SSC CHSL Tier-1 2022: Official Paper (Held On: 13 March, 2023 Shift 2) (Previous Year Paper)

SSC Combined Higher Secondary Level (CHSL) • 2022 • 100 questions • 60 minutes • Answer key and solutions

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ENGLISH LANGUAGE

Q1. In the following question, four number pairs are given. In each pair the number on left side of (-) is related to the number of the right side of (-) with some Logic/Rule /Relation. Three pairs are similar on basis of same Logic/Rule/Relation. Select the odd one out from the given alternatives. (NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. E.g.13 - Operations on 13 such as adding /subtracting /multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed)

(a) 3241-5732
(b) 2354-4835
(c) 1326-3807
(d) 2345-4826

Q2. In a certain code language, 'BED' is written as '122' and 'CAB' is written as '37'. How will 'ADD' be written in that code language?

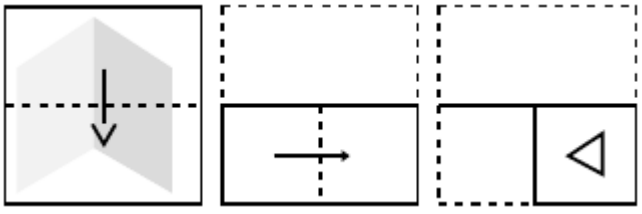
(a) 65
(b) 50
(c) 101
(d) 82

Q3. In the following question, select the missing number from the given series.

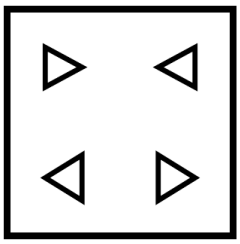
3, 4, 7, 11, 18, 29,?

(a) 48
(b) 45
(c) 47
(d) 46

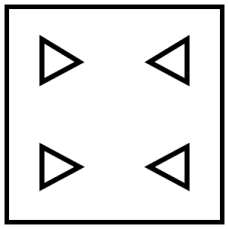
Q4. The sequence of folding a piece of paper and the manner in which the folded paper has been cut is shown in the following figures. How would this paper look when unfolded?



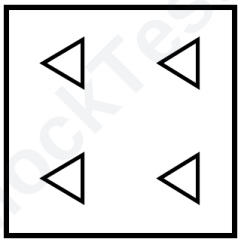
(a)



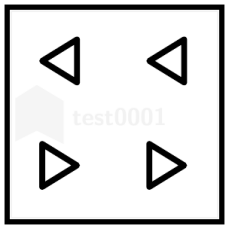
(b)



(c)



(d)



Q5. Select the option in which the numbers shares the same relationship in set as that shared by the numbers in the given set.

(NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits.

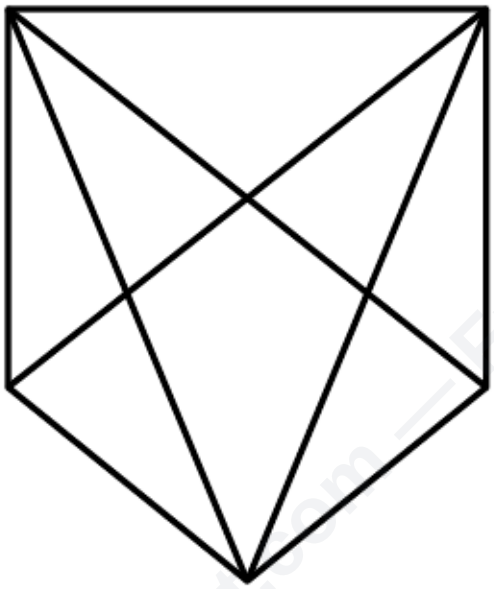
E.g.13 - Operations on 13 such as adding/subtracting /multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed)

(12, 144, 1728)

(6, 36, 216)

(a) (11, 121, 1000)
(b) (14, 196, 2197)
(c) (10, 100, 1000)
(d) (8, 64, 729)

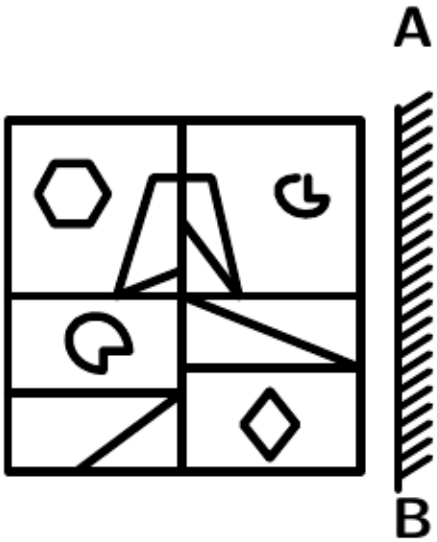
Q6. How many triangles are there in the given figure?



(a) 21
(b) 22
(c) 19
(d) 20

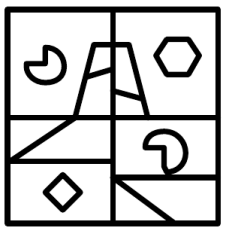
Q7. If 739 R 635 = 52 and 814 R 122 = 346, then 532 R 220 =?
(a) 156
(b) 160
(c) 134
(d) 148

Q8. If a mirror is placed on the line AB, then out of the option figures which figure will be the right image of the question figure?

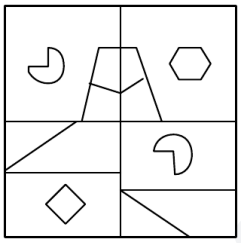


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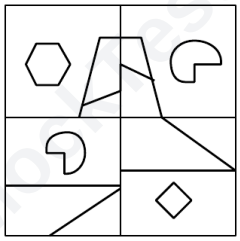
(a)



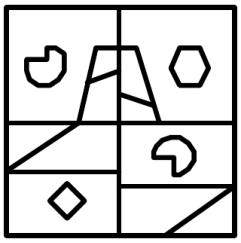
(b)



(c)



(d)



Q9. After interchanging the given two signs what will be the values of expression (I) and (II) respectively?

• and −

I. 45 + 15 × 30 ÷ 10 − 25

II. 6 × 9 + 5 − 8 ÷ 4

(a) 25 and 51

(b) 27 and 53

(c) 53 and 27

(d) 51 and 25

Q10. Select the word pair in which the words are related in the same way as the words are related in the following pair:

Farmer : Plough

(a) Soldier: Pen

(b) Surgeon: Scalpel

(c) Author: Spade

(d) Tailor: Harrow

Q11. After arranging the given words according to dictionary order, which word will come at 'Fifth' position?

1. Wrap
2. Wrath
3. Wrasse

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4. Wrangler
5. Wrack

(a) Wrangler
(b) Wrack
(c) Wrath
(d) Wrasse

Q12. Three of the four group of words are alike in some manner. Select the odd group of words.

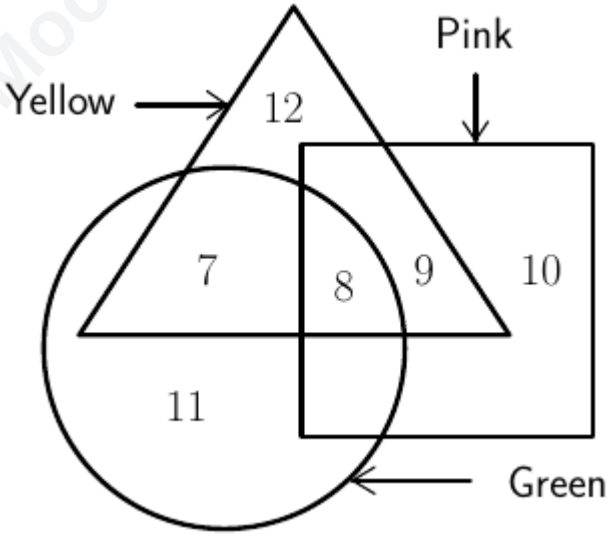
(a) (Car, Truck, Road)
(b) (Chair, Table, Stool)
(c) (Choreographer, Editor, Carpenter)
(d) (Shirt, Trouser, Saree)

Q13. Which one set of letters when sequentially placed in the gaps in the given letter series shall complete it?

WX _ WW _ _ Y _ W _ WXX _ Y _ Y

(a) WXXYXWW
(b) YXYYWXX
(c) YXXYWXY
(d) WYXYWXY

Q14. How many pink are neither green nor yellow?

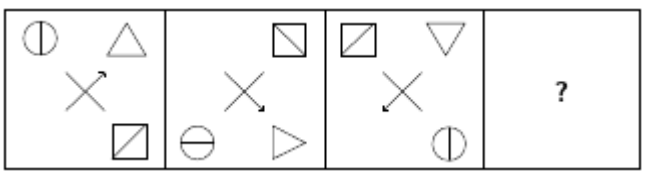


(a) 10
(b) 17
(c) 9
(d) 8

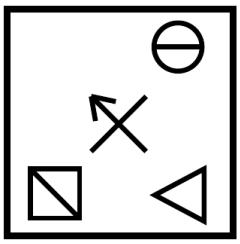
Q15. In a certain code language, 'ISLAND' is written as 'HTKBME' and 'TABLET' is written as 'SBAMDU'. How will 'BANGLE' be written in that language?

(a) ABOHKF
(b) ABMHKD
(c) ABMHKF
(d) ABMHMF

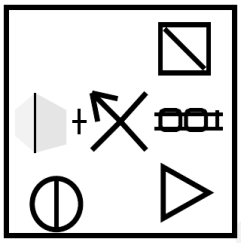
Q16. Select the figure that will come next in the following figure series.



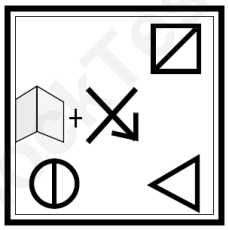
(a)



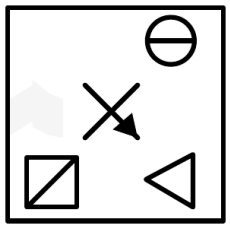
(b)



(c)



(d)

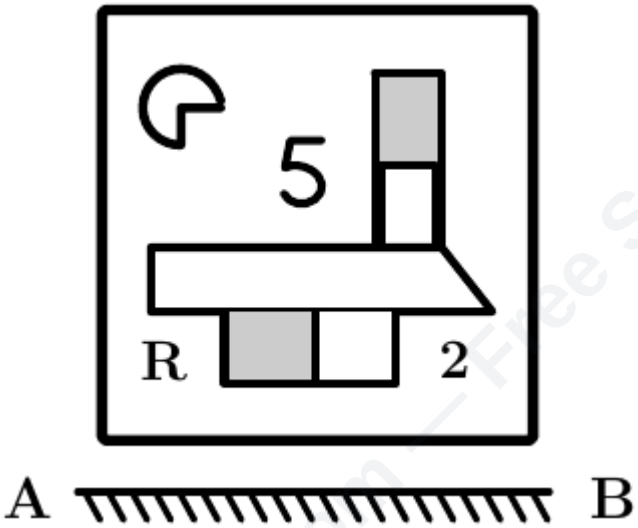


Q17. Aman is the brother of Baman and Chaman. Baman is Emily's mother. Farhan is Aman's father then which of the following is definitely true?

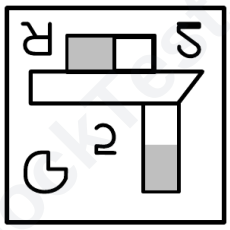
(a) Baman is sister of Chaman.
(b) Aman and Emily are siblings.
(c) Chaman is brother of Aman.
(d) Chaman is male.

Q18. If a mirror is placed on the line AB, then out of the option figures which figure will be the right image of the question figure?

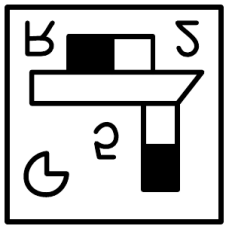
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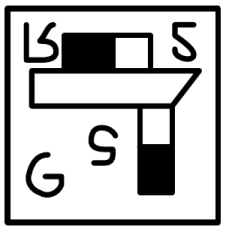
(a)



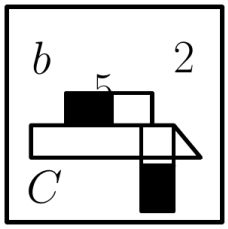
(b)



(c)



(d)



Q19. Select the option in which the numbers shares the same relationship in set as that shared by the numbers in the given set. (NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. E.g.13 - Operations on 13 such as adding/subtracting /multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed)

(8, 5, 39)

(14, 11, 75)

(a) (12, 6, 70)
(b) (9, 5, 54)
(c) (11, 7, 74)
(d) (7, 4, 33)

Q20. In the following question, select the related letters from the given alternatives.

ATXJ : BVAN :: YMOU : ?

(a) ZORY
(b) HUVL
(c) UVXZ
(d) ASND

Q21. In the question two statements are given, followed by two conclusions, I and II. You have to consider the statements to be true even if they seem to be at variance from commonly known facts. You have to decide which of the given conclusions, if any, follows from the given statements.

Statements:

I. No mobile is an electronic item.

II. All electronic items are costly.

Conclusions:

I. No costly is a mobile.

II. Some costly are mobile.

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

Q22. Words given on the left side of(::)are related with each other by some Logic/Rule /Relation. Select the missing word/word pair on the right side of(::)from the given alternatives based on the same Logic/Rule/Relation.

Tadpole : Frog :: Caterpillar :?

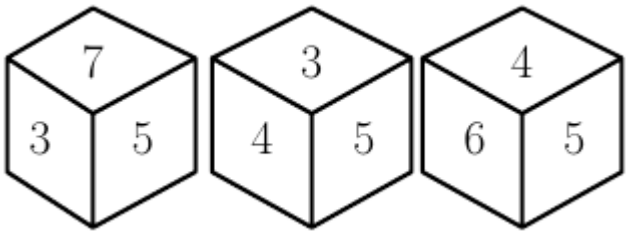
(a) Dog
(b) Hen
(c) Butterfly
(d) Sheep

Q23. Select the option that is related to the fifth number in the same way as the first number is related to the second number and the third number is related to the fourth number.

33 : 121 :: 27 : 81 : : 45 : ?

(a) 256
(b) 305
(c) 275
(d) 225

Q24. Three positions of a dice are given below. What can come on the adjacent faces of the face containing '4' on it?



(a) 7 and 5
(b) 3 and 7
(c) 7 and 6
(d) 6 and 5

Q25. Three of the following four letter clusters are alike in a certain way and one is different.
Pick the cluster that is different from the rest.

(a) UTS
(b) ONM
(c) GHI
(d) WVU

GENERAL INTELLIGENCE

Q26. RBI defined M1 as CU + DD. What is DD?

(a) Net demand deposits held by International banks only
(b) Net demand deposits held by RBI
(c) Net demand deposits held by SBI
(d) Net demand deposits held by commercial banks

Q27. What is the full form of FTP?

(a) File text paging
(b) File transfer paging
(c) File text protocol
(d) File transfer protocol

Q28. When the grains of sand are very fine and light, the wind can carry it over very long distances. When such sand is deposited in large areas, it is called _____.

(a) stacks
(b) loess
(c) moraines
(d) mushroom

Q29. Each orbit of International Space Station (ISS) takes _____ minutes.

(a) 85-87
(b) 83-86
(c) 90-93
(d) 80-82

Q30. Which of the following is mentioned in state list of the seventh schedule of the Indian constitution?

(a) Betting and gambling
(b) Railways
(c) Post office saving Bank
(d) Inter-state trade and commerce

Q31. _____ is the highest peak in the Eastern Ghats.

(a) Kanchenjunga
(b) Khasi
(c) Anai Mudi
(d) Mahendragiri

Q32. Fourth edition of Khelo India Youth Games was hosted by which state of India?

(a) Madhya Pradesh
(b) Karnataka
(c) Haryana
(d) Assam

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Q33. Which of the following combinations of tenors of Treasury bills issued by Government of India is correct?

(a) 82 days, 182 days, 345 days
(b) 91 days, 182 days, 364 days
(c) 61 days, 145 days, 360 days
(d) 91 days, 152 days, 356 days

Q34. Which of the following pairs of "term-sports" is correct?

I. Eagle - Hockey
II. Penalty kick - Volleyball

(a) Only I
(b) Neither I nor II
(c) Both I and II
(d) Only II

Q35. Which among the following corridors was inaugurated by Prime Minister Narendra Modi in October 2022?

(a) Mahakal Lok Corridor
(b) Chennai Bengaluru Industrial Corridor
(c) Kashi Corridor
(d) North East Economic Corridor

Q36. As on November 2022, who is the first citizen of India?

(a) Amit Shah
(b) Droupadi Murmu
(c) Narendra Modi
(d) Sonia Gandhi

Q37. Sheetal wants to create financial statements for her business. Which among the following software should she use for the same?

(a) Multimedia software
(b) Presentation software
(c) System software
(d) Spread sheet software

Q38. Wages/day under Mahatma Gandhi NREGA is _____ w.e.f. 1st April, 2020, as per Economic Survey 2020-21.

(a) Rs 182
(b) Rs 412
(c) Rs 202
(d) Rs 152

Q39. Who is the first Indian President to be born in Independent India?

(a) Pratibha Patil
(b) Droupadi Murmu
(c) Ram Nath Kovind
(d) Pranab Mukherjee

Q40. Which of the following pressure belt is known as the horse latitude?

(a) Sub - Polar Low Pressure
(b) Equatorial Low Pressure
(c) Sub-Tropical High Pressure
(d) High Pressure

Q41. According to WHO, If a person's BMI is below 18.5 he/she is classified as _____.

(a) Mentally unfit
(b) Underweight
(c) Blind

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(d) Healthy

Q42. Which among the following festivals is celebrated as the Telugu New Year?

(a) Monpa
(b) Ugadi
(c) Vishu
(d) Dasara

Q43. In 1757, _____ led the Company's army against Sirajuddaulah at Plassey.

(a) Lord Cornwallis
(b) Lord Minto
(c) Warren Hastings
(d) Robert Clive

Q44. In September 2022 at Bengaluru Space Expo (BSX) in Bengaluru, ISRO and space agency of _____ facilitated signage of half a dozen MoUs between the startups of the two countries focusing on the space tech.

(a) Australia
(b) France
(c) USA
(d) Israel

Q45. The book titled 'The Ministry of Utmost Happiness' has been written by _____.

(a) Jia Pingwa
(b) Arundhati Roy
(c) Sunita Narain
(d) Dan Brown

Q46. Who among the following was a famous ruler of the Maratha dynasty?

(a) Prithviraj Chauhan
(b) Man Singh
(c) Chhatrapati Shivaji Maharaj
(d) Porus

Q47. International Women's Day is celebrated on?

(a) 12^(th) July
(b) 12^(th) March
(c) 8^(th) July
(d) 8^(th) March

Q48. Hari Prasad Chaurasia is associated with which of the following instruments?

(a) Tabla
(b) Bansuri
(c) Veena
(d) Drum

Q49. Breakdown of pyruvate into lactic acid and energy in lack of oxygen takes place in which of the following?

(a) Bacteria
(b) Human muscle cells
(c) Yeast
(d) Mitochondria

Q50. Which continent provides more than half of world's tin?

(a) Europe
(b) Asia
(c) North Africa

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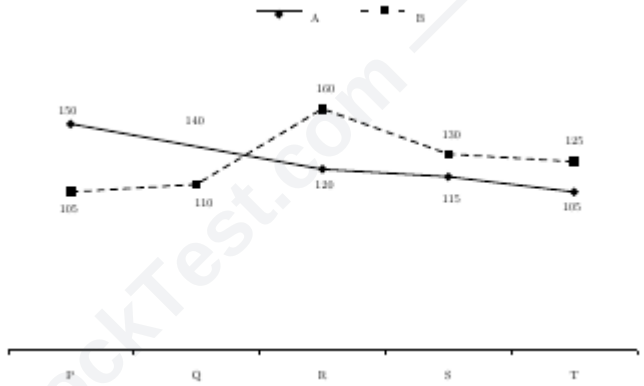
(d) Africa

QUANTITATIVE APTITUDE

Q51. What is the value of $(4x^2+9y^2+12xy)/144$?

(a) $(x/3+y/4)^2$
(b) $(x/3+y)^2$
(c) $(x/4+y/6)^2$
(d) $(x/6+y/4)^2$

Q52. The line chart given below shows the number of pencil sold by two shopkeepers A and B in 5 months.



Which of the following statement is correct ?

I. The number of pencil sold by A in P and Q together is 31.72 percent more than the number of pencil sold by B in S and T together.

II. The number of pencil sold by B in Q and R together is 105.88 percent of the number of pencil sold by A in P and T together.

(a) Neither I nor II
(b) Only I
(c) Only II
(d) Both I and II

Q53. The ratio of income of Jitendra, and Narendra is 4 : 7 and the ratio of their expenditure is 6 : 5 respectively. If Jitendra saves Rs. 400 out of Rs. 2,800 income, then find the savings of Narendra.

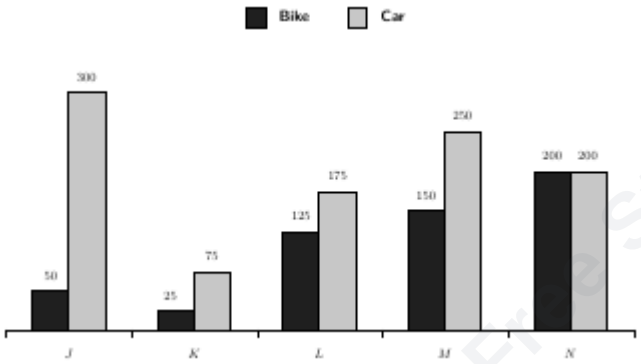
(a) Rs. 2,900
(b) Rs. 2,000
(c) Rs. 4,900
(d) Rs. 3,900

Q54. If $m = \sec\theta - \tan\theta$ and $n = \operatorname{cosec}\theta + \cot\theta$, then what is the value of $m + n(m - 1)$?

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

Q55. The bar graph given below shows the sales of bikes and cars of five companies J, K, L, M and N.

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P1 = The total sales of bikes of all the 5 companies.

P2 = The total sales of cars of the all 5 companies.

What is the value of (P2 - P1) ?

(a) 550
(b) 350
(c) 450
(d) 400

Q56. A discount of 20 percent on article A is equal to the discount of 15 percent on the article B. What is the ratio of the marked price of articles A and B?

(a) 6 : 11
(b) 3 : 4
(c) 7 : 8
(d) 6 : 7

Q57. An incircle with center O is drawn inside an equilateral triangle ABC and the length of the side is 12 cm. Find the area (in sq.cm) of the triangle which is not in the incircle.

(a) 24.64
(b) 21.48
(c) 37.71
(d) 30.64

Q58. A milk merchant buys 30 litres of milk at the rate of Rs. 50 per litre and mixes 20 litres of water in it (water is free of cost).If he sells this mixture at the rate of Rs. 48 per litre, then what is the profit percentage?

(a) 50 percent
(b) 60 percent
(c) 40 percent
(d) 66.66 percent

Q59. There are three numbers P, Q and R. 30 percent of P is equal to the 15 percent of Q. 20 percent of Q is equal to the 10 percent of R. By what percent is R more than P?

(a) 150%
(b) 300%
(c) 200%
(d) 250%

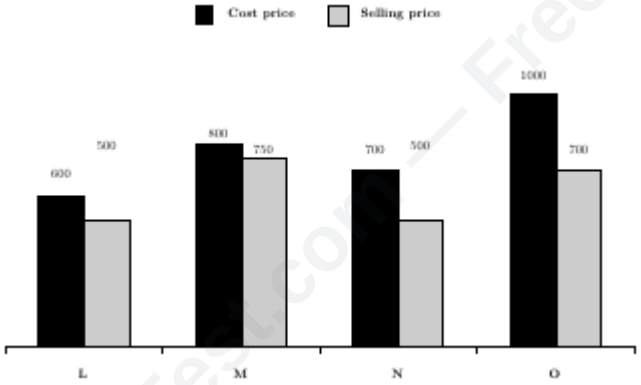
Q60. If $x^2 + 1/(x^2) = 7$, then what is the value of $x^3 + 1/(x^3)$?

(a) 9
(b) 18
(c) 27
(d) 36

Q61. P can fill a tank in 5 hours. Q can fill the same tank in 10 hours. R can empty the same tank in 20 hours. How much time will all the three take together to fill the same tank?

(a) 10 hours
(b) 4 hours
(c) 6 hours
(d) 5 hours

Q62. The bar graph given below shows the cost price and selling price of four articles L, M, N and O.



Which of the following sequence is correct for loss?

(a) O > N > L > M
(b) N > O > L > M
(c) O > N > M > L
(d) O > L > N > M

Q63. The ratio of the speed of the boat in still water to the speed of the stream is 8 : 3 and the boat can travel 22 km downstream in 24 minutes. Then, how much time will the boat take to cover 50 km upstream?

(a) 4 hrs
(b) 2.5 hrs
(c) 3 hrs
(d) 2 hrs

Q64. If $\sin 2\theta = \sqrt{3}/2$, then what is the value of $\tan \theta$?

(a) 1/2
(b) 1
(c) $1/\sqrt{3}$
(d) $\sqrt{3}$

Q65. The sum of the length, breadth, and height of a cuboid box is 20 cm and the total surface area of cuboid is 256 sq. cm. What is the maximum length (in approximate) of a stick that can be placed inside the cuboid box?

(a) 16 cm
(b) 24 cm
(c) 32 cm
(d) 12 cm

Q66. The value of 25% of 720 + 57 ÷ 19 × 1/3 of 100/11 of 33/25 − 15% of 300 is:

(a) 191
(b) 157
(c) 127
(d) 147

Q67. If A+B = -5 and AB = 6, then find the value of $A^3 + B^3$.

(a) 35
(b) 45
(c) -35

(d) 215

Q68. What is the value of 3 tan 20°.tan 45°.tan 70°?

(a) 2
(b) 3
(c) 1.5
(d) 4

Q69. Rs. 6000 is lent at the rate of 20 percent per annum on compound interest (compounded half yearly). What will be the compound interest of 18 months?

(a) Rs. 1825
(b) Rs. 1986
(c) Rs. 1876
(d) Rs. 2036

Q70. Jitin's age 3 years from now will be double the average of Jitin's current age and his age 8 years ago. What was Jitin's age 5 years ago?

(a) 7 years
(b) 8 years
(c) 11 years
(d) 6 years

Q71. X, Y and Z are three equilateral triangles. The sum of the areas of X and Y is equal to the area of Z. If the side lengths of X and Y are 6 cm and 8 cm respectively, then what is the side length of Z?

(a) 10 cm
(b) 10.5 cm
(c) 9.5 cm
(d) 9 cm

Q72. Diameter of a circle is 20 cm. Length of a chord AB is 10 cm. What will be the angle made by this chord at the center of this circle?

(a) 75 degree
(b) 45 degree
(c) 60 degree
(d) 90 degree

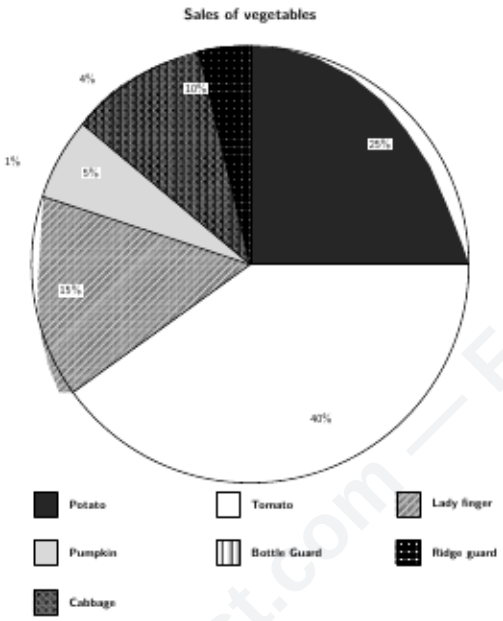
Q73. What is the sum of all three-digit numbers which are divisible by 15?

(a) 41200
(b) 36825
(c) 32850
(d) 28750

Q74. The following pie chart shows the sale of different vegetables in a day at a shop.

If 1000 kg of vegetables were sold in a day, then what is the number of tomatoes sold (in kg)?

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(a) 400
(b) 250
(c) 100
(d) 150

Q75. If the radius of the circle is 42 cm and the angle formed at the centre by an arc is 150°. What is the length of the corresponding arc ?

(a) 66 cm
(b) 77 cm
(c) 110 cm
(d) 55 cm

GENERAL AWARENESS

Q76. Choose the word that is opposite in meaning to the given word.

Restricted

(a) Copious
(b) Circumscribed
(c) Capped
(d) Finite

Q77. Choose the option that is the correct indirect form of the sentence.

She said to her, "Please pay attention to the details."

(a) She commanded her for paying attention to the details.
(b) She requested her that to pay attention to the details.
(c) She requests her that pay attention to the details.
(d) She requested her to pay attention to the details.

Q78. Select the word that is similar in meaning (SYNONYM) to the word given below.

Efficacy

(a) Impotence
(b) Efficiency
(c) Ineptness
(d) Futility

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Q79. In the following question, out of the given four alternatives, select the alternative which best expresses the meaning of the Idiom/Phrase.

All and sundry

(a) Advantages and disadvantages
(b) Everyone without distinction
(c) Full moon
(d) Holidays

Q80. Rearrange the parts of the sentence in correct order.

Corruption is

P. misuse and abuse of public office, either directly

Q. typified by dishonesty, exploitation or the

R. or indirectly, for personal gains or unjust enrichment

S. in negation of due process or established protocol

(a) QPRS
(b) PSRQ
(c) RSPQ
(d) PQSR

Q81. Find the part of the given sentence that has an error in it. If there is no error, choose 'No error'.

Fashion might not be first thing that comes to mind when we think of isolation strategies.

(a) we think of isolation strategies.
(b) No error
(c) Fashion might not be first
(d) thing that comes to mind when

Q82. Select the most appropriate 'one word' for the expression given below.

One who cures eye disease.

(a) Ophthalmologist
(b) Prologist
(c) Phonologist
(d) Biologist

Q83. Choose the word that can substitute the given group of words.

A person who is never happy with what he has

(a) Malcontent
(b) Heresy
(c) Malleable
(d) Miser

Q84. Choose the incorrectly spelt word.

(a) MOCKERY
(b) CROCKERY
(c) RELIGIOUS
(d) BENIDICTION

Q85. Choose the correctly spelt word.

(a) MEALIGN
(b) PRECISSION
(c) SABOTAGE
(d) MISSIONERY

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Q86. Select the most appropriate meaning of the given idiom.

Green light

(a) To be lost and confused
(b) To misunderstand
(c) To permit something to proceed
(d) To always compare

Q87. Some parts of a few sentences have been jumbled up, and labelled A, B, C and D. Select the option that gives the correct sequence in which these parts can be rearranged to form a meaningful and grammatically correct sentence

Our twelve years in the forest were

A. Ram had lost, we would have to

B. ending. Now, according to the wager

C. If during this year Mohan discovered our

D. spend a year in hiding.

whereabouts, we would have to endure another ten years in exile.

(a) BDCA
(b) CDAB
(c) BADC
(d) ACBD

Q88. Improve the underlined part of the sentence. Choose 'No improvement' as an answer if the sentence is grammatically correct.

A fully grow Chihuahua weighs less than the average house cat.

(a) fullest grown
(b) fully growth
(c) No improvement
(d) fully grown

Q89. Select the option that will improve the (bracketed) part of the sentence. In case of no improvement select the option 'No improvement'.

The play was (either as funny or as) disturbing as Shivang told it was.

(a) neither as funny nor as
(b) No improvement
(c) either as funny nor as
(d) neither as funny or as

Q90. Select the word that is closest in meaning (SYNONYM) to the word given below.

BLASPHEMOUS

(a) COSTLY
(b) DISRESPECTFUL
(c) REALITY
(d) AUTHENTIC

Q91. Select the correct passive form of the given sentence.

He writes a paper every weekend.

(a) A paper is written by him every weekend.
(b) A paper is been written by him every weekend.
(c) A paper was been written by him every weekend.
(d) A paper was written by him every weekend.

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Q92. Fill in the blank with an appropriate option.

It is important to ensure that we all have good clean water to drink that is not _____ by heavy metals or chemicals.

(a) knotted
(b) clarified
(c) purged
(d) contaminated

Q93. Parts of the following sentence are given as options. Identify the part that contains a grammatical error. If there is no error, select 'No error'.

They know they will face / either a swift backlash / or deafening silence.

(a) No error
(b) They know they will face
(c) or deafening silence.
(d) either a swift backlash

Q94. Choose the word that means the same as the given word.

Jarred

(a) Assented
(b) Accorded
(c) Macho
(d) Altercated

Q95. Select the most appropriate option to fill in the blank.

This has given rise to the view that the legal code is _____ against women and the poor.

(a) baked
(b) frank
(c) biased
(d) duplicitous

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 number.

There were other stories (1) _____ Krishna. How (2) ___ been born in a dungeon where his uncle Kamsa had imprisoned his parents with the intention of killing him at birth. How, in spite of the many prison guards, he had been miraculously spirited (3) ___ to safety in Gokul. How, in infancy, he killed a (4) ___ who tried to poison him with her breast milk. How he lifted up Mount Govardhan to shelter his people from a (5) _____ that would have drowned them.

Q96. Select the most appropriate option to fill in the blank No. 1.

(a) about
(b) upon
(c) with respect
(d) belonging to

Q97. Select the most appropriate option to fill in the blank No. 2.

(a) he have
(b) he was
(c) he has
(d) he had

Q98. Select the most appropriate option to fill in the blank No. 3.

(a) around
(b) away
(c) together
(d) gone

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Q99. Select the most appropriate option to fill in the blank No. 4.

(a) god
(b) demon
(c) satan
(d) demoness

Q100. Select the most appropriate option to fill in the blank No. 5.

(a) snowfall
(b) earthquake
(c) drought
(d) deluge

ANSWER KEY

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

SOLUTIONS

Q1. Answer: (a) 3241-5732

The logic followed here is:
Option 1) 3241-5732 → 3241 - 5732 = -2491.
Option 2) 2354-4835 → 2354 - 4835 = -2481.
Option 3) 1326-3807 → 1326 - 3807 = -2481.
Option 4) 2345-4826 → 2345 - 4826 = -2481.
So, 'Option 1' is odd among the given options.
Hence, the correct answer is "Option 1".

Q2. Answer: (d) 82

The logic followed here is:
Logic: (Sum of the place value of all numbers)² + 1 = Code of the word.
'BED' is written as '122'
=> (2 + 5 + 4)² +1
=> 11² + 1 = 122.
'CAB' is written as '37'
=> (3 + 1 + 2)2 +1
=> 62 + 1 = 37.
Similarly, for 'ADD'
=> (1 + 4 + 4)2 +1
=> 92 + 1 = 82.
So, 'ADD' will be written as '82'.
Hence, the correct answer is "82".

Q3. Answer: (c) 47

The logic followed here is:

So, '47' will complete the series,

Hence, the correct answer is "Option 3".

Q4. Answer: (b) [figure]

The paper when unfolded will appear as shown below:

Hence, the correct answer is "Option 2".

Q5. Answer: (c) (10, 100, 1000)

The logic followed here is:

Logic: (1st number)² = 2nd number,

(1st number)3 = 3rd number.

Now,

for, (12, 144, 1728)

=> (12)² = 144,

=> (12)3 = 1728.

for, (6, 36, 216)

=> (6)2 = 36,

=> (6)3 = 216.

Similarly, for (10, 100, 1000)

=> (10)2 = 100,

=> (10)3 = 1000.

Hence, the correct answer is "Option 3".

Q6. Answer: (d) 20

The triangles are:

The triangles in the figure can be counted by breaking the figure down into its components.

1. The number of single, smallest triangles is 8.
2. The number of triangles formed by combining 2 components is 4.
3. The number of triangles formed by combining 3 components is 4.
4. The number of triangles formed by combining 4 or more components is 4.

Total triangles = 8 + 4 + 4 + 4 = 20.

So, there are 20 triangles in the given figure.

Hence, the correct answer is "20".

Q7. Answer: (a) 156

The logic followed here is:

Consider R as '-' then divide by 2.

Given,

For, 739 R 635 = 52,

=> (739 - 635) ÷ 2

=> 104 ÷ 2 = 52.

For, 814 R 122 = 346,

=> (814 - 122) ÷ 2

=> 692 ÷ 2 = 346.

Similarly, for 532 R 220 = ?

=> (532 - 220) ÷ 2

=> 312 ÷ 2 = 156.

Hence, the correct answer is "156".

Q8. Answer: (a) [figure]

The correct mirror image of the given figure when the mirror is placed at line AB will be:

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Hence, "Option 1" is the correct answer.

Q9. Answer: (a) 25 and 51

BODMAS Table:

Given equation I. 45 + 15 × 30 ÷ 10 − 25

Now, if '+ and -' are interchanged, then:

=> 45 - 15 × 30 ÷ 10 + 25

=> 45 - 15 × 3 + 25

=> 45 - 45 + 25

=> 70 - 45 = 25.

Given equation II: 6 × 9 + 5 − 8 ÷ 4

Now, if '+ and -' are interchanged, then:

=> 6 × 9 - 5 + 8 ÷ 4

=> 6 × 9 - 5 + 2

=> 54 - 5 + 2

=> 56 - 5 = 51.

Here, the correct values are '25 and 51'.

Hence, the correct answer is "Option 1".

Q10. Answer: (b) Surgeon: Scalpel

The pattern followed here is:

Logic: The first word is a profession and the second word is a tool commonly used in that profession.

Farmer : Plough → Plough is a tool used by Farmer.

Similarly,

Surgeon: Scalpel → Scalpel is a tool used by the Surgeon.

Hence, the correct answer is "Option 2".

Q11. Answer: (c) Wrath

According to the sequence in the dictionary:

5. Wrack

4. Wrangler

1. Wrap

3. Wrasse

2. Wrath

According to the arrangement, "Wrath" will come at 'Fifth' position.

Hence, the correct answer is "Option 3".

Q12. Answer: (a) (Car, Truck, Road)

The logic followed here is:

Option 1) (Car, Truck, Road) → Here, Car and Truck are types of vehicles, and Road is where these vehicles are used.

Option 2) (Chair, Table, Stool) → All three are types of furniture. They all belong to the same category.

Option 3) (Choreographer, Editor, Carpenter) → These are all professional roles or jobs. They all belong to the same category.

Option 4) (Shirt, Trouser, Saree) → These are all types of clothing. They all belong to the same category.

So, 'Option 1' odd among the options.

Hence, the correct answer is "Option 1".

Q13. Answer: (c) YXXYWXY

The logic followed here is:

Given Sequence: WX _ WW _ _ Y _ W _ WXX _ Y _ Y

Now, putting the letters in the blank spaces given in the option one by one:

Option 1) WXXYXWW → WXW / WWXXYY / WXWXXWYWY

Option 2) YXYYWXX → WXY / WWXYYY / WWWXXXYXY

Option 3) YXXYWXY → WXY / WWXXYY / WWWXXXYYY

Here, 'Option 3' followed a pattern.

Option 4) WYXYWXY → WXW /WWYXYY / WWWXXXYYY
Hence, the correct answer is "Option 3".

Q14. Answer: (a) 10

According to the given Venn diagram:
The shaded area shows the "total number of pink are neither green nor yellow".
So, the total number of pink are neither green nor yellow = 10.
Hence, the correct answer is "10".

Q15. Answer: (c) ABMHKF

The logic followed here is:
For, 'ISLAND' is written as 'HTKBME',
For, 'TABLET' is written as 'SBAMDU',
Similarly, for 'BANGLE'
So, 'BANGLE' is coded as 'ABMHKF'.
Hence, the correct answer is "Option 3".

Q16. Answer: (a) [figure]

The logic followed here is:
Step I: Symbol
rotated 90 degree and shifted one place in anticlockwise direction.
Step II: Symbol
flipped 180 degree in alternate image.
Step III: Symbol
rotated 90 degree and shifted one place in anticlockwise direction.
Step IV: Symbol
rotated 90 degree and shifted one place in clockwise direction.
So, the complete series is:
Hence, the correct answer is "Option 1".

Q17. Answer: (a) Baman is sister of Chaman.

Family Chart:
Given:
Aman is the brother of Baman and Chaman.
Baman is Emily's mother.
Farhan is Aman's father.
Now, checking the options:
Option 1) Baman is sister of Chaman - True
Option 2) Aman and Emily are siblings - False
Option 3) Chaman is brother of Aman - False
Option 4) Chaman is male - False
Hence, the correct answer is "Option 1".

Q18. Answer: (b) [figure]

The correct mirror image of the given figure when the mirror is placed at line AB will be:
Hence, "Option 2" is the correct answer.

Q19. Answer: (d) (7, 4, 33)

The logic followed here is:
Logic: (1st number + 2nd number) × 3 = 3rd number.
Now,
For, (8, 5, 39)
=> (8 + 5) × 3
=> 13 × 3 = 39.

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For, (14, 11, 75)
=> (14 + 11) × 3
=> 25 × 3 = 75.
Similarly, for (7, 4, 33)
=> (7 + 4) × 3
=> 11 × 3 = 33.
Hence, the correct answer is "Option 4".
Additional Information
The logic followed here is:
Logic: (1st number)² -(2nd number)² = 3rd number.
Now,
For, (8, 5, 39)
=> $8^2 - 5^2$
=> 64 - 25 = 39.
For, (14, 11, 75)
=> $(14)^2 - (11)^2$
=> 196 - 121 = 75.
Similarly, for (7, 4, 33)
=> $7^2 - 4^2$
=> 49 - 16 = 33.
Hence, the correct answer is "Option 4".

Q20. Answer: (a) ZORY

The logic followed here is:
For, ATXJ : BVAN
Similarly, for YMOU :
So, 'YMOU' will be coded as 'ZORY'.
Hence, the correct answer is "Option 1".

Q21. Answer: (c) Either conclusion I or II follow.

Statements:
I. No mobile is an electronic item.
II. All electronic items are costly.
The least possible Venn diagram for the given statement is:
Conclusion:
I. No costly is a mobile - False (No definite relation given between costly and mobile, so it can be possible only).
II. Some costly are mobile - False (No definite relation given between costly and mobile, so it can be possible only).
Here, Conclusion I and III forms complementary pair for either-or.
So, Either conclusion I or II follow.
Hence, the correct answer is "Option 3".
Additional Information
Conditions of Either-or case:
1. The elements should be the same in both the statements.
2. Both the conclusions should be false individually.
3. One conclusion should be positive and one conclusion should be negative (Complementary pair)
• The two complementary pairs are:
1) All + Some not
2) No + Some
Note: Some + Some not is not considered under Either -or case.

Q22. Answer: (c) Butterfly

The pattern followed here is:
Tadpole : Frog → A tadpole is the juvenile form of a frog.

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Similarly,

Caterpillar : Butterfly → A caterpillar is the juvenile form of a butterfly.

Hence, the correct answer is "Option 3".

Q23. Answer: (d) 225

The logic followed here is:

Logic: (1st number ÷ 3)² = 2nd number.

Now,

For, 33 : 121

=> (33 ÷ 3)² = (11)² = 121.

For, 27 : 81

=> (27 ÷ 3)2 = (9)2 = 81.

Similarly, for 45 : ?

=> (45 ÷ 3)2 = (15)2 = 225.

Hence, the correct answer is "Option 4".

Q24. Answer: (d) 6 and 5

For find the adjacent faces of '4', we need to compare the common surface in the given dices,

Now,

From Dice 2 and Dice 3,

Here, 3, 5, and 6 is the adjacent surfaces of 4.

So, according to the options '6 and 5' will be the adjacent surfaces of 4.

Hence, the correct answer is "Option 4".

Q25. Answer: (c) GHI

The logic followed here is:

Option 1) UTS

Option 2) ONM

Option 3) GHI

Option 4) WVU

Here, All the options except 'GHI' followed a pattern.

Hence, the correct answer is "Option 3".

Q26. Answer: (d) Net demand deposits held by commercial banks

The correct answer is Option 4.

Key Points

• In the context of the Reserve Bank of India (RBI) defining M1, "DD" stands for Demand Deposits.

• Demand Deposits represent the net demand deposits held by commercial banks.

• Demand Deposits are a type of bank account from which deposited funds can be withdrawn at any time without any notice to the bank.

• These types of accounts include checking accounts, savings accounts, or any other type of bank account that allows for the immediate withdrawal of funds.

• They are considered to be highly liquid assets and are included in the calculation of the M1 money supply.

• Net Demand Deposits would account for the total of these deposits held by a bank, minus any amounts that the bank has itself deposited with other banks.

• This gives a more accurate view of a bank's liquidity and the amount of money readily available in the economy.

Additional Information

• The Reserve Bank of India (RBI) defines various monetary aggregates to measure the amount of money in circulation in the Indian economy.

• M1 money supply includes components such as:

• Currency (notes and coins in circulation with the public and vault cash of banks) - denoted as CU.

• Demand Deposits of the public (DD) with commercial banks.

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Q27. Answer: (d) File transfer protocol

The correct answer is Option 4.

Key Points

• FTP stands for File Transfer Protocol.

• It's a standard network protocol used for the transfer of computer files between a client and server on a computer network.

• FTP is built on a client-server model architecture using separate control and data connections between the client and the server.

Additional Information

• There are many protocols used in computer networking, each serving different functions and purposes. Some of the most commonly used protocols are:

• Internet Protocol (IP): It's primarily used to route packets of data from the source to the destination based on their IP addresses.

• Transmission Control Protocol (TCP): Works with IP to ensure that packets are reliably delivered. It manages error checking and retransmission of lost packets.

• User Datagram Protocol (UDP): A simpler, faster alternative to TCP that doesn't provide error checking or packet sequencing.

• Hypertext Transfer Protocol (HTTP): The protocol used for transferring web pages and other content over the internet.

• Hypertext Transfer Protocol Secure (HTTPS): A secure version of HTTP that provides encrypted communication and secure identification of network servers.

• File Transfer Protocol (FTP): A protocol for transferring files between systems.

• Simple Mail Transfer Protocol (SMTP): Used for sending email messages between servers.

• Post Office Protocol 3 (POP3) and Internet Message Access Protocol (IMAP): These are used to retrieve emails from a server.

• Domain Name System (DNS): Translates domain names into IP addresses.

• Simple Network Management Protocol (SNMP): Used for managing and monitoring network devices.

• Dynamic Host Configuration Protocol (DHCP): Assigns IP addresses to devices on a network.

• Network Time Protocol (NTP): Used to synchronize the clocks of computers over a network.

• Secure Shell (SSH): Allows for secure remote login from one computer to another.

• Telnet: An older protocol used for remote login. It's less secure than SSH.

• Internet Control Message Protocol (ICMP): Mainly used by network devices to send error messages.

• Address Resolution Protocol (ARP): Resolves IP addresses to MAC addresses.

• Link Layer Discovery Protocol (LLDP): Used by network devices for advertising their identities, capabilities, and neighbors on a local network.

Q28. Answer: (b) loess

The correct answer is Option 2.

Key Points

• "Loess" is the term for wind-deposited sediment that is composed predominantly of silt-sized particles.

• It's typically pale yellow or buff, loosely compacted, and often calcareous.

• Loess deposits can be very thick, even hundreds of meters, and can blanket very large areas.

• It is derived from the German term "Löss," which means loose or crumbly.

• It's found in many parts of the world, including the American Midwest, Europe, and China. The Loess Plateau in China, for example, is a well-known area of loess deposits.

Additional Information

• In geographical terms, a "stack" is a geological landform consisting of a steep and often vertical column or columns of rock in the sea near a coast, formed by wave erosion.

• Stacks are formed over time by wind and water, processes of coastal geomorphology.

• They are most commonly found in chalk or limestone areas, where the rock is softer and more prone to erosion.

• This process begins when the sea attacks small cracks in a headland and opens them into larger caves.

• If the caves are on both sides of a headland and eventually break through, they form an arch.

• Over time, the arch will collapse due to the force of gravity, leaving the pillar of hard rock standing away from the coast—the stack.

• Eventually, erosion will cause the stack to collapse, leaving a stump.Famous examples of stacks include the Twelve Apostles in Victoria, Australia, and Old Harry Rocks in Dorset, England.

• A moraine is a mass of rocks and sediment carried down and deposited by a glacier, typically as ridges at its edges or extremity.

• There are several types of moraines, and they can give us important clues about the glacier's past behavior.

• Here are the main types of moraines:

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• Lateral Moraines: These are formed at the side of the ice flow and are usually a result of frost shattering of the valley sides.

• Medial Moraines: These are formed when two glaciers merge, and lateral moraines combine to form a moraine in the middle of the glacier.

• Terminal Moraines: These mark the maximum advance of the glacier. They usually reflect the shape of the glacier's terminus.

• Recessional Moraines: These are often observed as a series of transverse ridges running across a valley behind a terminal moraine. They mark the pauses in the retreat of a glacier, where it remained stationary for enough time to produce a mound of material.

• Ground Moraines: Also called till, these are unsorted material left beneath the glacier as it melts.

Q29. Answer: (c) 90-93

The correct answer is Option 3.

Key Points

• The International Space Station (ISS) completes an orbit around the Earth approximately every 90 to 93 minutes.

• This high speed means the crew members aboard the ISS witness about 15-16 sunrises and sunsets every day.

• The International Space Station (ISS) is a multi-nation construction project that is the largest single structure humans have ever put into space.

• Its main construction was completed between 1998 and 2011, although the station continually evolves to include new missions and experiments.

Additional Information

• The orbit of the ISS is inclined at about 51.6 degrees to the equator, which allows it to be reached by the launch vehicles of all the international partners to provide a fair amount of coverage of the Earth's surface.

• It is a 'low Earth orbit', which means it's in the lowest part of Earth's outermost atmosphere.

• The ISS doesn't stay in a fixed orbit.

• It is gradually pulled back towards Earth due to atmospheric drag, so it needs occasional 'reboosts' to maintain its altitude.

• These reboosts are usually done by docked spacecraft like the Russian Progress cargo ships.

Q30. Answer: (a) Betting and gambling

The correct answer is Option 1.

Key Points

• "Betting and Gambling" is indeed listed under the State List in the Seventh Schedule of the Indian Constitution.

• This implies that individual state governments have the jurisdiction to make laws related to betting and gambling.

• However, it's important to note that while states can regulate this area, many forms of gambling are generally restricted or regulated in India.

Additional Information

• The Seventh Schedule of the Indian Constitution includes three lists:

• The Union List: This includes subjects on which only the central government can make laws. These subjects are of national importance, such as defense, foreign affairs, atomic energy, railways, etc.

• The State List: This includes subjects on which only the state governments can make laws. These subjects are of local or regional importance, such as police, agriculture, health, etc.

• The Concurrent List: This includes subjects on which both the central and state governments can make laws. Examples include bankruptcy and insolvency, marriage and divorce, bankruptcy and insolvency, education, etc.

Q31. Answer: (d) Mahendragiri

The correct answer is Option 4.

Key Points

• Mahendragiri is the highest peak in the Eastern Ghats mountain range.

• It is located in the Indian state of Odisha and has an elevation of 1,501 meters (4,925 feet) above sea level.

• Mahendragiri is also considered a sacred site in Hindu mythology and is believed to be the place where Lord Parashurama, a Hindu deity, performed penance.

• The mountain is also known for its beautiful natural surroundings and is a popular trekking destination for adventure enthusiasts.

Additional Information

• The Eastern Ghats is a mountain range that runs parallel to the eastern coast of India, stretching over 1,750 kilometers (1,087 miles) from West Bengal in the north to Tamil Nadu in the south.

• The range is lower in elevation compared to the Western Ghats and has an average height of around 600 meters (1,969 feet) above sea level, with some peaks reaching up to 1,500 meters (4,921 feet).

• The Eastern Ghats is a complex and diverse mountain range, consisting of several hills, plateaus, valleys, and forests, with a variety of flora and fauna.

• The range is home to many tribal communities, and several rivers originate from the Eastern Ghats.

• The Eastern Ghats is an important region for biodiversity conservation, with several protected areas and wildlife reserves, such as the Simlipal National Park and Biosphere Reserve in Odisha, the Papikonda Wildlife Sanctuary in Andhra Pradesh, and the Kambalakonda Wildlife Sanctuary in Visakhapatnam.

Q32. Answer: (c) Haryana

The correct answer is Option 3.

Key Points

• The fourth edition of the Khelo India Youth Games was actually hosted by the state of Haryana, India.

• The event was held from January 10 to January 20, 2020, and took place across various venues in the cities of Panchkula, Ambala, and Chandigarh.

• Over 6,800 athletes from 37 states and union territories participated in 20 different sports disciplines in the games.

• The Khelo India Youth Games is an annual national-level multi-sport event organized by the Ministry of Youth Affairs and Sports, Government of India, to identify young talent and promote a sports culture in the country.

Additional Information

• Khelo India Youth Games is a national level multi-sport event organized by the Ministry of Youth Affairs and Sports, Government of India.

• The aim of the games is to identify young talent in various sports disciplines and provide them with a platform to showcase their skills at the national level.

• The Khelo India Youth Games is held annually and features competitions in multiple sports disciplines, including athletics, boxing, swimming, wrestling, shooting, archery, and gymnastics.

• The Khelo India Youth Games were launched in 2018 and have since then become one of the largest sporting events in the country.

• The games are organized in two categories - Under-17 and Under-21 - and are held in different parts of the country each year.

• The Khelo India Youth Games provides a platform for young athletes from all parts of India to compete against each other and showcase their talent at the national level.

Q33. Answer: (b) 91 days, 182 days, 364 days

The correct answer is Option 2.

Key Points

• The Government of India issues Treasury Bills in three tenors: 91 days, 182 days, and 364 days.

• These Treasury Bills are short-term money market instruments issued by the Reserve Bank of India (RBI) on behalf of the Government of India to finance its short-term borrowing requirements.

• The correct combinations of tenors of Treasury Bills issued by the Government of India are:

• 91-day Treasury Bills

• 182-day Treasury Bills

• 364-day Treasury Bills

• These Treasury Bills are issued at a discount to face value and redeemed at face value upon maturity.

• The difference between the issue price and the redemption price is the interest earned by the investor, which represents the return on investment.

• Treasury Bills are considered to be very safe investments as they are backed by the full faith and credit of the Government of India.

Q34. Answer: (b) Neither I nor II

The correct answer is Option 2.

Key Points

• Neither of the pairs is correct.

• Eagle is not a term used in hockey. Hockey uses terms such as forward, defenseman, goal, power play, penalty kill, etc.

• Penalty kick is not a term used in volleyball. Volleyball uses terms such as serve, spike, block, dig, set, rotation, etc.

• A penalty kick is a term used in soccer, where it refers to a free kick taken from the penalty spot after a foul has been committed inside the penalty area.

Additional Information

• Some important terms related to sports are listed here-

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• Football: Corner kick, direct free kick, indirect free kick, dribble, goal kick, penalty, hat triick, off side, tripping etc.
• Volleyboll: Blocking, Doubling, heave, holding, love service, volley
• Basket ball: Ball, basket, blocking, dribbling, free throw, held ball, holding, jump ball, multiple throws, pivot, etc.
• Hockey: Bully, carry, corner, dribble, hat trick, off-side, scoop, short corner, long corner, penalty stroke, etc.
• Cricket: Power-play, boundary, bowling, wicket, l.b.w, leg-bye, maiden over, no ball, off break, out, over, pitch, run out, sixer, straight drive, stumped, yorker etc.
• Tennis: Ace, Backhand, Stroke, deuce, deep volley, double fault, fault, ground stroke, half volley, let, lov, slice, smash, volley etc.
• Table tennis: Anti loop, Backspin, chop, loop, penhold grip, twiddle etc.

Q35. Answer: (a) Mahakal Lok Corridor

The correct answer is Option 1.

Key Points

• On Tuesday, Prime Minister Narendra Modi inaugurated the Mahakal Lok corridor at the Mahakaleshwar temple in Ujjain.
• The corridor is 900 metres long and has been built at a cost of Rs 856 crore.
• The first phase of the project was developed at a cost of Rs 351 crore.

Additional Information

• The Mahakaleshwar temple is one of the most famous and important Shiva temples in India.
• It is located in the ancient city of Ujjain in the state of Madhya Pradesh.
• The temple is dedicated to Lord Shiva, who is worshipped there in the form of a lingam, which is believed to be one of the twelve Jyotirlingas in India.
• The temple has a long and rich history, with some parts of it dating back to the 4th century BCE.
• The temple has been destroyed and rebuilt several times throughout its history, with the current structure dating back to the 18th century.
• The Mahakaleshwar temple is considered to be one of the most sacred places in Hinduism and attracts thousands of pilgrims every year.

Q36. Answer: (b) Droupadi Murmu

The correct answer is Droupadi Murmu

Key Points

The President of India is called first citizen of India.

• He is also commander-in-chief of the Indian Armed Forces.
• The president is indirectly elected by a college of electors comprising the Indian Parliament (both houses) and the legislative assemblies of each of India's states and territories, all directly elected.
• He is the nation's legislative Head.
• As a citizen of India, a common man ranks in 27th place.
• The President of India is called the Nominal head.
• The President resides in an estate known as the Rashtrapati Bhavan (President's House) situated in Raisina Hill in New Delhi.

Droupadi Murmu

• Droupadi Murmu was elected the 15th President of India.
• Since July 25, 2022, Droupadi Murmu, also known as Puti Biranchi Tudu, has held the office of India's 15th president.
• She was born on June 20, 1958. After Pratibha Patil, she is the second woman to hold the position and the first member of a tribal community to do so.
• Along with being the first President born in Independent India, she is also the youngest person to hold the position.

Additional Information Citizen of India as per the Order of Precedence of the Republic of India:

• Citizen No.1: President.
• Citizen No. 2: Vice-President.
• Citizen No. 3: Prime Minister.
• Citizen No.4: Governors (within their respective states).
• Citizen No.5: Former Presidents.
• Citizen No. 5A: Deputy Prime Minister.
• Citizen No.6: Chief Justice of India, Speaker of Lok Sabha

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Q37. Answer: (d) Spread sheet software

The correct answer is Spread sheet software

• An Excel spreadsheet helps in Sorting data, Arranging data easily, and Calculating numerical data.

Key Points:

• Microsoft Excel is part of the Microsoft Office suite of programs and was developed by Microsoft in 1987.

• Microsoft Excel is a spreadsheet program used to record and analyze numerical and statistical data.

• Microsoft Excel provides multiple features to perform various operations like calculations, pivot tables, graph tools, macro programming, etc.

• An Excel spreadsheet can be understood as a collection of columns and rows that form a table.

• A worksheet is made of rows and columns that intersect each other to form cells where data is entered.

• Alphabetical letters are usually assigned to columns, and numbers are usually assigned to rows.

• The point where a column and a row meet is called a cell.

• The address of a cell is given by the letter representing the column and the number representing a row.

• The main features of MS Excel are:

• AutoFormat: It allows Excel users to use predefined table formatting options.

• AutoSum: AutoSum feature helps us to calculate the sum of a row or column automatically by inserting an addition formula for a range of cells.

• List AutoFill: It automatically develops cell formatting when a new component is added to the end of a list.

• AutoFill: This feature allows us to quickly fill cells with a repetitive or sequential record such as chronological dates or numbers and repeated documents. AutoFill can also be used to copy functions. We can also alter text and numbers with this feature.

• AutoShapes: AutoShapes toolbar will allow us to draw some geometrical shapes, arrows, flowchart items, stars, and more. With these shapes, we can draw our graphs.

• Wizard: It guides us to work effectively while we work by displaying several helpful tips and techniques based on what we are doing. The drag and Drop feature will help us to reposition the record and text by simply dragging the data with the help of the mouse.

• Charts: This feature will help you to present the data in graphical form by using Pie, Bar, Line charts, and more.

• PivotTable: It flips and sums data in seconds and allows us to execute data analysis and generating documents like periodic financial statements, statistical documents, etc. We can also analyze complex data relationships graphically.

• Shortcut Menu: The shortcut menu helps users to make the work done through shortcut commands that need a lengthy process.

Additional Information System software:

• System software is a type of computer program that is designed to run a computer's hardware and application programs.

• The system software is the interface between the hardware and user applications.

• The operating system is the best-known example of system software.

• The OS manages all the other programs on a computer.

• System software is used to manage the computer itself. It runs in the background, maintaining the computer's basic functions so users can run higher-level application software to perform certain tasks.

• Essentially, system software provides a platform for application software to be run on top of.

Operating system software:

• An operating system is the most important software that runs on a computer.

• It manages the computer's memory and processes, as well as all of its software and hardware.

• It also allows you to communicate with the computer without knowing how to speak the computer's language.

• Without an operating system, a computer is useless.

Q38. Answer: (c) Rs 202

Correct Answer Rs 202

Key Points

• Economic Survey 2020-21, the wages per day under the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) were Rs. 202, effective from 1st April 2020.

• It's important to note that the wages under MGNREGA can vary across different regions and states, so it's always best to consult official government sources for the most up-to-date and accurate information.

MGNREGA:

• The scheme was introduced as a social measure that guarantees “the right to work”.

• The key tenet of this social measure and labour law is that the local government will have to legally provide at least 100 days of wage employment in rural India to enhance their quality of life.

• The Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) was passed in 2005.

• The Acts guarantees the "Right To Work" and aims at enhancing the livelihood security of rural peoples.

• The Mahatma Gandhi National Rural Employment Guarantee Act, 2005 (MGNREGA) was notified on September 7, 2005.

Q39. Answer: (b) Droupadi Murmu

The correct answer is Droupadi Murmu

Key PointsPresident Droupadi Murmu

• President Droupadi Murmu was elected the 15th President of India.

• Since July 25, 2022, President Droupadi Murmu, also known as Puti Biranchi Tudu, has held the office of India's 15th president.

• She was born on June 20, 1958. After Pratibha Patil, she is the second woman to hold the position and the first member of a tribal community to do so.

• Along with being the first President born in Independent India, she is also the youngest person to hold the position.

Additional Information ????.

• On June 20, 1958, Droupadi Murmu was born to a Santali family in the village of Uparbeda in the Rairangpur, Odisha, neighborhood of Baidaposi. Biranchi Narayan Tudu, her father, was a farmer.

• Her father and grandfather served as the local council's traditional leaders, or Sarpanch (Gram Panchayat).

• They gave her the name Puti Tudu.

• Her teacher changed her name from Durpadi to Droupadi, and she had previously gone by the names Dorpdi and Durpadi.

• Ram Nath Kovind is the 14th President of India.

• That presidential election was held on 17th July 2017.

• He was earlier the Governor of Jharkhand.

• Pratibha Devi Singh Patil was the first woman president of India.

• She was born on 19 December 1934.

• She is an Indian politician who served as the 12th President of India from 2007 to 2012.

Q40. Answer: (c) Sub-Tropical High Pressure

The correct answer is Sub tropical high-pressure

Key Points:

• The subtropical high-pressure belt region is also known as the horse latitude. These latitudes are characterized by calm winds and little precipitation.

• These ships often encountered areas of high pressure and calm winds, making them unable to sail and resupply for days or even weeks. The crews often ran out of drinking water. To conserve water for their own survival, the sailors would throw the horses into the sea, hence the name horse latitudes.

• A horse latitude is a belt of calm air and sea in both the northern and southern hemispheres between the trade winds and the westerlies.

Additional Information:

• The "doldrums" is a popular nautical term that refers to the belt around the Earth near the equator where sailing ships sometimes get stuck on windless waters. This NASA satellite image shows the Inter-Tropical Convergence Zone, known to sailors around the world as the doldrums.

• Polar Highs: At the North and South Poles, between 700 to 900 North and South, the temperatures are always extremely low. The cold descending air gives rise to high pressures over the Poles. These areas of high pressure are known as the Polar Highs.

• the equatorial low: Near the equator the sea level pressure is low and the area is known as the equatorial low. Along 30° N and 30° S are found the high-pressure areas known as the subtropical highs. Further pole wards along 60° N and 60° S, the low-pressure belts are termed as the subpolar lows.

Thus, Sub tropical high-pressure belt on the globe is otherwise known as the Horse Latitude.

Q41. Answer: (b) Underweight

Correct Answer Underweight

Key Points BMI stands for Body mass index which is the measure of body fat based on the height and weight of men and women.

• Increased BMI is usually associated with an increased risk of metabolic diseases such as type II diabetes mellitus, hypertension & dyslipidemia.

• BMI is widely used to know whether a person has a healthy weight equivalent to height or not.

• BMI categories: Underweight < 18.5, Normal Weight: 18.5 - 24.9, Overweight: 25 - 29.9, Obesity > 30.

• We can find the BMI of a person by using the given formula:

• BMI = (Weight in kg)/(Height in meters)2

Additional Information

• A healthy weight is associated with a low risk of weight-related diseases and health issues. If BMI is 18.5 to 24.9, it falls within the normal or Healthy Weight range.

• Obesity: It is a disorder of excessive body fat that increases the risk of various diseases like Hypertension, cardiac arrest, diabetes, etc. It is characterized by a BMI of more than 30.

• Overweight is a BMI greater than or equal to 25-29.9. Overweight is defined as abnormal or excessive fat accumulation that may impair health.

Q42. Answer: (b) Ugadi

The correct answer is Ugadi.

Key Points:

• Ugadi is one of the famous festivals celebrated among the Hindus with great pomp and fanfare. Ugadi is celebrated as the New Year of the Telugu and Kannada people.

• The festival of Ugadi is celebrated on the first day of Chaitra month according to the Hindu calendar.

• On the other hand, according to the Gregorian calendar, this festival falls in March or April.

• With the arrival of spring, this festival also marks the arrival of a new crop for the farmers.

• On the day of Ugadi, Lord Brahma, the creator of the universe, is worshipped.

• This festival brings us very close to nature and on this day a drink called Pachadi is made which is very healthy.

• On this auspicious day, people in South India also start new work, such as starting a new business, home entry etc.

Additional InformationMonpa Tribe:

• The Losar Festivals are celebrated in Arunachal Pradesh.

• It is celebrated by the people of the Monpa Tribe who are said to be inhabitants of Arunachal Pradesh.

• Losar is a 3-day festival, which is celebrated with great pomp and show in Tawang.

• The festival is observed to ward off evil spirits and welcome the new year that shall be filled with happiness and prosperity.

Vishu:

• Vishu marks the beginning of the New Year for the people of Kerala.

• The festival is celebrated in the month of Medam of the Malayalam calendar with much pomp and vigour.

• The most important part of the festival is the Vishukani.

• Apart from Kerala, the festival is celebrated in neighbouring regions like Mangalore, Tulunadu, and Udupi.

• Vishu is also called the festival of fireworks and light as the celebration includes the bursting of firecrackers. It is said that Krishna killed the demon Narakasur on the day of Vishu.

Dasara or Mahanavani:

• Dasara is observed as a State festival - Nadahabba in Karnataka.

• It's a 10-day festival, the last day being Vijayadashami.

• It is a day when Hindu Goddess Chamundeshwari killed the demon Mahishasura.

• After the fall of the Vijayanagar kingdom Raja Wodiyar, 1 continued the festival in 1610 at Srirangapattana.

• During the reign of Krishnaraja Wodeyar III, in 1805, the tradition of having a special durbar (royal assembly) in the Mysore Palace during Dasara was started.

Q43. Answer: (d) Robert Clive

The correct answer is Robert Clive.

Key Points:

• The East India Company forces led by Robert Clive engaged Siraj-Ud-Daulah in the Battle of Plassey.

• Siraj-Ud-Daulah was the Nawab of Bengal.

• Siraj was enraged by the widespread abuse of trade privileges by EIC authorities.

• The battle of Plassey in 1757 was brought on by EIC's continued wrongdoing against Siraj-Ud-Daulah.

• About 160 kilometres north of Calcutta, close to the little settlement of Plassey (Palashi), the forces came together on the banks of the Bhagirathi-Hooghly River.

• On June 23, 1757, the Battle of Plassey was fought.

• Robert Clive's army of 3,000 troops destroyed Siraj-Ud-army Daulah's of 50,000 warriors, 40 cannons, and 10 war elephants.

• In 11 hours, the battle was over, and Siraj-Ud-Daulah fled after losing.

Additional Information:

• The Battle of Plassey was fought in north-eastern India on 23 June 1757.

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• Troops of the British East India Company, led by Robert Clive, came up against the forces of Siraj-ud-Daulah, the last Nawab of Bengal, and his French allies.

• Clive's victory eventually led to the British becoming the greatest economic and military power in India.

• The Battle of Plassey had political significance for it laid the foundation of the British Empire in India.; it has been rightly regarded as the starting point of British rule in India.

• Result of Battle of Plassey-

• As a result of this victory, Mir Jafar became the Nawab of Bengal. He gave large sums of money plus the zamindari of 24 Parganas to the English.

• English rivals, the French were ousted.

Q44. Answer: (a) Australia

The correct answer is 'Australia'.

Key Points

• A memorandum of understanding was inked between India and Australia to use artificial intelligence and machine learning in aerospace, on the final day of the Bengaluru Space Expo (BSX), 2022.

• The MoU was signed between Bengaluru-based aerospace company Valdel Advanced Technologies and Australian artificial intelligence company AICRAFT.

• The MoU, which was signed in the presence of Indian Space Research Organisation (ISRO) scientific secretary Shantanu Bhatawdekar and Australian Space Agency head Enrico Palermo, will work towards using the AI capabilities of AICRAFT to help Valdel with simulation and manufacturing capabilities through the use of advanced AI and machine learning.

• Both parties have agreed to utilize AICRAFT’s advanced artificial intelligence and machine learning capability and products to support Valdel’s modelling, simulation and manufacturing capabilities.

• Valdel’s facilities will also be used to test AICRAFT’s systems and platforms.

Additional Information

• The seventh edition of Bengaluru Space Expo (BSX) was hosted from September 5 to 7 in Bengaluru.

• Australia’s Space Machines Company, an aerospace company, opened a new research and development office in Bengaluru on September 6.

Q45. Answer: (b) Arundhati Roy

The correct answer is Arundhati Roy

Key Points

• Arundhati Roy is a Political Activist and Writer.

• Her debut Novel is the "God of Small Things" has won the Booker Prize in 1997.

• The Novel depicts Corruption, Political Violence, and Capitalism.

Additional Information:Sunita Narian has written the book 'Conflicts of Interest; My journey through India's Green Movement" in 2017.

• India's foremost environmentalist, Sunita Narain gives a personal account of her battles as part of the country's Green Movement.

• While outlining the enormous environmental challenges that India faces today.

• Narain talks about how corporate lobbies and political interests often scuttle their effective resolution.

• Sunita Narain is an Indian environmentalist and political activist as well as a major proponent of the Green concept of sustainable development.

• Movies: - Before the Flood, River blue, Flow: For Love of Water, Weather Report

• Awards: - Stockholm Water Prize, Padma Shri

• Books: - Excreta Matters, Capitan America: US Climate Goals: a Reckoning, Not in My Backyard: Solid Waste Management in Indian Cities.

Book	Author
Da Vinci Code	Dan Brown
The LowLand	Jhumpa Lahiri
When God is a Traveller	Arundhati Subramaniam
Speed Post	Shobhaa De
Beyond Religious Ethics for a Whole World	Dalai Lama

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Kashmir: The Unwritten History	Christopher Snedden
India: The Future is Now	Shashi Tharoor
Half Lion: How Pv Narsimha Rao transformed India	Vinay Satpati
Lone Fox Dancing	Ruskin Bond
Quichotte	Salman Rushdie

Q46. Answer: (c) Chhatrapati Shivaji Maharaj

The correct answer is Chhatrapati Shivaji Maharaj.

Key Points

• Chhatrapati Shivaji Maharaj

• Shivaji was named Chhatrapati in 1674 and the Maratha empire came to an end in 1818 after the defeat of Peshwa Bajirao II by the British East India company.

• This initially began by freeing the people from the Sultanate of Bijapur when he won Fort Torna in 1645 and after this, it continued by winning other forts.

• His aim was to establish an empire of self-rule for the Hindu people.

• He kept Raigad as his capital and they gave tough fights to the Mughals to defend his kingdom.

Additional Information

• Prithviraj Chauhan

• Prithvirāja III, popularly known as Prithviraj Chauhan, was an Indian king from the Chahamana (Chauhan) dynasty.

• From his very early years, Prithvi Raj showed his sharpness and brilliance by learning all military skills.

• It was believed he mastered the skills of aiming the target based on its sound, known as the “Shabdbhedi” technique.

• He succeeded to the throne of Ajmer at the age of thirteen, in 1179, after the demise of his father in a battle.

• Prithviraj’s grandfather Angam, the ruler of Delhi, declared Prithviraj Chauhan the heir to the throne of Delhi.

• Man Singh

• Man Singh was the Kachwaha Rajput Raja of Amer, a state later known as Jaipur in Rajputana.

• He was a trusted general of the Mughal emperor Akbar, who included him among the Navaratnas of the royal court of Akbar.

• Porus

• In 326 BC, Alexander invaded India, after crossing the river Indus he advanced towards Taxila.

• He then challenged King Porus, ruler of the kingdom between the rivers Jhelum and Chenab.

• The Battle is called the “Battle of Hydaspes” named after the Hydaspes River (now Jhelum).

• The Porus were defeated in the fierce battle, even though they fought with elephants, which the Macedonians had never before seen.

• Alexander captured Porus and, like the other local rulers he had defeated, allowed him to continue to govern his territory.

Q47. Answer: (d) 8^(th) March

The correct answer is 8th march.

Key Points

• International Women's Day is celebrated on 8th March.

• International Women's Day is a global day celebrating the social, economic, cultural, and political achievements of women.

• The day also marks a call to action for accelerating gender parity.

• This year's theme for International Day is "Women in leadership: Achieving an equal future in a COVID-19 world".

Important Points

• National Women's Day- 13 February

• National Girl Child Day- 24 January

• International Day of the Girl Child- 11 October

Additional Information

March 2021 Important Days	
Date	Name of Important Days
1 March	Zero Discrimination Day

1 March	World Civil Defence Day
3 March	World Wildlife Day
3 March	World Hearing Day
4 March	National Safety Day
8 March	International Women's Day
10 March	CISF Raising Day
10 March	No Smoking Day (Second Wednesday of March)
12 March	Mauritius Day
14 March	Pi Day
14 March	International Day of Action for Rivers
15 March	World Consumer Rights Day
15 March	Ramakrishna Jayanti
16 March	National Vaccination Day
18 March	Ordnance Factories Day (India)
20 March	International Day of Happiness
20 March	World Sparrow Day
21 March	World Forestry Day
21 March	World Down Syndrome Day
21 March	World Poetry Day
22 March	World Water Day
23 March	World Meteorological Day
24 March	World Tuberculosis (TB) Day
27 March	World Theatre Day

Q48. Answer: (b) Bansuri

The correct answer is Bansuri.

Key Points

• Pandit Hariprasad Chaurasia

• Pandit Hariprasad Chaurasia is a world-renowned exponent of the bansuri or bamboo flute.

• He is one of those rare classical musicians who expanded the peripheries of classical music by taking it to the common masses.

• Pandit Hariprasad Chaurasia is an internationally renowned exponent of the 'bansuri', or the bamboo flute and is the recipient of the Padma Vibhushan and Padma Bhushan awards, which are among the three highest civilian awards in India.

• This musician has donned many hats — of an extraordinary flute artiste, titan of Hindustani classical genre and music director.

Additional Information

• Tabla

• Tabla is a small drum or Pair of Drums tuned to different pitches playing with hands.

• It was invented by Amir khusru

• The right side is called the Tabla and the left, the Bayan or Dagga.

• It is type of Avanaddha vadya or Membranophones

• Veena

• The veena is among the oldest of Indian musical instruments.

• From the references to Vedic writings, it can date back to around the first millennium B.C.

• Temple sculptures from the 2nd century B.C. show a type of veena being played.

• The Saraswati veena is the predominant Carnatic music and the Rudra veena is the most played veena in Hindustani music.

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• The Saraswati veena has seven strings strung over twenty-four fixed frets.

• It has a large resonator (kudam), a tapering hollow neck (dandi), and a tuning box that curves downwards (yali).

• The Hindu Goddess of Knowledge, Saraswathi, is said to play the Veena. Pictures depict her sitting on a lotus and playing the instrument.

• Muthuswami Dikshitar, Veenai Dhanammal, Veena Sheshanna, etc. are the famous veena players.

• Drum:-

• The drum is made of wood or brass with drumheads made of calfskin or plastic stretched over both ends of a hollow cylinder.

• It has a set of wire-wrapped strings stretched across the bottom head (the snare), which gives the drum its unique "rattling" sound when the drum is hit. A small switch on the side of the drum allows the player to turn the snare on or off depending on the requirements of the piece.

Q49. Answer: (b) Human muscle cells

the correct answer is Human muscle cells.

Key Points

• Human muscle cells

• Aerobic respiration is a process in which the breakdown of glucose occurs in the presence of oxygen. Anaerobic respiration is a process in which food can also be broken down in the absence of oxygen.

• The breakdown of glucose takes place in three ways that are as follows

• The food is broken down to release energy in the presence of oxygen to give carbon dioxide, water, and energy.

• The organisms that can survive in the absence of air are called anaerobes. Through the anaerobic respiration process, they get the energy to survive. In the absence of oxygen, glucose breaks down into alcohol and carbon dioxide.

• When there is a temporary deficiency of oxygen, Our muscle cells respire anaerobically for a short period of time. During heavy exercise, fast running, cycling, walking for many hours, or heavy weight lifting, the demand for energy is high. But the supply of oxygen to produce the energy is limited. The demand for energy in the muscle cells takes place through anaerobic

Additional Information

• Bacteria

• Bacteria are microscopic prokaryotes (single-celled organisms). They are the sole members of Kingdom Monera.

• Bacteria have variations in their shape, on the basis of their shape bacteria are of different types like :

• Coccus

• Bacillus

• Spirillum

• Vibrio

• Yeast

• “Yeast is a fungus that grows as a single cell, alternately as a mushroom,” assumes Laura Rusche, associate professor of biological sciences.

• Though every yeast organism is made up of just one cell, yeast cells live jointly in multicellular colonies.

• Yeast cells are classified as fungi as they have some characteristics similar to fungi, such as the presence of chitin in cell walls, extracellular digestion, saprophytic mode of nutrition, asexual reproduction by budding, and food reserved as glycogen.

• Mitochondria

• Mitochondria is a double-layered cell organelle, in which the outer layer is porous and the inner layer is folded upon itself is known to be cristae.

• The number of mitochondria in a single cell may be up to 50 to 5000.

• The inner lumen of mitochondria contains ribosome phosphate particles and DNA molecules.

• It has the potential to synthesize its own protein and the oxidation of carbohydrates and fats are taken place with the help of enzymes in mitochondria.

• This energy is stored in the form of ATP (Adenosine Triphosphate) so, these are known as the "Powerhouse of the cell".

Q50. Answer: (b) Asia

The correct answer is Asia.

Key Points

• Asia continent produces more than half of the world's tin.

• In Asia, China is the major producer of tin.

• Tin is found in the ore cassiterite.

Additional Information

• Asia is the largest continent & It covers about one-third of the total land area of the earth.
• The continent lies in the Eastern Hemisphere. The Tropic of Cancer(23 1/2° N) passes through this continent.
• Asia is separated from Europe by the Ural mountains on the west.
• The combined landmass of Europe and Asia is called Eurasia (Europe + Asia).

Q51. Answer: (d) $(x/6+y/4)^2$

Concept Used:

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

Calculation:

$(4 x^2+9 y^2+12 x y)/144$

$=> ((2x)^2+(3y)^2+2\times 2\times 3\times x y)/((12)^2)$

$=> ((2x+3y)^2)/((12)^2)$

$=> ((2x+3y)/12)^2$

$=> (2x/12+3y/12)^2$

$=> (x/6+y/4)^2$

Therefore Option 4 is the correct answer.

Q52. Answer: (c) Only II

Calculation:

Statement I:

Number of Pencil sold by A in P and Q together = 150 + 140 = 290

Number of Pencil sold by B in S and T together = 130 + 125 = 255

Percent of number of pencil sold by A in P and Q together to number of pencil sold by B in S and T together = 290 / 255 × 100 = 113.72%

The number of pencil sold by A in P and Q together is 13.72 percent more than the number of pencil sold by B in S and T together.

Therefore Statement I is wrong.

Statement II:

Number of Pencil sold by B in Q and R together = 110 + 160 = 270

Number of Pencil sold by A in P and T together = 150 + 105 = 255

Percent of the number of pencil sold by B in Q and R together to the number of pencil sold by A in P and T together = 270/255 × 100 = 105.88%

Statement II is correct.

Therefore Option 3 is the correct answer.

Q53. Answer: (a) Rs. 2,900

Shortcut Trick

Income ratio 4 : 7 → 4 units = Rs. 2,800 => 1 unit = Rs. 700 => Narendra income = 7 × 700 = Rs. 4,900.

Jitendra expenditure = 2,800 − 400 = Rs. 2,400.

Expenditure ratio 6 : 5 → 6 units = Rs. 2,400 => 1 unit = Rs. 400 => Narendra expenditure = 5 × 400 = Rs. 2,000.

Narendra savings = 4,900 − 2,000 = Rs. 2,900.

Therefore The correct answer is Rs. 2,900.

Alternate Method

Given:

Income ratio (Jitendra : Narendra) = 4 : 7

Expenditure ratio (Jitendra : Narendra) = 6 : 5

Jitendra income = Rs. 2,800 | Jitendra savings = Rs. 400

Formula Used: Savings = Income − Expenditure

Step-by-step Calculations:

=> Jitendra income (4 units) = 2,800

=> 1 unit of income = 2,800 ÷ 4 = 700

=> Narendra income = 7 × 700 = Rs. 4,900

=> Jitendra expenditure = Income − Savings = 2,800 − 400 = Rs. 2,400

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=> Jitendra expenditure ratio (6 units) = 2,400

=> 1 unit of expenditure = 2,400 ÷ 6 = 400

=> Narendra expenditure = 5 × 400 = Rs. 2,000

=> Narendra savings = 4,900 − 2,000 = Rs. 2,900

Therefore The correct answer is Rs. 2,900.

Additional Information

Basic Income-Expenditure Relation

Total Income is always the sum of Expenditure and Savings. Income = Expenditure + Savings.

Ratio Unitary Method

When the actual value of one part of a ratio is known, multiply the single unit value by the other ratio parts to find their respective actual values.

Percentage Savings

Savings % = (Savings ÷ Income) × 100. This is useful for comparing saving habits across different income levels.

Variable Method

If incomes are 4x, 7x and expenditures are 6y, 5y, then 4x − 6y = Saving1 and 7x − 5y = Saving2.

Q54. Answer: (d) -1

Given

m = sec θ - tan θ

n = cosec θ + cot θ

Calculation:

m = sec θ - tan θ = (1 - sin θ)/cos θ

n = cosec θ + cot θ = (1 + cos θ)/ sin θ

m + n(m - 1) = m + nm - n)

(1 - sin θ)/cos θ + (1 - sin θ)/cos θ × (1 + cos θ)/ sin θ - (1 + cos θ)/ sin θ

(sin θ - cos θ - 1 + 1 - sin θ + cos θ - cos θ × sin θ)/sin θ × cos θ

(- cos θ × sin θ)/sin θ × cos θ

• 1

Therefore Option 4 is the correct answer.

Q55. Answer: (c) 450

Calculation:

P1 = The total sales of bikes of all the 5 companies = 50 + 25 + 125 + 150 + 200 = 550

P2 = The total sales of cars of the all 5 companies = 300 + 75 + 175 + 250 + 200 = 1000

P2 - P1 = 1000 - 550 = 450

Therefore Option 3 is the correct answer.

Q56. Answer: (b) 3 : 4

Given:

Discount on article A = 20%

Discount on article B = 15%

Formula:

Discount = (Marked Price - Selling Price) / Marked Price

Solution:

Let's assume the marked price of Article A as "MA" and the marked price of Article B as "MB".

Calculate the discount amount on Article A.

Discount Amount on A = MA × (20/100) = 0.2 × MA

Calculate the discount amount on Article B.

Discount Amount on B = MB × (15/100) = 0.15 × MB

As per the given information, the discount amount on A is equal to the discount amount on B.

0.2 × MA = 0.15 × MB

Simplify the equation to find the ratio of the marked prices.

MA /MB = (0.15/0.2)

MA/MB = 0.75

Therefore, the ratio of the marked price of Article A to the marked price of Article B is 0.75 or 3:4.

Q57. Answer: (a) 24.64

Given:

Side of equilateral triangle = 12 cm

An incircle with center O is drawn inside an equilateral triangle ABC.

Concept Used:

Area of equilateral triangle = √3/4 × side²

Area of circle = πr²

Inradius of equilateral triangle = side/2√3

Calculation:

Given that the side length of the equilateral triangle is 12 cm, we can calculate the radius:

=> r = (12 / 2√3)

=> 6 /(√3)

=> 2√3 cm

Now, let's find the area of the incircle using the formula:

Area of incircle = π × r²

Area of incircle = π × (2√3)²

=> 12π cm²

Next, we find the area of the equilateral triangle using the formula:

Area of equilateral triangle = (√3 / 4) × (side)²

Area of equilateral triangle = (√3 / 4) × (12)²

=> (√3 / 4) × 144

=> 36√3 cm²

Finally, we can subtract the area of the incircle from the area of the equilateral triangle to find the area outside the incircle:

Area outside incircle = Area of equilateral triangle - Area of incircle

=> 36√3 cm² - 12π cm²

=> 62.32 - 37.68

=> 24.64 cm²

Therefore Option 1 is the correct answer.

Q58. Answer: (b) 60 percent

Given:

Quantity of milk purchased: 30 litres

Cost of milk per litre: Rs. 50

Quantity of water added: 20 litres

Selling price of the mixture: Rs. 48 per litre

Formula Used:

Cost Price (CP) = Cost per litre × Quantity

Selling Price (SP) = Selling price per litre × Quantity

Profit = SP - CP

Profit Percentage = (Profit / CP) × 100

Calculation:

The cost price of 30 litres of milk = Rs. 50 × 30 = Rs. 1500.

He mixes 20 litres of water in it.

Total quantity of mixture = 30 + 20 = 50 litres.

The selling price of 50 litres of mixture = Rs. 48 × 50 = Rs. 2400.

Profit = Rs. (2400 - 1500) = Rs. 900.

Profit percentage = (900/1500) × 100 = 60%.

Therefore, the profit percentage is 60%.

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Q59. Answer: (b) 300%

Given:

30% of P = 15% of Q

20% of Q = 10% of R

To find:

(R-P)/P × 100

Solution:

30% of P = 15% of Q

20% of Q = 10% of R

(30/100)P = (15/100)Q

(20/100)Q = (10/100)R

P = (1/2)Q

Q = (1/2)R

P = (1/4)R

R = 4P

R is 300% more than P.

Q60. Answer: (b) 18

Shortcut Trick

If $x^2 + 1/x^2 = a$, then $x + 1/x = \sqrt{(a + 2)}$.

Here, $x + 1/x = \sqrt{(7 + 2)} = \sqrt{9} = 3$.

If $x + 1/x = k$, then $x^3 + 1/x^3 = k^3 - 3k$.

Required value = $3^3 - (3 \times 3) = 27 - 9 = 18$.

Therefore The correct answer is 18.

Alternate Method

Given: $x^2 + 1/x^2 = 7$

Formula Used: $(x + 1/x)^2 = x^2 + 1/x^2 + 2$ and $(x + 1/x)^3 = x^3 + 1/x^3 + 3(x + 1/x)$

=> $x^2 + 1/x^2 = 7$

=> Adding 2 to both sides: $x^2 + 1/x^2 + 2 = 7 + 2$

=> $(x + 1/x)^2 = 9$

=> $x + 1/x = 3$

=> Now, cubing both sides: $(x + 1/x)^3 = 3^3$

=> $x^3 + 1/x^3 + 3(x)(1/x)(x + 1/x) = 27$

=> $x^3 + 1/x^3 + 3(3) = 27$

=> $x^3 + 1/x^3 = 27 - 9 = 18$

Therefore The correct answer is 18.

Additional Information

Algebraic Identity for Square

$(a + b)^2 = a^2 + b^2 + 2ab$. For reciprocals, $(x + 1/x)^2 = x^2 + 1/x^2 + 2$.

Algebraic Identity for Cube

$(a + b)^3 = a^3 + b^3 + 3ab(a + b)$. For reciprocals, $x^3 + 1/x^3 = (x + 1/x)^3 - 3(x + 1/x)$.

Negative Reciprocal Relation

If $x - 1/x = k$, then $x^2 + 1/x^2 = k^2 + 2$ and $x^3 - 1/x^3 = k^3 + 3k$.

Power Transition Rule

To find higher powers like x^4 + 1/x^4, square the result of $x^2 + 1/x^2$ and subtract 2.

Q61. Answer: (b) 4 hours

Shortcut Trick

Total capacity (Total Work) = LCM(5, 10, 20) = 20 units.

Efficiency of P = 20 ÷ 5 = +4 units/hr

Efficiency of Q = 20 ÷ 10 = +2 units/hr

Efficiency of R = 20 ÷ 20 = −1 units/hr (negative work)

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Combined efficiency = 4 + 2 − 1 = 5 units/hr

Time taken = Total Work ÷ Combined Efficiency = 20 ÷ 5 = 4 hours.

Therefore The correct answer is 4 hours.

Alternate Method

Given:

Time taken by pipe P to fill the tank = 5 hours

Time taken by pipe Q to fill the tank = 10 hours

Time taken by pipe R to empty the tank = 20 hours

Formula Used:

Total Work = Efficiency × Time

Note: Work done by an emptying pipe is considered negative.

Pipe	Hours	Total Work	Efficiency
P	5	20	+4
Q	10	+2	
R	20	−1	

Calculations:

=> Total Efficiency of P, Q, and R working together = (+4) + (+2) + (−1)

=> Total Efficiency = 6 − 1 = 5 units/hour

=> Total time taken = Total Work ÷ Total Efficiency

=> Total time taken = 20 ÷ 5

=> Total time taken = 4 hours

Therefore The correct answer is 4 hours.

Additional Information

Pipes & Cisterns vs Time & Work

The underlying concept is exactly identical to standard Time & Work. The only difference is that an outlet pipe or a leak is assigned negative efficiency.

Combined Efficiency Rule

If two pipes A and B can fill a tank in x and y hours, and pipe C empties it in z hours, their combined 1-hour work = (1/x) + (1/y) − (1/z).

Tank Capacity Formula

If the absolute flow rate (liters/min or liters/hour) of any pipe is known, then Tank Capacity = Total filling/emptying time of that pipe × Flow rate.

Q62. Answer: (a) O > N > L > M

Calculation:

Loss on article L = 600 - 500 = 100

Loss on article M = 800 - 750 = 50

Loss on article N = 700 - 500 = 200

Loss on article O = 1000 - 700 = 300

Sequence according to loss = O > N > L > M

Therefore Option 1 is the correct answer.

Q63. Answer: (d) 2 hrs

Given:

The ratio of the speed of the boat in still water to the speed of the stream is 8 : 3.

The boat can travel 22 km downstream in 24 minutes.

Formula:

Speed = Distance/Time

Calculation:

The ratio of the speed of the boat in still water to the speed of the stream is 8 : 3. Let the speed of the boat in still water be 8x and the speed of the stream be 3x.

The boat can travel 22 km downstream in 24 minutes. The speed of the boat downstream is 22/24 = 11/12 km/min = 11/12 × 60 = 55 km/hr.

The speed of the boat downstream is 8x + 3x = 11x.

So, 11x = 55 km/hr

x = 5 km/hr

The speed of the boat in still water is 8x = 40 km/hr.

The speed of the boat upstream is 8x - 3x = 5x = 25 km/hr.

The time taken by the boat to cover 50 km upstream is 50/25 = 2 hours.

Therefore, the boat will take 2 hours to cover 50 km upstream.

Q64. Answer: (c) 1/√3

Given:

sin 2θ = √3/2

Formula used:

sin 60° = √3/2

tan 30° = 1/√3

Calculation:

sin 2θ = √3/2

sin 2θ = sin 60°

2θ = 60°

θ = 30°

so, tan θ = tan 30° = 1/√3

Therefore Option 3 is the correct answer.

Q65. Answer: (d) 12 cm

Shortcut Trick

The maximum length of a stick that can be placed in a cuboid is equal to its diagonal.

Direct Trick: Diagonal = √((Sum of dimensions)² − Total Surface Area)

=> Diagonal = √(20² − 256)

=> Diagonal = √(400 − 256)

=> Diagonal = √144 = 12 cm

Therefore The correct answer is 12 cm.

Alternate Method

Given:

Sum of length, breadth, and height (l + b + h) = 20 cm

Total Surface Area = 2(lb + bh + hl) = 256 cm²

Formula Used:

Maximum stick length = length of the diagonal = √(l² + b² + h²)

Algebraic Identity: (l + b + h)² = l² + b² + h² + 2(lb + bh + hl)

Diagonal (Max Stick)

Length (l)

Breadth (b)

Height (h)

Calculation:

=> Substituting the given values into the algebraic identity:

=> (20)² = l² + b² + h² + 256

=> 400 = l² + b² + h² + 256

=> l² + b² + h² = 400 − 256

=> l² + b² + h² = 144

=> Taking the square root on both sides:

=> √(l² + b² + h²) = √144

=> Maximum length of the stick = 12 cm

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Therefore The correct answer is 12 cm.

Additional Information

Maximum Length in a Cuboid

The maximum length of an object (like a rod or stick) that can fit completely inside a cuboidal box is precisely the length of its main diagonal. Formula: Diagonal = $\sqrt{(l^2 + b^2 + h^2)}$.

Cube Diagonal

For a perfect cube where all dimensions are identical (l = b = h = a), the length of the maximum stick that can fit inside is given directly by $\sqrt{3} \times a$.

Lateral Surface Area

The area covering only the 4 standing walls of a cuboidal room (excluding the base floor and the top ceiling) is known as the Lateral Surface Area. Formula: LSA = 2h(l + b).

Q66. Answer: (d) 147

Concept used:

Calculation:

=> 25/100× 720 + 57/19 × 1/3× 100/11× 33/25-15/100× 300

=> 180 + 3 × 1/3× 4× 3-45

=> 180 + 1× 4× 3-45

=> 147

Q67. Answer: (c) -35

Given:

A + B = -5

AB = 6

Formula Used:

$A^3 + B^3 = (A + B)^3 - 3AB(A + B)$

Solution:

A3 + B3 = (A + B)3 - 3AB(A + B)

Now substitute the values into the formula

A3 + B3 = (-5)3 - 3 × 6(-5)

A3 + B3 = -125 + 90

A3 + B3 = -35

Therefore, the value of A3 + B3 = -35.

Q68. Answer: (b) 3

Given:

3 tan 20°.tan 45°.tan 70°

Formula used:

tan θ = cot (90° - θ)

tan θ × cot θ = 1

tan 45° = 1

Calculation:

3 tan 20°.tan 45°.tan 70°

=> 3 tan 20°.tan 45°. cot (90° - 70°) .....Using tan θ = cot (90° - θ)

=> 3 tan 20°.tan 45°. cot (20°)

=> 3 × tan 45°

=> 3 × 1

3

Therefore Option 2 is the correct answer.

Q69. Answer: (b) Rs. 1986

Given:

Principal = Rs. 6000

Rate = 20%

Time = 18 months
Concept Used:
A = P × (1 + r/n)^((nt))
Where:
A = Amount
P = Principal
r = Annual interest rate
n = Number of times the interest is compounded per year
t = Time period (in years)
Calculation:
The interest is compounded half-yearly, so n = 2 (twice a year).
The time period (t) is 18 months, which is equivalent to 1.5 years.
Rate, r = 20% = 0.20
Let's substitute these values into the formula:
A = 6000 × (1 + 0.20/2)^((2 × 1.5))
=> 6000 × $(1 + 0.10)^3$
=> 6000 × 1.10^3
=> 6000 × 1.331
=> A = Rs. 7986
Compound interest = A - P
=> 7986 - 6000
=> Rs. 1986
Therefore, the compound interest for 18 months at a rate of 20% per annum, compounded half-yearly, would be Rs. 1986.
Therefore Option 2 is the correct answer.

Q70. Answer: (d) 6 years

Shortcut Trick
Double the average of two values is always equal to their sum.
Age 3 years from now = (Current age) + (Age 8 years ago)
Current age + 3 = Current age + (Current age − 8)
3 = Current age − 8 => Current age = 11 years.
Jitin's age 5 years ago = 11 − 5 = 6 years.
Therefore The correct answer is 6 years.
Alternate Method
Given:
Let Jitin's current age be J.
Age 3 years from now = J + 3
Age 8 years ago = J − 8
Formula Used:
Average of two numbers A and B = (A + B) ÷ 2
Calculations:
=> Average of current age and age 8 years ago = [J + (J − 8)] ÷ 2
=> Average = (2J − 8) ÷ 2 = J − 4
=> According to the question: (J + 3) = 2 × (J − 4)
=> J + 3 = 2J − 8
=> 2J − J = 8 + 3
=> J = 11 years
=> Jitin's age 5 years ago = J − 5 = 11 − 5 = 6 years.
Therefore The correct answer is 6 years.
Additional Information
Algebraic Representation of Ages
If the current age is x, then age after n years is (x + n) and age n years ago was (x − n).

Average of Ages

The average of ages of n people is the sum of their individual ages divided by n.

Ratio and Proportions in Ages

The difference between the ages of two people remains constant throughout their lives, which is a key property for solving ratio-based age problems.

Q71. Answer: (a) 10 cm

Given:

X, Y and Z are three equilateral triangles.

The side of X = 6 cm

The side of Y = 8 cm

Concept used:

Area of equilateral triangle = √3/4 a2

Calculation:

Area of equilateral triangle = √3/4 a2

According to the question

AX + AY = AZ

=> (√3/4 × 62) + (√3/4 × 82) = (√3/4 × x2)

=> 36 + 64 = x2

=> 100 = x2

=> x = 10

Therefore The side length of Z is 10 cm.

Q72. Answer: (c) 60 degree

Shortcut Trick

The Radius of the circle is half of the diameter, which is 10 cm.

The Chord length is given as 10 cm.

In the triangle formed by the center and the chord, the sides are Radius, Radius, and Chord (10 cm, 10 cm, 10 cm).

Since all three sides are equal, it forms an Equilateral Triangle.

All angles of an equilateral triangle are 60°.

Therefore The correct answer is 60 degree.

Alternate Method

Given:

Diameter of the circle = 20 cm

Length of Chord AB = 10 cm

Formula Used:

Radius (r) = Diameter ÷ 2

In any ΔOAB (where O is the center), if OA = OB = AB, then angle AOB = 60°.

Calculations:

=> Radius (r) = 20 ÷ 2 = 10 cm

=> Let O be the center of the circle. The radii joining the ends of the chord AB are OA and OB.

=> OA = 10 cm and OB = 10 cm

=> Length of Chord AB = 10 cm

=> In ΔOAB, OA = OB = AB = 10 cm

=> This implies that ΔOAB is an Equilateral Triangle.

=> angle AOB = 60° (Angle subtended by the chord at the center).

Therefore The correct answer is 60 degree.

Additional Information

Angle at Center and Circumference

The angle subtended by an arc at the center is double the angle subtended by it at any point on the remaining part of the circle. Here, the angle at the circumference would be 30°.

Chord and Radius Relationship

If the chord length equals r√2, the angle at the center is 90°. If the chord length equals r√3, the angle at the center is 120°.

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Equilateral Triangle

A triangle in which all three sides are equal is equilateral, and each of its internal angles measures exactly 60°.

Q73. Answer: (c) 32850

Shortcut Trick

First three-digit number divisible by 15 = 105 and Last = 990.

Number of terms (n) = [(990 − 105) ÷ 15] + 1 = 59 + 1 = 60.

Average of terms = (105 + 990) ÷ 2 = 547.5.

Sum = Average × n = 547.5 × 60 = 32850.

Therefore The correct answer is 32850.

Alternate Method

Given:

Range: 100 to 999 (three-digit numbers)

Divisor: 15

Formula Used:

Last term (l) = a + (n − 1)d

Sum (S_n) = (n ÷ 2) × (a + l)

Calculations:

=> First term (a) = 15 × 7 = 105

=> Last term (l) = 15 × 66 = 990

=> Common difference (d) = 15

=> 990 = 105 + (n − 1) × 15

=> 885 = (n − 1) × 15

=> n − 1 = 885 ÷ 15 = 59

=> n = 60

=> Sum = (60 ÷ 2) × (105 + 990)

=> Sum = 30 × 1095

=> Sum = 32850

Therefore The correct answer is 32850.

Additional Information

Arithmetic Progression (AP)

A sequence of numbers where the difference between consecutive terms is constant. General term $T_n = a + (n − 1)d$.

Sum of AP

The sum of first n terms is given by $S_n = n/2 × [2a + (n − 1)d]$ or $S_n = n/2 × [\text{First term} + \text{Last term}]$.

Sum of first n natural numbers

The sum of first n natural numbers is $\Sigma n = n(n + 1) ÷ 2$.

Q74. Answer: (a) 400

Given:

A total of 1000 kg of vegetables were sold in a day

Calculation:

The percentage of tomatoes sold in a day is 40%

So according to the question:

Number of tomatoes = 40% of 1000 = 400.

Therefore Option 1 is the correct answer.

Q75. Answer: (c) 110 cm

Shortcut Trick

The length of an arc is a direct fraction of the circle's total circumference.

Fraction of the circle = 150° ÷ 360° = 5/12

Total circumference = 2 × (22/7) × 42 = 264 cm

Length of the arc = (5/12) × 264 = 110 cm

Therefore The correct answer is 110 cm.

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Alternate Method

150°

r = 42 cm

L = ?

O

Given:

Radius of the circle (r) = 42 cm

Angle formed by the arc at the centre (θ) = 150°

Formula Used:

Length of arc = (θ ÷ 360°) × 2πr

Calculation:

=> Length of arc = (150° ÷ 360°) × 2 × (22 / 7) × 42

=> Length of arc = (5 / 12) × 2 × 22 × 6

=> Length of arc = (5 / 12) × 264

=> Length of arc = 5 × 22

=> Length of arc = 110 cm

Therefore The correct answer is 110 cm.

Additional Information

Area of a Sector

The area enclosed by an arc and two radii is called a sector. It is calculated using the formula: Area = (θ ÷ 360°) × πr².

Circumference of a Circle

The total perimeter or boundary length of a complete circle is known as its circumference, given by the formula 2πr.

Arc vs Chord

An arc is a curved, continuous segment of the circle's outer edge, whereas a chord is a straight line drawn inside the circle connecting two points on its circumference.

Q76. Answer: (a) Copious

The correct answer is 1) Copious.

Key Points

• The word "restricted" means limited, confined, or restrained. It implies a lack of freedom or a limitation on something.

• For example, if someone has restricted access to a certain area, it means their access is limited or controlled.

• On the other hand, "copious" means abundant, plentiful, or extensive. It refers to a large quantity or amount of something. For instance, if there is a copious amount of rainfall, it means there is a significant and abundant rainfall.

• Example sentence using "restricted" - The company has restricted the use of social media during working hours.

• Therefore, the correct answer is 1) Copious, which represents the opposite meaning of "restricted."

Additional Information

• Option 2) Circumscribed is similar in meaning to "restricted" as it also implies something being limited or restricted. It means to confine within limits or boundaries.

• For example: The project's budget was circumscribed, leaving no room for additional expenses.

• Option 3) Capped means to set a limit or put a maximum restriction on something. While it shares some similarity with "restricted," it specifically refers to imposing a maximum limit.

• For example: The maximum number of participants for the workshop is capped at 50.

• Option 4) Finite means having a definite or limited duration, extent, or quantity. It indicates something having an endpoint or being bounded. Although it is related to limitation, it is not the opposite of "restricted."

• For example: Our resources are finite, so we need to use them wisely.

Q77. Answer: (d) She requested her to pay attention to the details.

Here the correct answer is She requested her to pay attention to the details.

Key Points

• The given sentence is in Direct Speech and is in an imperative sentence. As per the given instructions, we have to change it into Indirect Speech.

• The process of transformation is as follows:

• The conjunction 'to' will be added and comma and inverted commas will be removed.

• In the Indirect speech 'said to' will be changed into 'requested' because the person is making a request.

• The indirect speech will begin like 'She requested her to.'

• Now we have to change the reported speech.

• According to the rules of grammar, after 'to' we have to use 'V1 (pay).'

• Finally, the indirect speech is 'She requested her to pay attention to the details.'

• So, the correct answer is option 4.

Correct Sentence: She requested her to pay attention to the details.

Q78. Answer: (b) Efficiency

The correct answer is 2) Efficiency.

Key Points

• The word "efficacy" refers to the ability or effectiveness of achieving a desired result or producing a desired effect. It suggests the capability or power of something to bring about a successful outcome.

• For example, if a medicine has high efficacy, it means it is effective in treating a particular condition.

• On the other hand, "efficiency" is the quality or state of being efficient, which means achieving maximum productivity with minimum wasted effort or resources. It implies the ability to accomplish tasks or goals in a timely and effective manner. For instance, if a process or system is efficient, it means it is well-organized and optimized for productivity.

• Example sentence using "efficacy":

• The efficacy of the new cleaning product in removing stains was impressive.

• Therefore, the correct answer is 2) Efficiency, which is a synonym of "efficacy" as it implies effectiveness, productivity, and accomplishing tasks with minimal wastage.

Additional Information

• Option 1) Impotence means powerlessness or inability to take action or achieve results. It is the opposite of efficacy and does not have a similar meaning.

• Option 3) Ineptness refers to a lack of skill or competence. It is not synonymous with efficacy as it suggests incompetence or inability rather than effectiveness.

• Option 4) Futility means the state of being pointless, useless, or ineffective. It is opposite in meaning to efficacy and does not share a similar meaning.

Q79. Answer: (b) Everyone without distinction

The correct answer is 2) Everyone without distinction.

Key Points

• The idiom "all and sundry" is used to refer to everyone or every single person without any exception or distinction. It implies inclusivity, encompassing all individuals without leaving anyone out.

• For example:

• The announcement was made to all and sundry, ensuring that no one was left uninformed.

• The company's new policy applies to all and sundry, regardless of their position or seniority.

• In both examples, "all and sundry" is used to emphasize that the information or policy is meant for everyone, without any exceptions or exclusions.

• Therefore, the correct answer is 2) Everyone without distinction, as it best captures the meaning of the idiom/phrase.

Q80. Answer: (a) QPRS

The correct answer is indeed 1) QPRS.

Key Points

• Here is the correct order of the parts of the sentence:

• Q. typified by dishonesty, exploitation or the: This part introduces the concept of corruption and highlights its key characteristics, which include dishonesty and exploitation.

• P. misuse and abuse of public office, either directly: This part provides further elaboration on corruption by specifying that it involves the misuse and abuse of public office. It emphasizes that corruption can occur directly within the public office itself.

• R. or indirectly, for personal gains or unjust enrichment: This part expands on the previous point by explaining that corruption can also occur indirectly, with individuals seeking personal gains or unjust enrichment through their actions. It highlights the motive behind corrupt practices.

• S. in negation of due process or established protocol: This part adds an important aspect of corruption, stating that it goes against due process or established protocols. It implies that corruption disregards legal and ethical procedures.

• When rearranged, the sentence reads:

• Corruption is typified by dishonesty, exploitation or the misuse and abuse of public office, either directly or indirectly, for personal gains or unjust enrichment, in negation of due process or established protocol.

• This arrangement presents a coherent and logical flow of the sentence, providing a definition of corruption and describing its characteristics and consequences.

Q81. Answer: (c) Fashion might not be first

The error is in option 3: Fashion might not be first.

Key Points

• The correct form should be "Fashion might not be the first" instead of "Fashion might not be first."

• The definite article "the" is needed before "first" to indicate a specific ranking or order.

• Explanation:

• The definite article "the" is used to specify a particular item in a group or a specific ranking. In this case, it emphasizes that fashion might not be the initial or primary thing that comes to mind when thinking about isolation strategies.

• Example:

• The cat is sitting on the mat. (correct)

• Cat is sitting on the mat. (incorrect)

• In the example, the definite article "the" is necessary to specify which cat is being referred to.

• Therefore, the correct answer is 3) Fashion might not be first.

Here's the corrected sentence: "Fashion might not be the first thing that comes to mind when we think of isolation strategies."

Q82. Answer: (a) Ophthalmologist

The correct answer is 1) Ophthalmologist.

Key Points

• An ophthalmologist is a medical doctor who specializes in the diagnosis and treatment of eye diseases and disorders.

• They are trained to provide comprehensive eye care, including performing eye exams, prescribing corrective lenses, and performing surgeries related to the eyes.

• Example: I visited an ophthalmologist to get my eyes checked and receive treatment for my vision problems.

• Therefore, the correct answer is 1.

Additional Information

• The other options are not related to the field of eye disease and do not accurately describe a healthcare professional who treats eye diseases:

• Prologist: This term does not exist in the field of medicine or ophthalmology.

• Phonologist: A phonologist is a linguist who studies the sound patterns of languages and speech sounds. This term is not related to eye diseases.

• Biologist: A biologist is a scientist who studies living organisms and their interactions. While biology may include the study of eye diseases, it is not specific to the field of curing eye diseases.

Q83. Answer: (a) Malcontent

The solution is in Hindi. Read it online.

Q84. Answer: (d) BENIDICTION

The incorrectly spelt word is: BENIDICTION.

Key Points

• The correct spelling of the word is "BENEDICTION," not "BENIDICTION."

• A benediction is a prayer or blessing, often given at the end of a religious service or ceremony.

• Example sentence: The priest offered a benediction to conclude the wedding ceremony.

• Other options:

• MOCKERY: This word is correctly spelled. It refers to the act of ridiculing or making fun of someone or something.

• Example sentence: The comedian's mockery of politicians was met with laughter from the audience.

• CROCKERY: This word is correctly spelled. It refers to dishes, plates, bowls, or other pottery used for cooking, serving, and eating.

• Example sentence: She carefully arranged the delicate crockery in the china cabinet.

• RELIGIOUS: This word is correctly spelled. It relates to religion or the belief in and worship of a higher power or spiritual being.

• Example sentence: The temple is an important religious center for the local community.

Q85. Answer: (c) SABOTAGE

The correctly spelt word is: SABOTAGE.

Key Points

• "SABOTAGE" is the correct spelling of the word. It refers to the act of intentionally destroying, damaging, or obstructing something, especially for disruptive purposes.

• Example sentence: The company suspected an inside job when important files went missing, pointing to possible sabotage.

• Other options:

• MEALIGN: This word is misspelled. The correct spelling is "MALIGN," which means to speak ill of someone or to criticize them unfairly.

• Example sentence: The tabloid published an article maligning the actor's reputation without any evidence.

• PRECISSION: This word is misspelled. The correct spelling is "PRECISION," which refers to the quality of being accurate, exact, or meticulous.

• Example sentence: The surgeon performed the delicate procedure with great precision, ensuring minimal risk.

• MISSIONERY: This word is misspelled. The correct spelling is "MISSIONARY," which refers to a person who is sent on a religious mission, typically to spread a particular faith or provide charitable work.

• Example sentence: The missionary traveled to remote villages to provide medical assistance and teach the local community about their beliefs.

Q86. Answer: (c) To permit something to proceed

The correct answer is 3) To permit something to proceed.

Key Points

• The idiom "green light" is commonly used to indicate permission or approval for something to proceed. When someone gives the "green light" to a project or action, it means they are granting permission for it to move forward or proceed.

• For example:

• The manager gave the green light for the new marketing campaign to begin.

• After weeks of negotiation, the city council finally gave the green light for the construction of the new stadium.

• In both examples, the phrase "green light" is used to signify that permission or approval has been granted, allowing the respective projects to proceed.

• Therefore, the correct answer is 3) To permit something to proceed.

Q87. Answer: (c) BADC

Here the correct answer is BADC.

Key Points

• To form a meaningful and grammatically correct sentence, we need to arrange these parts in a logical order, Let's analyze the given parts:

• The sentence talks about a period of twelve years spent in the forest, which is coming to an end. It also mentions a wager made by Ram. The sentence further states that if Ram had lost the wager, they would have to spend a year in hiding. Additionally, if during this year someone named Mohan discovered their whereabouts, they would have to endure another ten years in exile.

• Let's arrange the given sentences:

• B. ending. Now, according to the wager

• A. Ram had lost, we would have to

• D. spend a year in hiding.

• C. If during this year Mohan discovered our

Putting it all together, we get:

"Our twelve years in the forest were ending. Now, according to the wager Ram had lost, we would have to spend a year in hiding. If during this year Mohan discovered our whereabouts, we would have to endure another ten years in exile."

This sequence creates a coherent and meaningful sentence that follows the logical progression of events described in the given parts.

Q88. Answer: (d) fully grown

Here the correct answer is Fully grown.

Key Points

• The underlined part of the sentence, "fully grow," should be corrected to "fully grown" to maintain grammatical accuracy.

• "Fully grown" is the correct past participle form of the verb "to grow" when used as an adjective to describe the state of maturity or development.

• Sentence: A fully grown Chihuahua weighs less than the average house cat.

• In this sentence, "fully grown" correctly describes the Chihuahua at its maximum size or maturity level.

• The word "grown" is the past participle form of the verb "to grow," indicating the completed action of growth.

• The other options provided, such as "fullest grown" and "fully growth," are not grammatically correct and do not accurately convey the intended meaning.

Correct Sentence: A fully grown Chihuahua weighs less than the average house cat.

Q89. Answer: (a) neither as funny nor as

Here the correct answer is Neither as funny nor as.

Key Points

• The original sentence "The play was (either as funny or as) disturbing as Shivang told it was" contains an error in the use of correlative conjunctions.

• Correlative conjunctions are used to join words or groups of words that have equal importance in a sentence.

• In this case, the correlative conjunction "either...or" is incorrectly used. It should be replaced with "neither...nor" to convey the intended meaning.

• "Neither...nor" is used to present two negative options or choices.

• Sentence with the improved option: The play was neither as funny nor as disturbing as Shivang told it was.

• In this corrected sentence, the use of "neither...nor" properly balances the comparison between the play's level of funniness and its level of disturbance. It ensures that both aspects are presented as negative or not as expected.

• The other options provided, such as "either as funny nor as" and "neither as funny or as," are grammatically incorrect and do not convey the intended meaning. Therefore, option 1, "neither as funny nor as," is the correct choice.

Correct Sentence: The play was (neither as funny nor as) disturbing as Shivang told it was.

Q90. Answer: (b) DISRESPECTFUL

The correct answer is 2) DISRESPECTFUL.

Key Points

• The word "blasphemous" refers to something that shows disrespect or irreverence towards sacred or religious beliefs, practices, or entities. It denotes behavior or statements that are offensive or sacrilegious.

• Example sentence: His blasphemous remarks about the prophet offended many people.

• Option 1) "Costly" means expensive or having a high price. It is unrelated to the meaning of "blasphemous."

• Option 3) "Reality" refers to the state of things as they exist, or the quality of being real. It does not convey the concept of disrespect or irreverence associated with "blasphemous."

• Option 4) "Authentic" means genuine, real, or true. While it conveys a sense of authenticity, it does not capture the disrespectful or offensive nature of "blasphemous."

• Therefore, the closest synonym to "blasphemous" is 2) DISRESPECTFUL, as it represents behavior or statements that show disrespect towards sacred or religious beliefs.

Q91. Answer: (a) A paper is written by him every weekend.

Here the correct answer is A paper is written by him every weekend.

Key Points

• The above-given sentence is in the active voice. We need to change it into passive voice.

• Let's look at the conversion:-

• The subject 'He' becomes the object 'him' of the passive voice.

• The object 'a paper' becomes the subject of the passive voice.

• Simple present tense changes in the following manner:-

• Active Voice - (do/does + V1) or (V1 s/es)

• Passive Voice - is/am/are + V3

• The simple present tense changes according to the above-mentioned structure.

• Thus, the correct answer is Option 1.

Therefore, the correct passive voice is A paper is written by him every weekend.

Additional Information

• When we convert active voice to passive voice, three things need to be kept in mind:-

• Change object into subject.

• Change subject into object.

• Always use the third form of the verb in the passive voice.

• Use 'by' before the new object.

Q92. Answer: (d) contaminated

Here the correct answer is Contaminated.

Key Points

• In the given context, the word "contaminated" means that the water has been polluted or tainted by the presence of heavy metals or chemicals, making it impure or unfit for consumption. It implies that the water has been compromised or adulterated with harmful substances.

• Example sentence: It is important to ensure that we all have good clean water to drink that is not contaminated by heavy metals or chemicals. (Here, "contaminated" highlights the potential harm caused by the presence of pollutants in the water.)

• Therefore, the correct answer is 4) contaminated, as it accurately describes the state of the water being polluted or compromised by harmful substances.

Additional Information

• Option 1) "Knotted" refers to being tied in knots or tangled. It is not suitable in the context of water pollution and does not convey the idea of impurity.

• Option 2) "Clarified" means to make something clear, transparent, or free from confusion. While water clarification is a process, it does not specifically address the issue of pollution by heavy metals or chemicals.

• Option 3) "Purged" means to cleanse or eliminate something undesirable or impure. While it conveys the idea of removing impurities, it is not as specifically related to the contamination of water by heavy metals or chemicals.

Q93. Answer: (a) No error

The correct answer is 1) No error.

Key Points

• The given sentence does not contain any grammatical errors. It is grammatically correct and effectively conveys the intended meaning.

• "They know they will face either a swift backlash or deafening silence."

• In this sentence, all parts are properly constructed and there are no grammatical inconsistencies or errors.

• The use of "either...or" is appropriate, and the sentence presents two possible outcomes that the subject is aware of.

• The conjunction "or" is correctly used to connect the two alternatives.

• Therefore, the correct answer is indeed 1) No error.

Confusion Points

• In most cases, the use of "a" or "the" (indefinite or definite articles) depends on whether the noun is countable or uncountable, and whether we are referring to something specific.

• For instance, in the case of the sentences: "either a dog or a cat", "either a queen or a king", and "either a red card or a black card", all the nouns (dog, cat, queen, king, red card, black card) are countable and not specific. Therefore, we require "a" before each of these nouns.

• In the case of 'deafening silence', the noun phrase is treated as an uncountable noun. It refers to a specific type of silence, one that is loud in its quietness due to its impact or significance. Since 'silence' is uncountable, we don't necessarily need to use 'a' necessarily before it. Therefore, we can say "or deafening silence" after "either a swift backlash".

• Interestingly, depending upon the context and stylistic choice of the writer, one could also use 'a' before 'deafening silence'. Both these versions would be grammatically correct.

• "They know they will face either a swift backlash or a deafening silence."

• "They know they will face either a swift backlash or deafening silence."

Q94. Answer: (d) Altercated

The solution is in Hindi. Read it online.

Q95. Answer: (c) biased

The correct answer is 3) biased.

Key Points

• In this context, the word "biased" means that the legal code is unfair or prejudiced against women and the poor. It suggests that the legal system favors certain groups or discriminates against others based on factors such as gender or socio-economic status.

• Example sentence: "The recent court ruling has sparked controversy, with critics arguing that it is clear evidence of a biased legal code that perpetuates inequalities."

• Option 1) "Baked" means cooked or prepared by baking and is unrelated to the context of the sentence.

• Option 2) "Frank" means honest or direct and doesn't convey the idea of unfairness or prejudice in the legal code.

• Option 4) "Duplicious" means deceitful or dishonest and is not appropriate in the context of the sentence.

• Thus, the correct answer is Option 3.

Q96. Answer: (a) about

Here the correct answer is About.

Key Points

• The most appropriate option to fill in the blank No. 1 is: about.

• The phrase "stories about" is commonly used to indicate that the stories are related to or concerning a particular subject. In this case, the passage is discussing other stories related to Krishna.

• Example: "There were many stories about the bravery of the knight."

• In this example, "stories about" indicates that the stories discussed are connected to the bravery of the knight.

• In summary, the most appropriate option to fill in the blank No. 1 is "about" as it indicates that the stories mentioned in the passage are related to Krishna.

Additional Information

• Other options:

• upon: This preposition implies physical contact or close proximity and does not fit the context of the sentence.

• Example: "She stumbled upon a hidden treasure."

• In this example, "upon" indicates the accidental discovery of the treasure.

• with respect: This phrase is used to indicate consideration or regard for someone or something and does not fit the context of the sentence.

• Example: "Please treat the matter with respect."

• In this example, "with respect" emphasizes the importance of treating the matter in a respectful manner.

• belonging to: This phrase implies ownership or possession and does not fit the context of the sentence.

• Example: "The book belongs to me."

• In this example, "belonging to" indicates the ownership of the book.

Q97. Answer: (d) he had

Here the correct answer is He had.

Key Points

• The most appropriate option to fill in the blank No. 2 is: he had.

• In the context of the sentence, the past tense form "he had" is the correct option. It indicates that something had already happened in the past.

• The sentence is describing events that occurred in Krishna's life, and the use of the past tense is consistent with the narrative.

• Example: "He had been born in a small village."

• In this example, "had been born" indicates that the person's birth had already taken place in the past.

• In summary, the most appropriate option to fill in the blank No. 2 is "he had" as it correctly conveys that the events being described had already taken place in the past.

Additional Information

• Other options:

• he have: This option is not grammatically correct. The correct form should be "he has" in the present tense or "he had" in the past tense.

• Example: Incorrect - "He have arrived yesterday."

• Correct - "He has arrived yesterday." (present tense)

• Correct - "He had arrived yesterday." (past tense)

• he was: This option is in the past tense, but it does not convey the sense of past events that had already occurred. It implies a continuous action or state in the past.

• Example: "He was playing soccer when I saw him."

• In this example, "was playing" indicates an ongoing action in the past.

• he has: This option is in the present tense, which is not suitable for the context of the sentence. The events described in the passage have already happened in the past.

• Example: "He has a car." (present tense)

• In this example, "has" indicates the possession of a car in the present.

Q98. Answer: (b) away

The solution is in Hindi. Read it online.

Q99. Answer: (d) demoness

Here the correct answer is Demoness.

Key Points

• The most appropriate option to fill in the blank No. 4 is: demoness.

• In the context of the passage, the word "demoness" is the most suitable choice to fill in the blank. It refers to a female demon, which aligns with the description of an entity that tried to poison Krishna with her breast milk. This option accurately represents the antagonist in the story.

• Example: "He killed a demoness who tried to poison him with her breast milk."

• In this example, "demoness" refers to a female demon.

• In summary, the most appropriate option to fill in the blank No. 4 is "demoness" as it accurately represents the female demon who tried to poison Krishna with her breast milk.

Additional Information

• Other options:

• god: This option does not fit the context of the sentence. While Krishna is considered a god in Hindu mythology, the blank requires a word that represents the antagonist who attempted to harm Krishna, not a divine being.

• Example: "He killed a god who tried to poison him with her breast milk."

• This usage does not accurately reflect the context of the story.

• demon: This option is close in meaning to "demoness," but it does not specifically convey the female gender of the antagonist. Since the passage mentions that it was a female entity who attempted to poison Krishna, "demon" alone does not provide that specificity.

• Example: "He killed a demon who tried to poison him with her breast milk."

• This usage does not accurately reflect the gender aspect of the story.

• satan: The term "satan" typically refers to the Devil in Christian beliefs, and it does not align with the context of the passage, which is rooted in Hindu mythology. Therefore, "satan" is not an appropriate option to fill in the blank.

• Example: "He killed a satan who tried to poison him with her breast milk."

• This usage introduces a concept from a different belief system that does not align with the context.

Q100. Answer: (d) deluge

Here the correct answer is Deluge.

Key Points

• The most appropriate option to fill in the blank No. 5 is: deluge.

• In the context of the passage, the word "deluge" fits best to describe the event that Krishna sheltered his people from by lifting up Mount Govardhan.

• A deluge refers to a great flood or overwhelming amount of water. This option accurately represents the natural disaster that threatened the people and emphasizes Krishna's act of protecting them.

• Example: "How he lifted up Mount Govardhan to shelter his people from a deluge that would have drowned them."

• In this example, "deluge" denotes a massive flood.

• In summary, the most appropriate option to fill in the blank No. 5 is "deluge" as it accurately represents the overwhelming flood or excessive water event that Krishna protected his people from by lifting Mount Govardhan.

Additional Information

• Other options:

• snowfall: This option refers to the falling of snow and does not convey the sense of a destructive event or the need for protection from it. It does not align with the context of the passage.

• Example: "How he lifted up Mount Govardhan to shelter his people from a snowfall that would have drowned them."

• This usage does not accurately represent the situation described.

• earthquake: This option refers to a sudden shaking or trembling of the ground caused by tectonic forces. While earthquakes can be destructive, the passage specifically mentions the need for protection from a natural event involving water. Therefore, "earthquake" is not the most appropriate option.

• Example: "How he lifted up Mount Govardhan to shelter his people from an earthquake that would have drowned them."

• This usage introduces a different type of natural disaster that is not in line with the context.

• drought: This option refers to a prolonged period of dry weather or lack of rainfall. While a drought can have detrimental effects, it does not align with the context of the passage, which specifically mentions a threat related to an excessive amount of water.

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Therefore, "drought" is not the most suitable option.

- Example: "How he lifted up Mount Govardhan to shelter his people from a drought that would have drowned them."
- This usage introduces a different concept unrelated to the context.

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