b)



(c)



(d)



Q41. Select the word-pair in which the two words are related in the same way as are the two words in the given word-pair.
Resistance : Ohm

(a) Ampere : Current
(b) Pressure : Watt
(c) Volume : Joule
(d) Angle : Radians

Q42. Select the alternative which has the same relation with the third word as the second word with the first word.
Totally : Overall :: Out of Control : ?

(a) Usual
(b) Erroneous
(c) Growth
(d) Unruly

Q43. Select the set in which the numbers are related in the same way as are the numbers of the following set.
(697, 13, 866)

(a) (541, 14, 737)
(b) (747, 25, 1423)
(c) (832, 8, 887)
(d) (651, 16, 940)

Q44. In a certain code language, PROMISE is written as WXTQLUF. How will MELTING be written in that language?

(a) SJPWKOG
(b) SKRZOTM
(c) TKQXLPH
(d) TLSAPUN

Q45. Select the option that is related to the third term in the same way as the second term is related to the first term.
PAINTER : AEINPRT :: GLAMOUR : ?

(a) MALGRUO
(b) ALGOMRU
(c) AGLMORU
(d) RUOMALG

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Q46. Which two digits and signs need to be interchanged so as to balance the given equation?

26 ÷ 6 − 54 + 24 × 8 = 174

(a) 8 and 6; × and ÷

(b) 6 and 4; − and ×

(c) 4 and 2; + and ÷

(d) 5 and 8; × and +

Q47. Three of the following four letter-clusters are alike in a certain way and one is different. Select the odd one.

(a) UPITG

(b) CXQBO

(c) EZSFV

(d) IDWHU

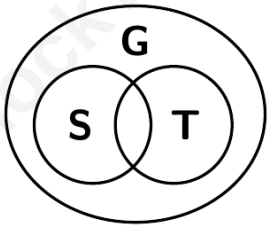
Q48. Read the below statements disregarding commonly known facts and then from the given four options, identify the Venn diagram that correctly represents the statements.

Statements:

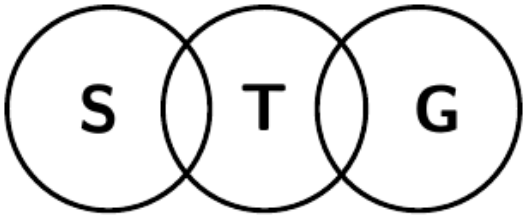
Some Shirts are Towels.

Some Towels are Gloves.

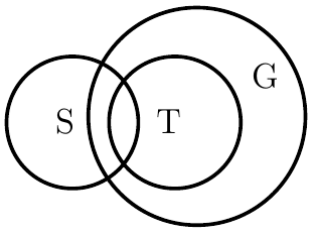
(a)



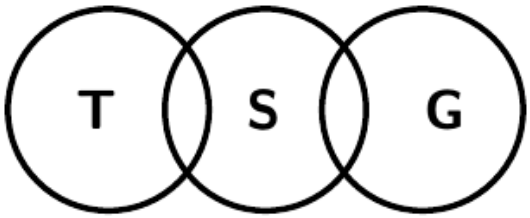
(b)



(c)



(d)



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Q49. If CALENDAR is coded as 91452313 and FACEMASK is coded as 210142316, then how will SECURITY be coded as?

(a) 723933210
(b) 729952310
(c) 723593120
(d) 723953210

Q50. Select the option in which the numbers are related in the same way as are the numbers of the following set.

25 : 75 : 150

(a) 36 : 108 : 324
(b) 18 : 126 : 253
(c) 13 : 26 : 104
(d) 29 : 36 : 72

QUANTITATIVE APTITUDE

Q51. X can complete half of the work in 20 days and Y can do one-fifth of the same work in 10 days. X started the work and left after 8 days. Then Y took over to complete the remaining work. The total number of days taken by them to complete the work is:

(a) 50 days
(b) 40 days
(c) 48 days
(d) 60 days

Q52. How many bricks each measuring 64 cm × 11.25 cm × 6 cm, will be needed to build a wall measuring 8 m × 3 m × 22.5 m?

(a) 250000
(b) 200000
(c) 67500
(d) 125000

Q53. If O is the centroid and RP is the median with length 24 cm of Δ RST, where P is a point on ST, then the value of RO is:

(a) 20 cm
(b) 16 cm
(c) 18 cm
(d) 14 cm

Q54. The marked price of an article is Rs. 660. A shopkeeper allows a discount of 20% and still gets a profit of 10%. If he sells it for Rs. 470, his profit or loss per cent, correct to two decimal places will be:

(a) Loss 5.43%
(b) Profit 7.59%
(c) Profit 3.06%
(d) Loss 2.08%

Q55. If $3x + 5y = 14$ and $xy = 6$, then what is the value of $9x^2 + 25y^2$?

(a) 20
(b) 14
(c) 182
(d) 16

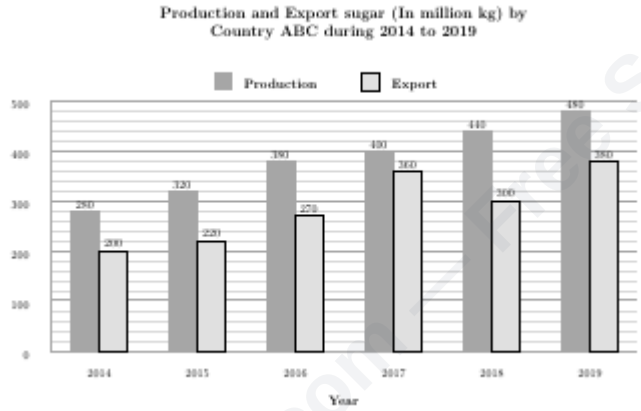
Q56. When a number is divided by 3, the remainder is 2. Again, when the quotient is divided by 7, the remainder is 5. What will be the remainder when the original number is divided by 21?

(a) 13
(b) 16

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(c) 14
(d) 17

Q57. Study the given graph and answer the question that follows.



By what percentage is the average export of sugar in 2016, 2017 and 2018 less than the production in 2017?

(a) 25.8%
(b) 20%
(c) 29%
(d) 22.5%

Q58. If $3 \sin^2 A + 4 \cos^2 A - 3 = 0$, then the value of cot A (where $0 \leq A \leq 90°$) is:

(a) 0
(b) 1
(c) ∞
(d) not defined

Q59. If $a^2 + b^2 + c^2 + 48 = 8(a + b + c)$, then what is the value of $\text{cbrt}(a^3-b^3+c^3)$?

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

Q60. A 9-cm-long perpendicular is drawn from the center of circle to a chord of length 24 cm. The radius of the circle is:

(a) 15 cm
(b) 20 cm
(c) 12 cm
(d) 18 cm

Q61. Study the table and answer the question that follows:

In the given table, production of five different types of machines (A, B, C, D, E) in the years from 2016 to 2020 (in thousands) is given.

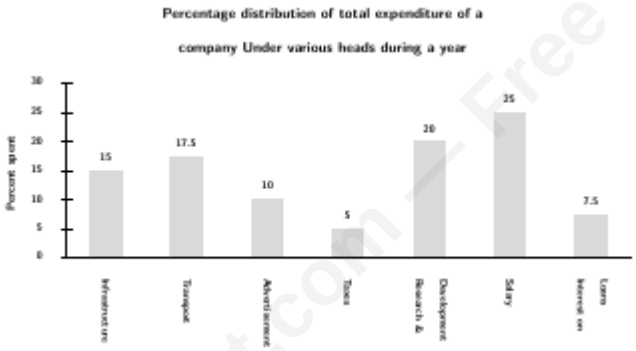
Machines	Years				
2016	2017	2018	2019	2020	
A	46	53	56	58	67
B	50	65	67	66	72
C	43	54	55	47	51
D	47	52	61	65	74
E	48	58	63	64	67

What is the ratio of the total production of type A machines in 2018 and type E machines in 2019 to the total production of

type C and type D machines in 2016?

(a) 4 : 3
(b) 2 : 5
(c) 3 : 4
(d) 5 : 2

Q62. Study the given graph and answer the question that follows.



If the Interest on Loans amounted to Rs. 4.50 crores, then the total expenditure on Advertisement, Taxes, Research & Development and Salary is:

(a) Rs. 36 crores
(b) Rs. 34 crores
(c) Rs. 32 crores
(d) Rs. 30 crores

Q63. The value of $(\sec\theta \operatorname{cosec}\theta)/(2+\tan^2\theta+\cot^2\theta)$ is equal to:

(a) $\sec\theta \operatorname{cosec}\theta$
(b) $\cos\theta \operatorname{cosec}\theta$
(c) $\sec\theta \sin\theta$
(d) $\sin\theta \cos\theta$

Q64. If x^4 + x^(-4) = 47, x > 0, then the value of $(2x - 3)^2$ is:

(a) 7
(b) 5
(c) 3
(d) 9

Q65. If Δ ABC ~ Δ QPR, (ar(Δ ABC))/(ar(Δ PQR))=4/9, AC = 12 cm, AB = 18 cm and BC = 10 cm, then PR (in cm) is equal to:

(a) 15
(b) 8
(c) 10
(d) 18

Q66. The value of $[(\sin^2 27°+\sin^2 63°)/(\cos^2 24°+\cos^2 66°)-\sin^2 69°-\cos 69°\sin 21°]$ is:

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

Q67. A bus covered 360 km in 6 hours. If it travels at one-fourth of its usual speed, then how much more time will it take to cover the same distance?

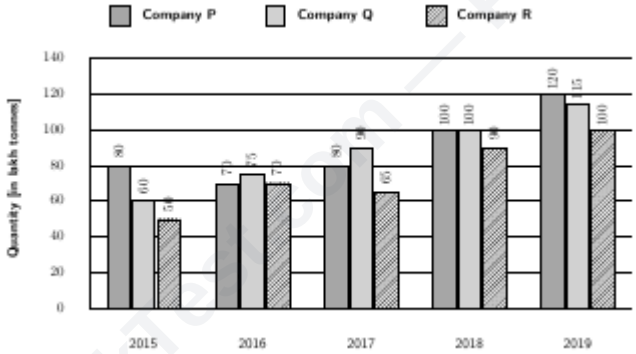
(a) 16 hours
(b) 12 hours
(c) 14 hours
(d) 18 hours

Q68. From a point P, which is at a distance of 13 cm from the centre O of a circle, a pair of tangents PQ and PR of length 12 cm are drawn to the circle. The area of the quadrilateral PQOR (in cm²) is:

(a) 76
(b) 60
(c) 50
(d) 80

Q69. Study the given bar graph and answer the question that follows.

The bar graph indicates the production of sugar (in lakh tonnes) by three different sugar companies P, Q and R over the years 2015 to 2019.



By what percentage is the total production of sugar by company P from the year 2015 to 2019 more than the total production of sugar by company R from the year 2015 to 2019?

(a) 20%
(b) 18.5%
(c) 18%
(d) 15%

Q70. The value of 4 × 3 ÷ 2 of 3 × 2 ÷ (4 + 5 × 4 ÷ 4 of 5 - 4 ÷ 4 × 4) is:

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

Q71. The difference between the simple interest on a fixed amount for 7 years and on the same amount for 12 years is Rs. 2,500. If the rate of interest is 10% p.a., then the amount is:

(a) Rs. 4500
(b) Rs. 5000
(c) Rs. 5,500
(d) Rs. 6,000

Q72. A batsman in his 13^(th) inning makes a score of 97 runs, thereby increasing his average score by 5. What is his average score after the 13^(th) inning?

(a) 77
(b) 67
(c) 37
(d) 57

Q73. Mohan's income is 40% more than Shyam's income. Shyam's income is what percentage less than Mohan's income?

(a) 283/7%
(b) 284/7%
(c) 285/7%
(d) 282/7%

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Q74. Two numbers are in the ratio of 7 : 4. If each number is increased by 12, then the ratio becomes 3 : 2. The sum of the number is:

(a) 56
(b) 60
(c) 68
(d) 66

Q75. When an article is sold for Rs. 438, there is a loss of 27%. To gain 23%, it should be sold for Rs. x. What is the value of x ?

(a) Rs. 837
(b) Rs. 678
(c) Rs. 600
(d) Rs. 738

GENERAL AWARENESS

Q76. Where in a computer would you use a 'joystick' for computer games and assistive technology?

(a) Storage space
(b) Increase memory
(c) Cursor control
(d) Mail merge

Q77. Which modern-day Indian state was created on 1 April 1937 as the United Provinces by the Britishers?

(a) Arunachal Pradesh
(b) Madhya Pradesh
(c) Andhra Pradesh
(d) Uttar Pradesh

Q78. Which river has the tributaries by the name of Mayurakshi, Damodar, Kangsabati and Rupnarayan?

(a) Hooghly
(b) Yamuna
(c) Godavari
(d) Brahmaputra

Q79. In the state of _____, the general direction of the Himalayas is from southwest to northeast.

(a) Mizoram
(b) Nagaland
(c) Manipur
(d) Arunachal Pradesh

Q80. Which of the following is a part of the central processing unit of a computer?

(a) Scanner
(b) Memory registers
(c) Mouse
(d) Joystick

Q81. Which bank got the 'Best Bank in Innovation' award at Business Today -Money Today Financial Awards 2020?

(a) ICICI Bank
(b) HDFC Bank
(c) State Bank of India
(d) Bank of Baroda

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Q82. What is the total charge of an electric dipole?

(a) 0
(b) -10
(c) +1
(d) 10

Q83. Where in India can we find the Jarawa and the Onge tribes?

(a) Arunachal Pradesh
(b) Chhattisgarh
(c) Andaman and Nicobar Islands
(d) Daman and Diu

Q84. Which Indian chess player won the Cairns Cup chess tournament 2020?

(a) Koneru Humpy
(b) Tania Sachdeva
(c) Dronavalli Harika
(d) Padmini Rout

Q85. Who is the author of the book 'Poskem'?

(a) Manish Malhotra
(b) Rohit Bal
(c) Wendell Rodricks
(d) Sabyasachi Mukherjee

Q86. Which of the following islands is/are located in the Bay of Bengal?

(a) Andaman and Nicobar
(b) Diu
(c) Meeru
(d) Minicoy

Q87. Which player from Pakistan is credited with 10 British Open titles and six World Championship crowns in professional squash?

(a) Farhan Zaman
(b) Azam Khan
(c) Jahangir Khan
(d) Hashim Khan

Q88. Who was the Nawab of Bhopal that ruled from 1868 to 1901?

(a) Sultan Kaikhusrau Jahan Begum
(b) Sikander Jahan Begum
(c) Shah Jahan Begum
(d) Begum Sajida Sultan

Q89. In which of the following years did the Government of India set up the Monetary Policy Committee?

(a) 2008
(b) 2010
(c) 2016
(d) 2018

Q90. Which one of the following became the first Indian club to qualify for AFC Champions league in 2020?

(a) Kerala Blasters FC
(b) Bengaluru FC
(c) FC Goa
(d) East Bengal FC

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Q91. What does LED stand for?

(a) Light Efficient Device
(b) Light Emitting Decorder
(c) Light Energy Device
(d) Light Emitting Diode

Q92. What is India's rank according to the 'Human Development report 2020' released by the United Nations Development Programme?

(a) 154
(b) 131
(c) 85
(d) 145

Q93. Which state in India has the highest number of Districts?

(a) Uttar Pradesh
(b) Madhya Pradesh
(c) Tamil Nadu
(d) Rajasthan

Q94. Which of the following does the Special Marriage Act 1954 NOT support?

(a) Communal harmony
(b) Inter-faith marriage
(c) Strict endogamy
(d) Inter-caste marriage

Q95. 'Eravalla, Kadar, Muduvar ' are languages spoken by the tribes primarily in the state of _____.

(a) Karnataka
(b) Kerala
(c) Maharashtra
(d) Tamil Nadu

Q96. Which one of the following is NOT a viral disease?

(a) Leprosy
(b) Measles
(c) Smallpox
(d) Rabies

Q97. According to 'World Language Database Ethnologue-2019', brought out in February 2020, which Indian language is the third most spoken language of the world in 2019?

(a) Punjabi
(b) Telegu
(c) Tamil
(d) Hindi

Q98. Who among the following was the founder of the Kirana Gharana of classical music?

(a) Abdul Karim Khan
(b) Imdad Khan
(c) Pran Nath
(d) Bade Ghulam Ali Khan

Q99. Which of the following schools in Shillong is the first Khelo India Sports school in NorthEast India?

(a) Assam Rifles Public School
(b) Mawroh Government LP School
(c) Government Boys Higher Secondary School
(d) Army Public School

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Q100. With which of the following literary magazines was poet and writer Amrita Pritam associated?

(a) Shabad
(b) Preetlari
(c) Nagmani
(d) Awaaz

ANSWER KEY

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

SOLUTIONS

Q1. Answer: (b) acceptence

The solution is in Hindi. Read it online.

Q2. Answer: (d) Inclusive

The solution is in Hindi. Read it online.

Q3. Answer: (a) Inevitable

The solution is in Hindi. Read it online.

Q4. Answer: (c) BDCA

The correct answer is BDCA

Key Points

• On reading the sentences, we can comprehend that the passage is all about the difference between the games.

• The first sentence will be Sentence B as it tells us the names of the games that are going to be differentiated.

• The second sentence will be Sentence D as it tells us the basic difference between the first two games and the second two games.

• The third sentence will be Sentence C as it tells us that basketball can be won but the winner of the game leapfrog is not known.

• The fourth sentence will be Sentence A as it is the only left sentence.

So the correct passage is- As games, chess and basketball are obviously different from leapfrog and playing house. The first two games are competitive, the second two are not. One can win a game of basketball, but it makes no sense to ask who has won a game of leapfrog. In other words, chess and basketball are contests.

Q5. Answer: (b) friendly

The solution is in Hindi. Read it online.

Q6. Answer: (b) No substitution required

The correct answer is No substitution required.

Key Points

• In the given sentence, the usage of 'Most of us' is absolutely correct.

• Most is a pronoun and 'of' is a preposition and 'us' is a prepositional object hence, grammatically the structure is absolutely correct.

• Most as a pronoun.

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• Example- All the victims were male, and most were between the ages of 15 and 25.

So the correct answer is Option 2.

Additional Information

• Most of all- You use most of all to indicate that something happens or is true to a greater extent than anything else.

• make the most of something- to use something so that it gives the greatest benefit

• We'll help you make the most of your holiday.

Q7. Answer: (b) BDAC

The correct answer is BDAC.

Key Points

• On reading the sentences, we can comprehend that the passage is all about Businessman and his life story.

• The first sentence will be sentence B as it tells us about the businessman.

• The second sentence will be sentence D as it tells us about the life of a businessman what has happened in his life.

• The third sentence will be sentence A as it tells us that the businessman about his life to his friends and they told him to have faith in God.

• The fourth sentence will be sentence C as it is the only sentence Left.

So the correct passage is- A businessman remained cheerful even though he suffered one catastrophe after another. First, his son had a serious accident and then he had huge losses in his business, but he was not perturbed. He told his friends that his difficulties were a sign of God's confidence in him. Therefore, when he was serving in the armed forces too, his senior officer had chosen him for dangerous missions because he knew he could be trusted.

Q8. Answer: (b) try

The correct answer is 'try'

Key Points

• In the given sentence, the usage of 'tries' is incorrect instead of it we need to use 'try'

• According to grammar, whenever the subject of the sentence is singular then we need to use a singular verb. In the given sentence the subject of the sentence is 'you' hence, we need to use a plural verb with it. Hence, the correct answer is Option 2.

So the correct sentence is- If you try to dictate your terms, I don't think we can work together.

Q9. Answer: (c) sometimes but not regularly

The solution is in Hindi. Read it online.

Q10. Answer: (a) Scarcity

The solution is in Hindi. Read it online.

Q11. Answer: (b) Listen very carefully

The correct answer is "Listen very carefully."

Key Points

• The meaning of the given idiom Hang on every word- If you hang on someone's every word, you listen very carefully to what they are saying because you admire or respect them.

• Let's see an example-

• Melina was hanging on his every word, fascinated.

• Hence, the correct answer is Option 2.

Q12. Answer: (a) between the executive members

The erroneous part is "between the executive members"

Key Points

• In the given part the usage of 'between' is incorrect instead of it use 'among'

• Between is- If something is between two things or is in between them, it has one of the things on one side of it and the other thing on the other side.

• Example- She left the table to stand between the two men.

• Among is- Someone or something that is situated or moving among a group of things or people is surrounded by them.

• Example- They walked among the crowds in Red Square.

• Hence, the correct sentence is- There is constant friction among the executive members of the Association.

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Q13. Answer: (b) Agony

The solution is in Hindi. Read it online.

Q14. Answer: (b) The packet was delivered by Arvind at the address given by Asha

The correct answer is 'The packet was delivered by Arvind at the address given by Asha'

Key Points

• While changing the active to passive voice we need to take care of the tense of the sentence because it doesn't change.

• The object of the sentence is a subject of the sentence and the subject of the sentence becomes the object of the sentence.

• In the given sentence, the object is 'The packet' and the subject is 'Arvind'

• The tense is- was + v3.

• Hence, the correct Sentence is- The packet was delivered by Arvind at the address given by Asha.

Q15. Answer: (c) contemporaries

The solution is in Hindi. Read it online.

Q16. Answer: (d) Each players

The erroneous part is- "Each players"

Key Points

• In the given sentence, the usage of 'players' is incorrect instead of it use 'player'

• According to grammar, whenever we have 'each, every, everyone as a determiner then we need to use a singular noun.

• The quantifiers each and every are a kind of determiner. They have similar but not always identical meanings. We always use them with a singular countable noun.

• Let's see an example-

• Each artist sees things differently.

Hence, the correct sentence is- Each player must play according to his full potential and not think only about winning.

Q17. Answer: (c) sustenance

The solution is in Hindi. Read it online.

Q18. Answer: (b) Desscent

The incorrect spelling is- Desscent

Key Points

• The correct spelling of the word is- Descent.

• The meaning of the word is- an act of moving downwards, dropping, or falling.

• The synonyms of the given words are- Fall, going down, subsiding.

Hence, the correct answer is Option 2.

Q19. Answer: (b) Sarita told me that she was glad she had not left her village.

The correct answer is 'Sarita told me that she was glad she had not left her village.'

Key Points

• The given sentence is in Direct speech.

• Also, the tense of the sentence is a present tense hence, it is going to be changed into the past tense. Also, the second part is in the past tense. This is possible when the subject is in the present and talking about the past.

• In the given sentence, subject is 'Sarita' and the pronoun will be used according to the subject.

• Hence, the correct indirect speech is- Sarita told me that she was glad she had not left her village.

Q20. Answer: (c) to cope with

The solution is in Hindi. Read it online.

Q21. Answer: (a) a

The correct answer is "a"

Key Points

• The short story in literature is usually concerned with a single effect conveyed in only one or (1) _____ few significant episodes or scenes.

• In the given sentence, 'a few' means A small number of persons or things.

• Let's see an example-

• A few members of the family leave their hometown each year.

• Hence, the correct sentence is- The short story in literature is usually concerned with a single effect conveyed in only one or a few significant episodes or scenes.

Q22. Answer: (a) practice

The correct answer is "practice"

Key Points

• The (2)_____ encourages economy of setting

• The given passage is talking about "Short story"

• In Blank 2, "practice" is the correct answer it means "the customary, habitual, or expected procedure or way of doing of something."

• Hence, the correct sentence is- The practice encourages economy of setting

Q23. Answer: (a) concise

The correct answer is "Concise"

Key Points

• (3)_____ narrative, and the omission of a

• Let's see the meanings of the given words-

• Concise- giving a lot of information clearly and in a few words; brief but comprehensive.

• Lengthy- (especially in reference to time) of considerable or unusual length, especially so as to be tedious.

• Long- measuring a great distance from end to end.

• Curt- rudely brief.

• As we are discussing the short story hence, the short stories should be concise in brief. So the correct answer is Option 1 i.e. Concise.

Q24. Answer: (d) complex

The correct answer is 'Complex'

Key Points

• and the omission of a (4) _____ plot; character is disclosed in action

• Let's see the meanings of the given words-

• Compound- a thing that is composed of two or more separate elements; a mixture.

• Slight- small in degree; inconsiderable.

• Fused- joined or blended to form a single entity.

• Complex- consisting of many different and connected parts.

• The short stories may have some difficult plots which we need to explain in a concise way. Hence, in the given blank the correct answer is Option 4 i.e. complex.

So the correct sentence is- and the omission of a complex plot; character is disclosed in action

Q25. Answer: (d) dramatic

The correct answer is 'Dramatic'

Key Points

• and a (5) _____ encounter but is seldom fully developed.

• Let's see the meanings of the given words-

• Harmonious- tuneful; not discordant.

• Melodious- relating to or characterized by melody.

• Balanced- keeping or showing a balance; in good proportions.

• Dramatic- relating to drama or the performance or study of drama.

• The passage talks that- As the plot is complex hence, it is going to be a dramatic plot that is seldom fully developed so the practice encourages to modify these kinds of loopholes.

• So the correct sentence is- and a dramatic encounter but is seldom fully developed.

Q26. Answer: (a) Only conclusion II follows

Statements:

All racks are books.

All racks are pens.
The least possible diagram for the given statements is as follows
Conclusions:
I. All pens are books → False (It is possible but not definite)
II. Some books are pens → True (Because all racks are books and all racks are also pens so some books are also pens)
Hence, “Only conclusion II follows”.

Q27. Answer: (d) 61

The pattern followed here is:
Hence, '61' is the correct answer.

Q28. Answer: (d) 398 : 18

The logic is here is:
[(2^(nd) number) × (2^(nd) number + 3)] + 1 = 1st number.
Now, follow the logic:
Option (1): 181 : 12
[12 × (12 + 3)] + 1 = 12 × 15 + 1 = 180 + 1= 181 = 1st number.
This option follows the pattern.
Option (2): 271 : 15
[15 × (15 + 3)] + 1 = 15 × 18 + 1 = 270 + 1= 271 = 1st number.
This option follows the pattern.
Option (3): 305 : 16
[16 × (16 + 3)] + 1 = 16 × 19 + 1 = 304 + 1= 305 = 1st number.
This option follows the pattern.
Option (4): 398 : 18
Now, follow the logic:
[18 × (18 + 3)] + 1 = 18 × 21 + 1 = 378 + 1= 379 ≠ 1st number.
This option do not follow the pattern.
Hence, pair “398 : 18” is an odd one.
Alternate MethodLOGIC: (Second Number + 1)² + Second Number = First Number
Option (1): 181 : 12
$13^2 + 12 = 169 + 12 = 181$
This option follows the pattern.
Option (2): 271 : 15
$16^2 + 15 = 256 + 15 = 271$
This option follows the pattern.
Option (3): 305 : 16
$17^2 + 16 = 289 + 16 = 305$
This option follows the pattern.
Option (4): 398 : 18
Now, follow the logic:
$19^2 + 18 = 379 \neq 398$
This option do not follow the pattern.
Hence, pair “398 : 18” is an odd one.

Q29. Answer: (d) Cousin

Preparing the family tree using the following symbols,
Given:
A kid's mother's father-in-law's daughter is Rashmi, whose daughter is Pihoo.
We can draw the following Family Tree from the information given above:
Hence, Pihu is the "cousin" of the kid.

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Q30. Answer: (a) [figure]

The correct mirror image of the given figure when the mirror is held at the right side is:

Hence, "option (1)" is the correct answer.

Additional Information

In Mirror image left side and right side changed vice-versa where top and bottom remain same.

Reflection of an object into the water is its water image. It appears by inverting an object vertically i.e. upside down.

The water image of the figure looks like the mirror image of the figure in case the mirror is horizontally at the bottom of the figure.

Water image is just a reflection where top and bottom part of the images changed where left and right side of the image remain same.

Q31. Answer: (a) 22

The number of triangles in the given figure is:

So, there are a total of 22 triangles in the figure.

Hence, '22' is the correct answer.

Q32. Answer: (a) [figure]

Given:

The logic followed here is:

Horizontal line (Alphabetical): Shifts one step below in each step and changes position as shown below.

Vertical line (digits): The digit at the intersection of both the lines changes in each step, as shown below,

Hence, option (1) is the correct answer.

Q33. Answer: (b) [figure]

The embedded part of this image is:

Hence, option (2) is the correct answer.

Q34. Answer: (a) 5, 3, 2, 1, 4

According to the sequence in the dictionary:

The correct order of the given words is:

5. Pabulums

3. Painless

2. Paleface

1. Pamphlet

4. Partiality

Hence, the correct answer is "5, 3, 2, 1, 4".

Q35. Answer: (d) Waddle

The logic followed here is:

Option 1) Grunt → A grunt is a sound made by a pig.

Option 2) Bleat → Bleat is the sound made by sheep or goats.

Option 3) Growl → Growl is the sound made by lions, bears and tigers.

Option 4) Waddle → Waddle is not a sound which is made by any animal or bird.

Hence, "Waddle" is an odd one.

Q36. Answer: (a) 255

The pattern followed here is:

(1^(st) number)² + (1^(st) number × 2) = 2^(nd) number

Now follow the steps:

9 : 99

(1^(st) number)² + (1^(st) number × 2)

= 9²+ (9 × 2)

= 81 + 18

= 99 = 2^(nd) number

Similarly,

15 : ?

(1^(st) number)² + (1^(st) number × 2)

= 15²+ (15 × 2)

= 225 + 30

= 255 = 2^(nd) number

Hence, "255" is correct answer.

Q37. Answer: (d) M O K T Y M Z

Given:- K _ T Z _ Y _ M _ Z O _ K _ T _ O Y

We put all the option in blank area and check who create particular pattern

Option (1) M O T T Y N Z → K M T Z O Y - T M T Z O Y - K N T Z O Y

Option (2) M N K T Y K Z → K M T Z N Y - K M T Z O Y - K K T Z O Y

Option (3) M O T Y K M Z → K M T Z O Y - T M Y Z O K - K M T Z O Y

Option (4) M O K T Y M Z → K M T Z O Y - K M T Z O Y - K M T Z O Y

♦ Option (4) gives a pattern of K M T Z O Y - K M T Z O Y - K M T Z O Y.

Hence, 'M O K T Y M Z' is the correct answer.

Q38. Answer: (a) B

Logic: If two dice have the same face value in the given image then their clockwise or anticlockwise wise number are known as opposite numbers in dice.

If we rotate the second dice in an anti-clockwise direction.

We get,

In first dice and second dice.

The alphabet 'F' is common.

The left letter will be opposite to each other writing them clockwise starting from F.

Letter	Opposite
C	B
E	D

Hence, the face opposite to the C is "B".

Q39. Answer: (c) 224

Let,

X is the passing mark

Y is the total marks.

Given:

1) Tiwari scored 25% marks and failed by 64 marks.

X – 64 = 25%Y -------- eq. (1)

2) He had scored 40% marks, then he would have secured 32 marks more than the pass marks.

X + 32 = 40%Y -------- eq. (2)

Subtract eq. (2) from eq. (1)

=> (X + 32) – (X – 64) = 40%Y - 25%Y

=> 32 + 64 = 15%Y

=> 96 = 15%Y

=> Y = 96 ÷ (15/100)

=> Y = (96 × 100) ÷ 15

=> Y = 9600 ÷ 15

=> Y = 640

Put the value of Y in eq. (1)

=> X – 64 = 25%× 640

=> X – 64 = 160

=> X = 160 + 64

=> X = 224
Hence, passing marks is “224”
Shortcut Trick
25% + 64 = 40% – 32
=> 15% = 96
=> 100% = (96/15%) × 100%
=> 100% = 640
And, 25% = 160
Pass marks = 25% + 64
=> 160+ 64 = 224
Hence, passing marks is “224”

Q40. Answer: (c) [figure]

The image obtained when the paper is unfolded is,
Hence, option 3 is the correct answer.
Mistake Points
There is slight difference in positions of all four options.
Option 1:
Option 2:
Option 3:

Q41. Answer: (d) Angle : Radians

The logic followed here is:
Resistance : Ohm → The unit for resistance measurement is an ohm.
Similarly,
Angle : Radians → The unit for angle measurement is a radian.
Hence, ‘Angle : Radians’ is the correct answer.

Q42. Answer: (d) Unruly

The logic followed here is:
Totally : Overall → Overall is a similar word of totally.
Similarly,
Out of Control : Unruly → Unruly is a similar word of Out of Control.
Hence, ‘Unruly’ is the correct answer.

Q43. Answer: (a) (541, 14, 737)

The Logic here is as follows:
(1^(st) number) + (2^(nd) number)² = 3^(rd) number
In (697, 13, 866)
(1^(st) number) + (2^(nd) number)²
= 697 + 13²
= 697 + 169
= 866 = 3^(rd) Number
Now check the all options,
Option (1) (541, 14, 737)
(1^(st) number) + (2^(nd) number)²
= 541 + 14²
= 541 + 196
= 737 = 3^(rd) Number
Option (2) (747, 25, 1423)
= 747 + 25²
= 747 + 625
= 1372 ≠ 3^(rd) Number

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Option (3) (832, 8, 887)
= 832 + 8^2
= 832 + 64
= 896 ≠ 3^(rd) Number
Option (4) (651, 16, 940)
= 651 + 16^2
= 651 + 256
= 907 ≠ 3^(rd) Number
Hence, the correct answer is "(541, 14, 737)".

Q44. Answer: (c) TKQXLPH

The table is alphabets place value:
The pattern followed here is:
PROMISE is written as WXTQLUF.
Similarly,
MELTING = ?
Hence, 'MELTING' is coded as "TKQXLPH".

Q45. Answer: (c) AGLMORU

The table is alphabets place value:
The pattern followed here is:
All alphabet's place values are arranged in ascending order.
PAINTER : AEINPRT
Similarly,

Hence, 'GLAMOUR' is coded as "AGLMORU".

Q46. Answer: (a) 8 and 6; × and ÷

According to the BODMAS rule:
Option 1 : 8 and 6; × and ÷
Given:
26 ÷ 6 − 54 + 24 × 8 = 174
After interchange the signs;
28 × 8 − 54 + 24 ÷ 6 = 174
By BODMAS rule
28 × 8 − 54 + 4 = 174
224 − 54 + 4 = 174
228 − 54 = 174
174 = 174 (LHS = RHS)
Option 2 : 6 and 4; − and ×
Given:
26 ÷ 6 − 54 + 24 × 8 = 174
After interchange the signs;
24 ÷ 4 × 56 + 26 - 8 = 176
By BODMAS rule
6 × 56 + 26 - 8 = 176
336 + 26 - 8 = 176
362 - 8 = 176
354 ≠ 176 (LHS ≠ RHS)
Option 3 : 4 and 2; + and ÷
Given:
26 ÷ 6 − 54 + 24 × 8 = 174
After interchange the signs;

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46 + 6 − 52 ÷ 42 × 8 = 172
By BODMAS rule
46 + 6 – 1.24 × 8 = 172
46 + 6 – 9.92 = 172
52 – 9.92 = 172
42.08 ≠ 172 (LHS ≠ RHS)
Option 4 : 5 and 8; × and +
Given:
26 ÷ 6 − 54 + 24 × 8 = 174
After interchange the signs;
26 ÷ 6 − 84 × 24 + 5 = 174
By BODMAS rule
4.34 − 84 × 24 + 5 = 174
4.34 − 2016 + 5 = 174
9.34 − 2016 = 174
-2006.66 ≠ 174 (LHS ≠ RHS)
Hence, the answer is “8 and 6; × and ÷”.

Q47. Answer: (c) EZSFV

Table show alphabet serial number –
The pattern followed is,
All follow the same pattern, except ‘EZSFV’.
Hence, “EZSFV” is the odd one.

Q48. Answer: (b) [figure]

The possible diagram is,
Hence, Option(2) is the correct answer.

Q49. Answer: (d) 723953210

The table is alphabets place value:
The pattern followed here is:
Step 1: Consonants coded as
• If consonants place value has two-digit coded as the digit sum with each other.
• If consonants place value has one-digit coded as place value.
Step 2: Vowel’s coded as position number of vowel’s position like,
A = 1; E = 2; I = 3; O = 4; U = 5
Step 3: After being coded as a number the number is arranged in reverse order.
CALENDAR is coded as 91452313
Reverse order → 9 1 4 5 2 3 1 3
And,
FACEMASK is coded as 210142316
Reverse order → 2 10 1 4 2 3 1 6
Similarly,
SECURITY = ?
Reverse order → 7 2 3 9 5 3 2 10
Hence, 'SECURITY' is coded as "723953210".

Q50. Answer: (c) 13 : 26 : 104

The logic followed here is:
Step → 1^(st) number
Step → 2^(nd) number = 1^(st) number × (Difference of 1^(st) number digits)
Step → 3^(rd) number = 2^(nd) number × (Difference of 2^(nd) number digits)
For 25 : 75 : 150

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Step → 1^(st) number = 25
Step → 2^(nd) number = 25 × (5 - 2) = 25 × 3 = 75
Step → 3^(rd) number = 75 × (7 - 5) = 75 × 2 = 150
Option 1 → 36 : 108 : 324
Step → 1^(st) number = 36
Step → 2^(nd) number = 36 × (6 - 3) = 36 × 3 = 108
Step → 3^(rd) number = 108 × (10 - 8) = 108 × 2 = 216 ≠ 324
Option 2 → 18 : 126 : 253
Step → 1^(st) number = 18
Step → 2^(nd) number = 18 × (8 - 1) = 18 × 7 = 126
Step → 3^(rd) number = 126 × (12 - 6) = 126 × 6 = 756 ≠ 253
Option 3 → 13 : 26 : 104
Step → 1^(st) number = 13
Step → 2^(nd) number = 13 × (3 - 1) = 13 × 2 = 26
Step → 3^(rd) number = 26 × (6 - 2) = 26 × 4 = 104
Option 4 → 29 : 36 : 72
Step → 1^(st) number = 29
Step → 2^(nd) number = 29 × (9 - 2) = 29 × 7 = 203 ≠ 36
Step → 3^(rd) number = 36 × (6 - 3) = 36 × 3 = 108 ≠ 72
Hence, the correct answer is "13 : 26 : 104".

Q51. Answer: (c) 48 days

Given:
X can complete half of the work in 20 days and Y can do one-fifth of the same work in 10 days.
X started the work and left after 8 days.
Concept used:
Work = Efficiency × time
Calculation:
X can complete half of the work in 20 days
=> X can complete the work in 20 × 2 days = 40 days
Y can do one-fifth of the same work in 10 days
=> Y can complete the work in 10 × 5 days = 50 days
Total work = LCM[40, 50] = 200
=> Per day Efficiency of X = 200/40 = 5 and Per day Efficiency of Y = 200/50 = 4
Now, X started the work and left after 8 days => Work completed by X in 8 days = 5 × 8 = 40
Therefore Remaining work = 200 - 40 =160
Remaining work done by Y in 160/4 = 40 days
Therefore Total number of days taken to complete the work = 8 + 40 = 48 days

Q52. Answer: (d) 125000

Formula used:
The volume of the cuboid = Length × Breadth × Height
Calculation:
Required number of bricks = [800 × 300 × 2250]/[64 × 11.25 × 6] [Because 1 m = 100 cm]
= 100/8 × 50 × 200
= 100 × 50 × 25
= 125000

Q53. Answer: (b) 16 cm

Given:
O is the centroid and RP is the median with length 24 cm of Δ RST, where P is a point on ST
Concept used:
Centroid divides median in 2 : 1.

Calculation:

=> RO = 2/3 × RP = 2/3 × 24 cm

Therefore RO = 16 cm

Q54. Answer: (d) Loss 2.08%

Given:

The marked price of an article is Rs. 660.

A shopkeeper allows a discount of 20% and still gets a profit of 10%.

Formula used:

CP : MP = (100 - discount%) : (100 + profit%)

loss% = [CP - SP]/CP × 100

Calculation:

CP : MP = 80 : 110

=> CP/660 = 8/11

=> CP = Rs. 480

Therefore If he sells it for Rs. 470 => SP = Rs. 470

=> loss% = [480 - 470]/480 × 100

= (100/48)%

= 2.08%

Q55. Answer: (d) 16

Given:

3x + 5y = 14 and xy = 6

Formula used:

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

Calculation:

$(3x + 5y)^2 = (14)^2$

=> $9x2 + 25y^2 + 2 \times 3x \times 5y = 196$

=> 9x2 + 25y2 + 30xy = 196

=> 9x2 + 25y2 = 196 - 30 × 6

=> 9x2 + 25y2 = 16

Q56. Answer: (d) 17

Concept used:

Number = Quotient × Divisor + Remainder

In such questions, we start from last

Calculation:

Let last quotient be 'x'

=> Last number = 7x + 5

Therefore First number = 3 × (7x + 5) + 2 = 21x + 17

Now, when 21x + 17 is divided by 21

=> Remainder = 17

Q57. Answer: (d) 22.5%

Calculation:

Average export of sugar in 2016, 2017 and 2018 (in million kg) = [270 + 360 + 300]/3 = 930/3 = 310

Production in 2017 (in million kg) = 400

Therefore Required % = (400 - 310)/400 × 100

= (90/4)%

= 22.5%

Q58. Answer: (a) 0

Given:

3 sin2 A + 4 cos2 A - 3 = 0

Formula used:

sin2 A + cos2 A = 1

Calculation:

3 sin2 A + 4 cos2 A - 3 = 0 => 3 sin2 A + 3 cos2 A + cos2 A - 3 = 0

=> 3 (sin2 A + cos2 A) + cos2 A - 3 = 0

=> 3 + cos2 A - 3 = 0

=> cos2 A = 0

=> cos A = 0

=> A = 90° [Because 0 ≤ A ≤ 90°]

=> cot A = cot 90° = 0

Q59. Answer: (b) 4

Given:

a2 + b2 + c2 + 48 = 8(a + b + c)

Calculation:

a2 + b2 + c2 + 48 = 8(a + b + c)

=> a2 - 8a + 16 + b2 - 8b + 16 + c2 - 8c + 16 = 0

=> $(a - 4)^2$ + (b - 4)2 + (c - 4)2 = 0

Now, sum of squares = 0

=> each term is = 0

Therefore a - 4 = 0, b - 4 = 0 and c - 4 = 0

=> a = b = c = 4

Therefore cbrt(a^3-b^3+c^3) = cbrt(4^3-4^3+4^3)

= cbrt(4^3)

= 4

Q60. Answer: (a) 15 cm

Given:

A 9-cm-long perpendicular is drawn from the centre of circle to a chord of length 24 cm.

Concept used:

Perpendicular drawn from centre of circle to the chord bisects the chord

Calculation:

=> AM = MB = 24/2 = 12 cm

In Right triangle AMO,

AO^2 = OM2 + AM^2 = 9^2 + 12^2 = 225

=> AM^2 = 225

=> AM = 15 cm

Q61. Answer: (a) 4 : 3

Calculation:

Total production of type A machines in 2018 and type E machines in 2019 (in thousands) = 56 + 64 = 120

Total production of type C and type D machines in 2016 (in thousands) = 43 + 47 = 90

Therefore Required ratio = 120 : 90

= 4 : 3

Q62. Answer: (a) Rs. 36 crores

Calculation:

Interest on Loans amounted to Rs. 4.50 crores = 7.5%

=> 1% = Rs. 4.5 crores/7.5

Total expenditure on Advertisement, Taxes, Research & Development and Salary = (10 + 5 + 20 + 25)% = 60%

= 60 × Rs. 4.5 crores/7.5

= 8 × Rs. 4.5 crores

= Rs. 36 crores

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Q63. Answer: (d) sin θ cos θ

Given:

(sec θ cosec θ)/(2+tan² θ+cot² θ)

Concept Used:

(tan θ + cot θ)² = 2 + tan2 + cot2 θ

Calculation:

(sec θ cosec θ)/(2 + tan² + cot² θ)

Using formula:

(sec θ cosec θ)/((tan θ + cot θ)2)

= (1/(cos θ × sin θ))/(sin²θ + cos² θ)/(sin²θ × cos²θ)

= sinθ cosθ/(1)²

= sinθ cosθ

Shortcut Trick Formula Used:

1 + tan²θ = sec²θ

1 + cot²θ = cosec²θ

Calculation

In the denominator, we can write,

=> 1 + tan2θ + 1 + cot2θ

=> sec2θ + cosec2θ

=> 1/cos²θ + 1/sin²θ

=> (sin²θ+cos²θ)/(sin²θ × cos²θ)

=> 1/(sin2θ × cos2θ)

=> sec2θ × cosec2θ

Now using the numerator as well,

=> (sec θ cosec θ)/(sec²θ × cosec²θ)

=> 1oversecθ × cosecθ

= sinθ cosθ

Q64. Answer: (b) 5

Given:

x4 + x-4 = 47, x > 0

Formula used:

If x ²ⁿ + x-2n = k then xn + x-n = √(k + 2) and xn - x-n = √(k - 2)

Calculation:

=> x² + x-2 = √(47 + 2) = √49 = 7

=> x + x^(-1) = √(7 + 2) = √9 = 3 ----(A) and x - x-1 = √(7 - 2) = √5 ----(B)

Adding (A) and (B), we get, x + x = 3 + √5

=> 2x - 3 = √5

Therefore (2x - 3)² = 5

Q65. Answer: (a) 15

Shortcut Trick

For two similar triangles, the ratio of their areas is equal to the square of the ratio of their corresponding sides.

Given: ΔABC ~ ΔQPR and Area(ΔABC)/Area(ΔPQR) = 4/9.

Ratio of corresponding sides = √(4/9) = 2/3.

From similarity ΔABC ~ ΔQPR, side BC corresponds to side PR.

Therefore BC/PR = 2/3 => 10/PR = 2/3 => PR = (10 × 3)/2 = 15 cm.

Therefore The correct answer is 15 cm.

Alternate Method

Given:

ΔABC ~ ΔQPR

Area(ΔABC) / Area(ΔQPR) = 4/9

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AB = 18 cm, BC = 10 cm, AC = 12 cm

Formula Used:

If two triangles are similar, the ratio of their areas is the square of the ratio of any two corresponding sides:

Area(Δ1) / Area(Δ2) = (Side1 / Side2)²

Calculations:

Since ΔABC ~ ΔQPR, the corresponding sides are (AB, QP), (BC, PR), and (AC, QR).

=> Area(ΔABC) / Area(ΔQPR) = (BC / PR)²

=> 4 / 9 = (10 / PR)²

Taking square root on both sides:

=> √(4 / 9) = 10 / PR

=> 2 / 3 = 10 / PR

=> 2 × PR = 10 × 3

=> 2 × PR = 30

=> PR = 30 / 2

=> PR = 15 cm

Therefore The correct answer is 15 cm.

Additional Information

Area Theorem for Similar Triangles

The ratio of the areas of two similar triangles is equal to the square of the ratio of their corresponding altitudes, medians, or angle bisectors.

Perimeter of Similar Triangles

The ratio of the perimeters of two similar triangles is equal to the ratio of their corresponding sides: P1/P2 = s1/s2.

Similarity Criteria

Two triangles are similar if they satisfy the AAA (Angle-Angle-Angle), SSS (Side-Side-Side ratio), or SAS (Side-Angle-Side ratio) criteria.

Q66. Answer: (a) 0

Concept used:

sinA = cos(90° - A)

sin²A + cos2A = 1

Calculation:

[(sin²27°+sin²63°)/(cos²24°+cos²66°)-sin²69°-cos 69°sin 21°] = [(sin²27°+sin²66°)/(cos²24°+cos²66°)-sin²69°-cos 69°cos 69°]

= [1/1 - (sin²69° + cos269°)]

= 1 - 1

= 0

Q67. Answer: (d) 18 hours

Given:

A bus covered 360 km in 6 hours

Formula used:

Speed = Distance/time

Calculation:

Usual speed of bus = 360/6 = 60 kmph

If it travels at one-fourth of its usual speed, its speed becomes 1/4 × 60 = 15 kmph

Time taken to cover 360 km with decreased speed = 360/15 = 24 hours

Therefore Extra time taken to cover the same distance = 24 - 6 = 18 hours

Q68. Answer: (b) 60

Given:

From a point P, which is at a distance of 13 cm from the centre O of a circle, a pair of tangents PQ and PR of length 12 cm are drawn to the circle.

Concept used:

Radius of circle is perpendicular to tangent.

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Calculation:

In right triangle PQO, $OQ^2 = OP2 - PQ2 = 13^2 - 12^2 = 169 - 144 = 25$

=> OQ = 5 cm

Now, Area of the quadrilateral PQOR = 2 × Area of right triangle PQO

= 2 × 1/2 × base × height

= 2 × 1/2 × 5 × 12

= 60 cm^2

Q69. Answer: (a) 20%

Calculation:

Total production of sugar by company P from the year 2015 to 2019 = 80 + 70 + 80 + 100 +120 = 450 lakh tonne

Total production of sugar by company R from the year 2015 to 2019 = 50 + 70 + 65 + 90 +100 = 375 lakh tonne

Therefore Total production of sugar by company P from the year 2015 to 2019 is more than the total production of sugar by company R from the year 2015 to 2019 by = (450 - 375)/375 × 100 = 75/375 × 100 = 20%

Q70. Answer: (a) 4

Calculation:

Using BODMAS, 4 × 3 ÷ 2 of 3 × 2 ÷ (4 + 5 × 4 ÷ 4 of 5 - 4 ÷ 4 × 4) = 4 × 3 ÷ (2 × 3) × 2 ÷ (4 + 5 × 4 ÷ (4 × 5) - 4 ÷ 4 × 4)

= 4 × [3 × 1/2 × 1/3) × 2 ÷ (4 + 5 × 4 × 1/4 × 1/5 - 4 × 1/4 × 4)

= 4 × 1/2 × 2 ÷ ((4 + 1) - 4)

= 2 × 2 ÷ 1

= 2 × 2

= 4

Q71. Answer: (b) Rs. 5000

Given:

The difference between the simple interest on a fixed amount for 7 years and on the same amount for 12 years is Rs. 2,500.

Rate of interest = 10% p.a.

Formula used:

Simple Interest(SI) = Principal × Rate × Time × 1/100

Also, Simple Interest is same for each year.

Calculation:

The difference between the simple interest on a fixed amount for 7 years and on the same amount for 12 years is Rs. 2,500

=> SI for (12 - 7) years = Rs. 2500

=> SI for 5 years = Rs. 2500

=> SI for 1 year = Rs. 500

Putting values, we get, Rs. 500 = Principal × 10 × 1 × 1/100

Therefore Principal Amount = Rs. 5000

Q72. Answer: (c) 37

Given:

A batsman in his 13th inning makes a score of 97 runs, thereby increasing his average score by 5.

Concept used:

Old average × old number + something = New average × new number

Calculation:

Let his old average (i.e. average till 12th innings) be 'x' => New average is 'x + 5' [Because Average increased by 5]

Therefore x × 12 + 97 = (x + 5) × 13

=> 12x + 97 = 13x + 65

=> x = 32

Therefore New Average = x + 5 = 32 + 5 = 37

Q73. Answer: (b) 284/7%

Given:

Mohan's income is 40% more than Shyam's income

Calculation:

=> Mohan's income : Shyam's income = 140 : 100 = 7 : 5

Therefore Shyam's income is less than Mohan's income by (7 - 5)/7 × 100 = 2/7 × 100 = 284/7%

Q74. Answer: (d) 66

Given:

Two numbers are in the ratio of 7 : 4

If each number is increased by 12, then the ratio becomes 3 : 2.

Calculation:

Let the two numbers be 7x and 4x

ATQ, (7x + 12) : (4x + 12) = 3 : 2

=> 14x + 24 = 12x + 36

=> 2x = 12

=> x = 6

Therefore Sum of numbers = 7x + 4x = 11x = 11 × 6 =66

Q75. Answer: (d) Rs. 738

Given:

When an article is sold for Rs. 438, there is a loss of 27%

Formula used:

SP = [(100 - loss%)/100] × CP = [(100 + profit%)/100] × CP

Calculation:

SP of article = Rs. 438, loss = 27% => CP of article = 438 × 100/(100 - 27) = 438 × 100/73 = 600

Now, to gain 23%, it should be sold for Rs. 600 × (100 + 23)/100 = Rs. 738

Q76. Answer: (c) Cursor control

The correct answer is Cursor control.

Key Points

• A 'joystick' is used for cursor control in computer games and assistive technology.

• A joystick is a pointing device is used to move an object on the screen in any direction.

• It employs a vertical rod mounted on a base with one or two buttons.

• It is an input device that tracks and sends movement data to the CPU.

• It uses a central pivot to monitor any minute changes in direction, then sends this data to be processed and usually controls another device.

• Joysticks are used extensively in video arcade games, and they were the primary game controller on home computers during the 1980s and 90s.

Additional Information

• The picture showing the joystick:

Q77. Answer: (d) Uttar Pradesh

The correct answer is Uttar Pradesh.

Key Points

• Uttar Pradesh was created on 1 April 1937 as the United Provinces by the Britishers.

• Uttar Pradesh was formerly known as the United Provinces of Agra and Oudh since 1902 which in 1937 was shortened to United Province or Uttar Pradesh.

• The United Province was later renamed Uttar Pradesh when the Constitution of India came into force on 26th January 1950.

• Uttar Pradesh is also known as The Heartland of India because it lies at the heart position of India and has the largest population among the states of India.

• Uttarakhand was carved out of Uttar Pradesh as the 27th state of India on 9th November 2000 as an outcome of the Uttar Pradesh Reorganisation Act, 2000.

Additional Information

• About Uttar Pradesh (As of 2021):

• Statehood day: 24 Jan 1950.

• Capital City: Lucknow.

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• Area : 2,40,928 kmsq.
• Districts: 75.
• Governor: Anandiben Patel.
• State bird: Saras Crane.
• State Flower: Palash.
• State animal: Barasingha.
• State tree: Ashoka.
• National Park, Wildlife Sanctuary: Dudhwa National Park, Kishanpur Wildlife Sanctuary, Katarniaghat Wildlife Sanctuary.
• Important rivers: Chambal, Betwa, Ghaghara, Son, Ganga, Yamuna.

Q78. Answer: (a) Hooghly

The correct answer is Hooghly.

Key Points

• Hooghly has the tributaries by the name of Mayurakshi, Damodar, Kangsabati and Rupnarayan.
• The Mayurakshi, Ajay, Damodar, Kangsabati, Rupnarayan and their tributaries which rise in the Western plateau and high lands flow eastwards through the different districts of West Bengal and joins the Bhagirathi on the right bank.

Additional Information

• The important tributaries of the Yamuna River are Tons, Chambal, Hindon, Betwa and Ken.
• Other small tributaries of the Yamuna River include the Giri, Sind, Uttangan, Sengar and the Rind.
• The principal tributaries of the Godavari river are the Pravara, the Purna, the Manjra, the Penganga, the Wardha,the Wainganga the Pranhita the Indravati, the Maner and the Sabri.
• The principal tributaries of the Brahmaputra river joining from right are the Lohit, the Dibang, the Subansiri, the Jiabharali, the Dhansiri, the Manas, the Torsa, the Sankosh and the Teesta whereas the Burhidihing, the Desang, the Dikhow, the Dhansiri and the Kopili joins it from left.

Q79. Answer: (d) Arunachal Pradesh

The correct answer is Arunachal Pradesh.

• Himalayas in the Darjiling and Sikkim regions lie in an east west direction, while in Arunachal Pradesh they are from southwest to the northwest direction.
• Dihang River/Siang River is the name given to Brahmaputra River in Arunachal Pradesh.

Additional Information

The Himalayas are classified into different divisions by Rivers flowing between them.

Punjab/Kashmir Himalayas	**The part of the Himalayas that lies between the Indus River and Satluj River.**
Kumaon Himalayas	The part of the Himalayas that lies between Satluj River and Kali River.
Nepal Himalayas	The part of the Himalayas that lies between the Kali River and Teesta River.
Assam Himalayas	The part of the Himalayas that lies between the Teesta River and Dihang River.
Purvanchal / Eastern Himalayas	The part of the Himalayas that lies beyond Dihang River valley. Here the Himalayas bend sharply towards the south and spread along Indo-Myanmar Border.

Q80. Answer: (b) Memory registers

The correct answer is Memory registers.

Key Points

• A central processing unit (CPU), also called a central processor, main processor or just processor.
• It is the electronic circuitry that executes instructions comprising a computer program.
• The CPU performs basic arithmetic, logic, controlling, and input/output (I/O) operations specified by the instructions in the program.
• This contrasts with external components such as main memory and I/O circuitry, and specialized processors such as graphics processing units.

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• Principal components of a CPU include: Control Unit, Arithmetic Logic Unit (ALU), Memory Registers.

Additional Information

Control Unit:

• A control unit that orchestrates the fetching (from memory) and execution of instructions by directing the coordinated operations of the ALU, registers and other components.

• The control unit (CU) is a component of a computer's central processing unit (CPU) that directs the operation of the processor.

• It tells the computer's memory, arithmetic logic unit and input and output devices how to respond to the instructions that have been sent to the processor.

ALU:

• The arithmetic logic unit (ALU) performs arithmetic and logic operations.

• In computing, an arithmetic logic unit is a combination digital circuit that performs arithmetic and bitwise operations on integer binary numbers. This is in contrast to a floating-point unit, which operates on floating-point numbers.

Registers:

• Processor registers that supply operands to the ALU and store the results of ALU operations.

• A processor register is a quickly accessible location available to a computer's processor.

• Registers usually consist of a small amount of fast storage, although some registers have specific hardware functions, and maybe read-only or write-only.

Thus the Central Processing Unit (CPU) in a computer consists of Control unit, arithmetic logic unit, and memory registers.

Q81. Answer: (a) ICICI Bank

The correct answer is ICICI Bank.

Key Points

• The award ceremony, presented by Security and Intelligence Services (India), began with an insightful panel discussion on 'Finding the Right Asset Mix in 2020'.

• The awards were conferred by Chief Guest R Gandhi, Former Deputy Governor of RBI.

• 'Best Innovation award' went to ICICI Bank.

• State-owned State Bank of India (SBI) and private major HDFC Bank jointly bagged the 'Bank of the Year' award at Business Today-Money Today Financial Awards 2020.

• While this is the second time, SBI has won the award, for HDFC Bank, it was the sixth year running.

• The latter also bagged the 'Best Large Bank' and 'Best Fintech Engagement' awards.

• On the other hand, SBI won the award for 'Best in Rural Outreach'.

• Best bank awards in "small bank, mid-sized bank and foreign bank" categories were conferred to Bandhan Bank, IndusInd Bank, and JP Morgan India, respectively.

Additional Information

• ICICI Bank:

• ICICI Bank was established by the Industrial Credit and Investment Corporation of India (ICICI), an Indian financial institution, as a wholly-owned subsidiary in 1994 in Vadodara however the parent company was formed in 1955 as a joint-venture of the World Bank, India's public-sector banks and public-sector insurance companies to provide project financing to Indian industry.

• CEO: Sandeep Bakhshi (Feb 2022)

• Tag Line - Khayal Apka

• Headquarter - Vadodara

• HDFC Bank:

• CEO: Sashidhar Jagdishan (Feb 2022)

• Tag Line - We Understand Your World

• Headquarters: Mumbai

• Founded: August 1994, India

• State Bank of India:

• Chairperson: Dinesh Kumar Khara (Feb 2022)

• Tag Line - Suraksha aur Bharosa Dono

• Headquarters: Mumbai

• Founded: 1 July 1955

• Bank of Baroda:

• Headquarters: Alkapuri, Vadodara

• Tag Line - India's International Bank
• Founder: Sayajirao Gaekwad III
• Founded: 20 July 1908, Vadodara

Q82. Answer: (a) 0

The correct answer is 0.

Key Points

• An electric dipole is pair of equal and opposite charges separated by a distance of 2a, the midpoint of locations -q and + q is called the centre of the dipole.
• The total charge of an electric dipole is zero.
• Electric dipole moment is the product of the magnitude of one charge multiplied by the distance of separation between the charge and is given by

=> P = 2a × q

Where P = dipole moment, 2a = Distance between the charge, and q = Charge

Q83. Answer: (c) Andaman and Nicobar Islands

The correct answer is Andaman and Nicobar Islands.

Key Points

• Andaman & Nicobar Islands are home to the Onges, Jarawas, and Sentinelese tribes.
• ONGES
• One of the most primitive tribes in India.
• Onges are a hunter-gatherer tribe.
• They are indigenous people of the Andaman Islands.
• Onges occasionally hunts and goes fishing.
• The present population of the Onge tribe is 101 according to the 2011 Census.
• JARAWAS
• Jarawas are Nomadic Hunting and gathering tribe.
• They hunt pigs, turtles, and fish with bows and arrows.
• They inhabit the Western coasts of the South & Middle Andaman islands.
• The present population of the tribe is 380 according to the 2011 Census.

Additional Information

• SENTINELESE
• They are hunting fishing and gathering tribes.
• Sentinelese inhabit the small North Sentinel Island.
• They build temporary huts in their camps.
• Men and Women of these tribes do not wear clothes.
• The population of the tribe is 15 according to the 2011 Census.

Q84. Answer: (a) Koneru Humpy

The correct answer is Koneru Humpy.

• World rapid champion Koneru Humpy emerged triumphant at the Cairns Cup chess tournament following a draw against compatriot Dronavalli Harika in the ninth and final round.
• Humpy, who was crowned world champion in December 2019, finished the tournament with 6 points.
• Humpy would now be gaining five ELO rating points (the basis for international rankings) and moving to No 2 in the world list.

Additional Information

• Tania Sachdev is an Indian chess player, who holds the FIDE titles of International Master and Woman Grandmaster.
• Harika Dronavalli is an Indian chess player who holds the FIDE title of Grandmaster.
• She has won three bronze medals in the Women's World Chess Championship, in 2012, 2015 and 2017.
• Padmini Rout is an Indian chess player.
• She holds the titles of International Master and Woman Grandmaster.
• She is a four-time National Women's Premier title holder consecutively from 2014-2017 and was the Asian women's champion of 2018.

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Q85. Answer: (c) Wendell Rodricks

The correct answer is Wendell Rodricks.

Key Points

• Poskem is written by Wendell Rodricks.

• Wendell Rodricks was an Indian fashion designer and author based in the Indian state of Goa.

• In 2014, the Government of India conferred upon him its fourth-highest civilian award, the Padma Shri.

Additional Information

• Manish Malhotra is a fashion designer, widely known for his works in Bollywood, Telugu, Tamil cinema.

• Rohit Bal is an Indian fashion designer. He designs for both men and women.

• Sabyasachi Mukherjee is an Indian fashion designer, jewellery designer, retailer and couturier from Kolkata, India.

Q86. Answer: (a) Andaman and Nicobar

The correct answer is Andaman and Nicobar.

• The Andaman Islands are an Indian archipelago in the Bay of Bengal.

• These roughly 300 islands are known for their palm-lined, white-sand beaches, mangroves and tropical rainforests.

Additional Information

• Diu is an island situated slightly off the coast of Kathiawad near the Port of Veraval in Gujarat with a coastal length of 21 kms. and is at a distance of about 768 kms. from Daman, the Capital of the newly formed Union Territory of Daman and Diu.

• Meeru Island is an island on the easternmost tip of North Malé Atoll in the Maldives.

• Minicoy is an island in Lakshadweep, India. Along with Viringili, it is on Maliku atoll, the southernmost atoll of the Lakshadweep archipelago.

Q87. Answer: (c) Jahangir Khan

The correct answer is Jahangir Khan.

• Jahangir Khan won the World Open six times, and the British Open ten consecutive times (1982-1991).

• Jahangir Khan is widely regarded as the greatest squash player of all time.

Additional InformationImportant Indian Players:

Sports	Famous players
Squash	Joshna Chinappa, Dipika Pallikal.
Badminton	Saina Nehwal, P.V. Sindhu, Pullela Gopichand, Prakash Padukone, Jwala Gutta.
Cricket	Sachin Tendulkar, Mahendra Singh Dhoni, Virat Kohli, Saurav Ganguly, Rahul Dravid.
Tennis	Sania Mirza, Leander Paes, Mahesh Bhupathi.

Q88. Answer: (c) Shah Jahan Begum

The correct answer is Shah Jahan Begum.

Key Points

• Shah Jahan Begum was the Nawab of Bhopal that ruled from 1868 to 1901.

• Shahjahan Begum was the Begum of Bhopal the ruler of the princely state of Bhopal in central India.

• Born in Islamnagar, near Bhopal, Shahjahan was the only surviving child of Sikandar Begum of Bhopal, sometime Nawab of Bhopal by correct title, and her husband Jahangir Mohammed Khan.

• She was recognized as the eighth ruler of Bhopal in 1844 at the age of six, her mother wielded power as regent during her minority.

• However, in 1860, her mother Sikandar Begum was recognized by the British as ruler of Bhopal in her own right, and Shahjahan was set aside.

Additional Information

• Begum Sikander Jahan:

• She was trained in the martial arts and fought many battles during her reign (1844-1868).

• During the Indian Rebellion of 1857, she sided with the British and crushed all those who revolted against them.

Q89. Answer: (c) 2016

The correct answer is 2016.

Key Points

• In 2016 the Government of India set up the Monetary Policy Committee.

• The Central Government in September 2016 constituted the MPC as under:-

• Governor of the Reserve Bank of India - Chairperson, ex officio.

• Deputy Governor of the Reserve Bank of India, in charge of Monetary Policy - Member, ex officio.

• One officer of the Reserve Bank of In be nominated by the Central Board - Member, ex officio; Shri Chetan Ghate, Professor, Indian Statistical Institute (ISI) – Member;

• Professor Pami Dua, Director, Delhi School of Economics - Member, and Dr Ravindra H. Dholakia, Professor, Indian Institute of Management, Ahmedabad - Member.

Additional Information

• Monetary Policy:

• It refers to the management of money supply for achieving macroeconomic objectives such as controlling inflation, consumption, growth, and liquidity.

• In India, the Reserve Bank of India (RBI) is vested with the responsibility of conducting monetary policy. This responsibility is explicitly mandated under the Reserve Bank of India Act, 1934.

• The primary objective of monetary policy is to maintain price stability while keeping in mind the objective of growth.

• In May 2016, the Reserve Bank of India (RBI) Act, 1934 was amended and provides a basis for the implementation of a flexible inflation targeting framework.

• Now the inflation target is set by GOI in consultation with RBI once every five years.

• Currently, the inflation rate target is 4 per cent, with a band of +/- 2 per cent It means if the inflation rate is below 2 then GOI and RBI will increase the inflation and if it is above 6 then they will try to reduce the inflation Section 45ZB of the amended RBI Act, 1934 also provides for an empowered six-member monetary policy committee (MPC) to be constituted by the Central Government.

Q90. Answer: (c) FC Goa

The correct answer is FC Goa.

Key Points

• FC Goa became the first Indian club to qualify for the AFC Champions league in 2020.

• Indian Super League side FC Goa will host the Group E matches of the AFC Champions League (ACL) at the Fatorda Stadium in Margao.

• The Asian Football Confederation on 11 March 2021 confirmed the venues for the ACL 2021 group stage matches.

• FC Goa had become the first Indian club to directly qualify for the group stage of the ACL.

Additional Information

• Bengaluru FC:

• The forward Sunil Chhetri scripted history yet again when he became the first Indian to register 50 goal contributions in Indian Super League history.

• Chhetri scored his team's opener against Odisha FC to reach the mark in his 80th ISL appearance.

• Only former FC Goa star Ferran Corominas is ahead of him in the list with 48 goals and 16 assists.

• Sporting Club East Bengal:

• It is based in the city of Kolkata, West Bengal is an Indian professional football club. The club competes in the Indian Super League, Indian football's top flight, as well as in the Calcutta Premier Division A, West Bengal's top-level state football league.

• Formed in August 1920, before winning promotion to the Calcutta Football League first division in 1924, the club became associated with the Indian Football Association in 1922.

• In 1942, East Bengal won their first league title and have won the title a record 39 times since then.

• In 1996, the club was also a founding member of the National Football League and three times won the league title. Eight Federation Cups, three Super Cups, a record 29 IFA Shield titles, and a record 16 Durand Cup titles have also been won, making the club one of Indian football's most decorated.

Q91. Answer: (d) Light Emitting Diode

The correct answer is Light Emitting Diode.

Key Points

• The LED (light-emitting diode) is a PN junction device that emits light when a current passes through it in the forward direction, i.e. when LED is forward biased, it emits light.

• In an LED, this energy lies in the visible region of electromagnetic radiation, and the photon released is perceived as light.

• An LED in this way converts electrical energy into light energy.

• In reverse biased mode, it works like a normal diode and does not emit light.

• It is an optical semiconductor device that emits light when voltage is applied means it converts electrical energy into light energy.

• When Light Emitting Diode (LED) is forward biased, the free electrons from the n-side and the holes from the p-side are pushed towards the junction.

• Light-emitting diodes emit either visible light or invisible infrared light when forward biased.

• The LEDs which emit invisible infrared light are used for remote controls.

• LEDs that can emit red, yellow, orange, green, and blue light are available for commercial use.

Additional Information

• The picture depicting Light Emitting Diode:

Q92. Answer: (b) 131

The correct answer is 131.

Key Points

• India ranked at 131st position out of 189 countries in the Human Development Index 2020.

• This report was published by the United Nations Development Programme (UNDP).

• HDI emphasizes that people and their capabilities should be the ultimate criteria for assessing the development of a country, not economic growth alone.

• It is a composite index that measures average achievement in three basic dimensions of human development- a long and healthy life, knowledge, and a decent standard of living.

• The 2020 Report has introduced planetary pressures-adjust Development Index (HDI) by a country per capita carbon dioxide emissions and material footprint.

Additional Information

• Structure of the 2020 Human Development Report:

• Renewing human development for the Anthropocene.

• Mechanisms of change to catalyze action.

• Exploring new metrics.

• Human Development Index is the measure of a nation's health, education, and standards of living.

• The life expectancy of Indians at birth in 2019 was 69.7 years while Bangladesh has a life expectancy of 72.6 years and Pakistan 67.3 years.

• The HDI was created to emphasize that people and their capabilities should be the ultimate criteria for assessing the development of a country, not economic growth alone.

• The HDI can also be used to question national policy choices, asking how two countries with the same level of GNI per capita can end up with different human development outcomes.

• These contrasts can stimulate debate about government policy priorities.

• The Human Development Index (HDI) is a summary measure of average achievement in key dimensions of human development: a long and healthy life, being knowledgeable and having a decent standard of living.

Q93. Answer: (a) Uttar Pradesh

The correct answer is Uttar Pradesh.

Key Points

• Uttar Pradesh has the highest number of Districts and Lok Sabha seats in our country.

Additional Information

• Lok Sabha:

• It comes under article 81.

• Its maximum strength is 550 + 2 members of its Anglo-Indian Community, which includes 530 members from States and 20 from Union Territories.

• The present strength of Lok Sabha is 545.

• The representatives of the States are directly elected by the people of the States on the basis of adult suffrage.

• Every citizen who is not less than 18 years of age and is not otherwise disqualified is entitled to vote at such an election.

• The normal term of the Lok Sabha is 5 years, but it may be dissolved earlier by the President

• Currently, Uttar Pradesh has the highest number of Lok Sabha seats i.e. 80.

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Q94. Answer: (c) Strict endogamy

The correct answer is Strict endogamy.

Key Points

• The Special Marriage Act, 1954 is an Act of the Parliament of India with provision for civil marriage (registered marriage) for people of India and all Indian nationals in foreign countries, irrespective of the religion or faith followed by either party.

• Special marriage acts support Communal harmony, Interfaith marriage, Inter-caste marriage.

• The Special Marriage Act, of 1954 replaced the old Act III, 1872.

• The new enactment had three major objectives:

1. To provide a special form of marriage in certain cases,

2. To provide for the registration of certain marriages and,

3. To provide for divorce

Additional Information

• Endogamy refers to marriage within a unit (like kin, group, caste). It is also called in-marriage.

• These type of marriages takes place within a particular social group such as caste, clan, tribe, gotra, etc.

• Exogamy is referred to as marriage to an outside group.

• Polygyny means where a man has multiple simultaneous wives.

• Polyandry means a woman has multiple simultaneous husbands.

Q95. Answer: (d) Tamil Nadu

The correct answer is Tamil Nadu.

Key Points

• 'Eravalla, Kadar, Muduvar ' are languages spoken by the tribes primarily in the state of Tamil Nadu.

• Dravidian languages, a family of around 70 languages mainly spoken in South Asia.

• The Dravidian languages are split into groups in the South, South-Middle Central, and North; these groups are further split into 24 subgroups.

• The Constitution of India acknowledges the four major literary languages: Tamil Telugu, Malayalam, and Kannada.

• They are also official languages, respectively, of the states of Tamil Nadu, Andhra Pradesh, Kerala, and Karnataka (formerly Mysore).

• Tamil is the oldest of the four literary languages in the Dravidian family, with examples dating to the early Common Period.

• Tolkappiyam (1st-4th century CE; "Ancient Literature"), the first known work in the Tamil language, is a treatise on grammar and poetics.

Additional Information

• Until around the 9th century CE, Malayalam was the west coast dialect of Tamil. Geographically isolated by the steep Western Ghats from the main speech group, the dialect gradually evolved into a distinct language.

• Kannada is the official language in the state of Karnataka.

• The inscriptions in Kannada date from the 5th century CE, while Kavirajamarga ('The Royal Road of Poets'), the first literary work, is a ninth-century treatise on poetics.

• Telugu is spoken by the greatest population among the Dravidian languages.

• It is the third most frequently spoken of all Indian languages, after Hindi and Bengali.

Q96. Answer: (a) Leprosy

The correct answer is Leprosy.

Key Points

• A chronic infectious disease, leprosy is caused by the bacteria, Mycobacterium leprae.

• This condition mainly affects the skin causing pale sores, bumps and lumps on the skin.

• It also affects the peripheral nerves, eyes, and the mucosal linings of the respiratory system.

• Leprosy is a contagious disease that causes disfiguring skin sores and nerve damage in the arms, legs, and other regions of the body.

• It is caused by Mycobacterium leprae, a slow-growing pathogen (M. leprae).

• It is also known as Hansen's disease, after the man who discovered M. leprae in 1873. Leprosy is diagnosed based on the number and type of skin lesions you have.

• The type of leprosy determines the symptoms and treatment options. Mycobacterium leprae is a bacterium that causes leprosy, often known as "Hansen's disease," a chronic infectious disease that affects the skin, eyes, nose, and muscles and damages peripheral nerves.

Additional Information

• Measles:

• It is caused by a virus named as Rubeola virus.

• It is airborne diseases that occur especially in children.

• Symptoms: Fever, Vomiting, Rashes on the skin.

• Prevention:

• Complete Rest.

• Drinking boiled, filtered water.

• Good light intake.

• Inoculation of gamma globulin.

• Smallpox:

• The smallpox vaccine was discovered by Edward Jenner.

• It was an infectious disease caused by one of two forms of the virus, Variola major and Variola minor.

• In October 1977, the last naturally occurring case was diagnosed, and in 1980, the World Health Organization (WHO) approved global eradication.

• The Smallpox vaccine was the world's first vaccine.

• Rabies:

• It is caused by the rabies virus.

• The virus is spread through the saliva of infected animals.

Q97. Answer: (d) Hindi

The correct answer is Hindi.

Key Points

• According to 'World Language Database Ethnologue-2019', brought out in February 2020, Hindi language is the third most spoken language of the world in 2019.

• Hindi is the third most spoken language in the world with 615 million speakers all over the world.

• English is at the top with 1,132 million speakers followed by Mandarin with 1,117 million speakers.

• On February 18, 2020, the Ethnologue published its yearly database on living languages of the world.

• It covered more than 7,111 living languages.

• It also published data on languages that were gone out of usage in recent history and that included around 348 languages.

• It also said that Bangla is the 7th most spoken language in the world with 228 million native speakers.

Additional Information

• Hindi is an Indo-Aryan language spoken chiefly in India.

• Hindi has been described as a standardized and Sanskritised register of the Hindustani language, which itself is based primarily on the Khariboli dialect of Delhi and neighbouring areas of Northern India.

• Hindi, written in the Devanagari script, is one of the two official languages of the Government of India, along with the English language.

• It is an official language in 9 States and 3 Union Territories and an additional official language in 3 other States.

• Hindi is also one of the 22 scheduled languages of the Republic of India.

Q98. Answer: (a) Abdul Karim Khan

The correct answer is Abdul Karim Khan.

Key Points

• Abdul Karim Khan was the founder of the Kirana Gharana of classical music.

• Kirana Gharana is one of the most prominent Indian classical khayal gharanas and is associated mostly with the perfect intonation of notes.

• The gharana's style was further evolved and was established as one of the important styles in modern Indian classical music in the late 19th /early 20th centuries by the musicians Abdul Karim Khan and Abdul Wahid Khan.

• The name of this school of music comes from Kirana or Kairana, a town and tehsil of Shamli District in Uttar Pradesh.

Additional Information

• Gharana is a system in which people organize socially that links musicians and dancers.

• It is an apprenticeship or lineage, for the adherence to a particular musical style.

• The word Gharana originates from the Urdu/Hindi word 'Ghar'', which means 'house' or Family.

• A Gharana also indicates a comprehensive musicological ideology and differentiates one school from another.

• Some of the Gharanas well known for singing Hindustani classical music are Agra, Gwalior, Indore, Jaipur, Kirana, and Patiala.

Q99. Answer: (a) Assam Rifles Public School

The correct answer is Assam Rifles Public School.

Key Points

• Assam Rifles Public School is the first Sports School to be launched under the Khelo India Scheme in the North-East.

• Kiren Rijiju, Union Minister of Youth Affairs and Sports inaugurated the Assam Rifles Public School (ARPS) as a Khelo India Sports School in Shillong.

• Currently, 9 Sports Schools have been approved across the country, with 5 of them being run by the military and paramilitary services.

• The government will now cover the costs of lodging, boarding, schooling, competition exposure, insurance & medical, sports training & support, salaries of coaches & support personnel, sports equipment, and more for the school's Talented Sports Students.

• A Khelo India Sports School's goal is to connect sports and education, thereby developing sports in the country and improving players' whole profile and viewpoint.

• This will also aid in the identification and development of talent in the North-East, rural, and tribal areas.

• Lt. Gen. Sukhdeep Sangwan, Director-General, Assam Rifles, was also praised by the Union Minister for his efforts in bringing various good reforms to the school over the years.

Additional Information

• In 2018, Khelo India was launched.

• Its goal is to improve the country's sports culture.

• The Rajiv Gandhi Khel Abhiyan, the National Sports Talent Search System, and the Urban Sports Infrastructure Scheme were merged to form Khelo India.

• "Sports for all" and "sports for excellence" are promoted in the programme.

Q100. Answer: (c) Nagmani

The correct answer is Nagmani.

Key Points

• Amrita is considered a path-breaking woman, who rose to fame with her literary works like Pinjar, Suneray, and Nagmani.

• Amrita Pritam:

• A renowned poetess, Amrita was born on 31 August 1919 in Gujranwala, Punjab of British India, which now fall in Pakistan.

• She was the winner of the 17th Jnanpith Award.

• Google doodle honoured Punjabi poetess Amrita Pritam with a doodle, marking her 100th birthday.

• She is considered to be the first poetess of the Punjabi language and is equally loved in both India and Pakistan.

• In her career of 6 decades, she has written around 100 books, including her famous autobiography "Rasidi Ticket":

• This book is an album of postage stamps.

• With each stamp, a new story unfolds on its postcard.

• The story doesn't have a closure which compels the reader to read the next chapter.

• In this book, she has written about her various phases of life.

• As a novelist her most important work was Pinjar in 1950 whose background was the violence that happened against women and this novel made its way to an award-winning film called Pinjar in 2003.

• She was awarded Padma Shri in 1969 and Padma Vibhushan and Sahitya Academy Award in 2004.

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