RRB NTPC CBT-I Official Paper (Held On: 29 Dec 2020 Shift 2) (Previous Year Paper)

RRB NTPC • 2020 • 100 questions • 90 minutes • Answer key and solutions

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Q1. If '+' means '-', '-' means '÷', '×' means '+' and '÷' means '×', then what will be the value of the expression

13 + 6 ÷ 2 × 32 - 2?

(a) 20
(b) 23
(c) 17
(d) 15

Q2. As of November 2020, what is the total number of High Courts in India?

(a) 15
(b) 29
(c) 21
(d) 25

Q3. The pH of lemon juice is around_____

(a) 2
(b) 9
(c) 12
(d) 7

Q4. India's longest highway tunnel is the:

(a) Jawahar Tunnel
(b) Atul tunnel
(c) Rohtang Tunnel
(d) Dr Syama Road Tunnel

Q5. A Shopkeeper loses 10% on selling an article for Rs. 360. To gain 30%, what should have been selling price of the article?

(a) Rs. 520
(b) Rs. 480
(c) Rs. 740
(d) Rs. 600

Q6. Where is the headquarters of UNESCO?

(a) New York
(b) London
(c) Washington DC
(d) Paris

Q7. Find the median value of the following ungrouped data:

26, 12, 15, 42, 36, 16

(a) 30
(b) 42

(c) 26
(d) 21

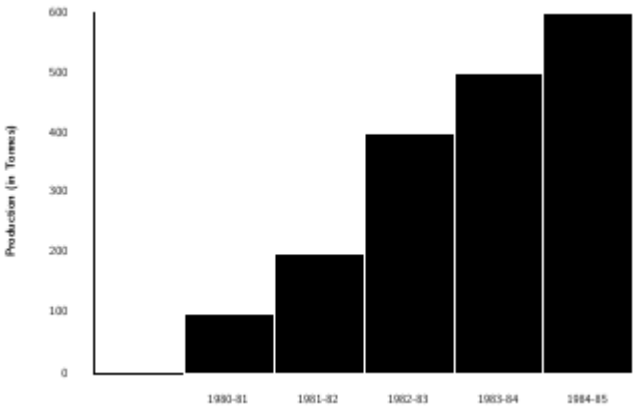
Q8. Who presides over the joint sitting of the Lok Sabha and the Rajya Sabha?
(a) The speaker of the Lok-Sabha
(b) A member nominated by the President of India
(c) The senior most member of the Rajya Sabha
(d) The President of India

Q9. Three pipes, A and B and C, can fill a tank in 15 hours, 12 hours, and 18 hours, respectively. If both pipes A and C are opened simultaneously into the empty tank, then the time taken (in hours) to fill the tank will be:
(a) 82/11
(b) 65/9
(c) 72/3
(d) 93/5

Q10. Beriberi is a disease caused due to deficiency of _____
(a) vitamin B1
(b) vitamin A
(c) vitamin c
(d) vitamin D

Q11. Which of the following river drains into the Arabian sea?
(a) Godavari
(b) Krishna
(c) Tapti
(d) Mahanadi

Q12. The following graph shows the production (in tones) of a product from 1980 to 1985. Answer the given question based on the graph



In which year was the absolute increase in production tonnage the highest as compared to the previous year?
(a) 1980 - 81
(b) 1983 - 84
(c) 1981 - 82
(d) 1982 - 83

Q13. Which of the following plants belongs to Bryophyta?
(a) Marsilea
(b) Deodar
(c) Cladophora
(d) Marchantia

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Q14. Who among the following was NOT awarded the Bharat Ratna in 2019?

(a) Sri Atal Bihari Vajpayee
(b) Shri Nanaji Deshmukh
(c) Sri Pranab Mukherjee
(d) Dr. Bhupen Hazarika

Q15. Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly. known facts, decide which of the given conclusions logically follows from the statements.

Statements:

1. All lawyers are intelligent.

2. Some women are lawyers.

Conclusions:

I. Some women are intelligent.

II. All those intelligent are women.

(a) Only conclusion I follows.
(b) Only conclusion II follows.
(c) Neither conclusion I nor II follows.
(d) Either conclusion I or II follows

Q16. In a mixture of liquid ,1/5 part is acid 2/5 part is alcohol and the remaining part is water. If the total quantity of the mixture is 20 litres, then how much water (in litre) does the mixture contain?

(a) 12
(b) 8
(c) 15
(d) 4

Q17. Which of the following is a supersonic cruise missile?

(a) Brahmos
(b) Akash
(c) Prithvi
(d) Trishul

Q18. From 10 liters of solution 2 liters of water evaporated. The remaining solution was found to have 6% salt. What was the percentage of salt in the original solution?

(a) 5.6%
(b) 5%
(c) 4.8%
(d) 5.4%

Q19. Which type of lens is required for correcting the vision of a person with myopia?

(a) Converging lens
(b) Bifocal lens
(c) Diverging lens
(d) Cylindrical lens

Q20. The Cabinet Mission came to India in the year_____

(a) 1940
(b) 1943
(c) 1946
(d) 1941

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Q21. The Cauvery water dispute is between _____

(a) Karnataka and Goa
(b) Karnataka and Andhra Pradesh
(c) Karnataka and Telangana
(d) Karnataka and Tamil Nadu

Q22. The maximum resistance which can be made by using four resistors each of 1/4 in series is ____

(a) 1/8
(b) 1/4
(c) 1
(d) 4

Q23. The value of 200 ÷ (5.23 + 4.77) × (3/5-2/10) + (5 – 2) is:

(a) 8
(b) 19
(c) 18
(d) 11

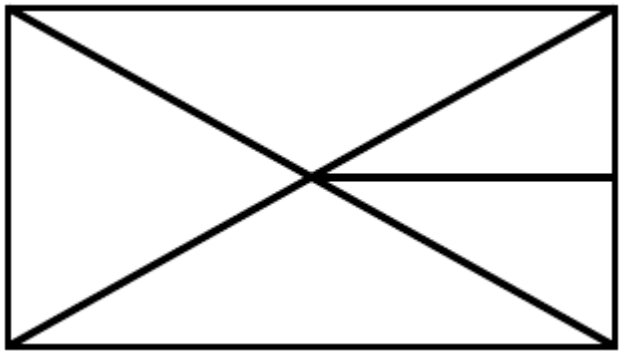
Q24. Jim Corbett National Park is located in _____

(a) Gujarat
(b) Uttarakhand
(c) Karnataka
(d) Rajasthan

Q25. Five children A, B, C, D and E are standing in a row facing north. D has B on his left, B and C are always together (Next to each other) and C is at one end of the row. D cannot be at the fourth or fifth place, E is to the right of A. Who is standing in the middle of the row?

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

Q26. How many triangles are there in the following figure?



(a) 9
(b) 6
(c) 12
(d) 10

Q27. How many numbers from 250 to 1000 are exactly divisible by 5, 6 and 7?

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

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Q28. GST is an indirect tax imposed in India. The full form of GST is :

(a) Goods and Surcharge Tax
(b) Goods and Services Tax
(c) General Service Tax
(d) General Structure of Tax

Q29. A number when decreased by 22 1/2% becomes 217. The number is:

(a) 420
(b) 280
(c) 315
(d) 212

Q30. A cyclindrical tank has a capicity of 6160m^3. If the diameter of the base the tank is 28 m, then the depth of the tank (in m) is :

(a) 10
(b) 12
(c) 8
(d) 14

Q31. The Central Drug Research Institute of India is located at:

(a) Hyderabad
(b) Lucknow
(c) Delhi
(d) Mumbai

Q32. A Man has four silver articles, P, Q, R and S, each having a different weight. P weights trice as much as Q. Q weighs two and a half times as much as S, R weighs half as much as S. Which of the following silver article is the lightest in weight?

(a) S
(b) Q
(c) R
(d) P

Q33. The value of $\sqrt{(72 \times 18)} + \sqrt{0.04} + \sqrt{0.64}$ is:

(a) 36
(b) 24
(c) 12
(d) 37

Q34. Intel core i9 is a type of ____

(a) processor
(b) hard disc
(c) motherboard
(d) antitivirus

Q35. The area of a rectangle is 300 cm^2 and the length of its diagonal is 25 cm. The perimeter of the rectangle (in cm) is:

(a) 121
(b) 70
(c) 25
(d) 176

Q36. If $x + (1/x) = 12$ and $x^2 - 1/(x^2) = 50$, then the value of $x^4 - 1/(x^4)$ is:

(a) 1800
(b) 600
(c) 7200

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(d) 7100

Q37. Python is a/an _____

(a) Programming language
(b) Web browser
(c) Malware
(d) Operating system

Q38. Humayun-Nama was written by _____

(a) Gulbadan Begum
(b) Babur
(c) Noor Jahan
(d) Akbar

Q39. Which is the largest country of South America?

(a) Brazil
(b) Colombia
(c) Argentina
(d) Bolivia

Q40. ASCII is a code for representing English characters as numbers. It is the acronym for _____

(a) American Standard Code for Information Interchange
(b) American Secure Code for Information Interchange
(c) Australian Standard Code for Information Interchange
(d) Australian Secure Code for Information Interchange

Q41. 'Samagra Shiksha' is a scheme for school education, which extends from:

(a) pre-nursery to class XII
(b) class I to X only
(c) class I to XII only
(d) class I to VII only

Q42. Mahatma Gandhi presided over the Indian National Congress session at____

(a) Karachi
(b) Belgaum
(c) Kanpur
(d) Madras

Q43. The value of 1/0.24 of 1.44 is:

(a) 140
(b) 6
(c) 166
(d) 12

Q44. Jataka tales are related to _____

(a) Buddhism
(b) Sikhism
(c) Hinduism
(d) Jainism

Q45. Who won the Indian Premier League (IPL), 2020?

(a) Kolkata Knight Riders
(b) Mumbai Indians
(c) Chennai Super Kings
(d) Royal Challengers Bangalore

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Q46. 'Neigh' is related to 'Horse' in the same way as 'Bleat' is related to ____

(a) Donkey
(b) Bear
(c) Goat
(d) Dog

Q47. Ibn Battuta, a famous traveler, was a native of_____

(a) Italy
(b) Greece
(c) China
(d) Morocco

Q48. fracsin 27^0cos 63^0cos² 27^0 - fracsec 27^0cosec 63^0tan² 45^0 is:

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

Q49. Consider the given statement and decide which of the given assumptions is implicit in the statement.

statement:
P advised Q, "Go to Mumbai via Jaipur ____ the shortest route"
Assumptions: I. P advises everybody.
II. Q wishes to go to Mumbai.

(a) Either assumption I or II is implicit
(b) Only assumption I is implicit
(c) Only assumption II is implicit
(d) Neither assumption I nor II is implicit.

Q50. ISRO created history by launching_____ in Feb, 2017

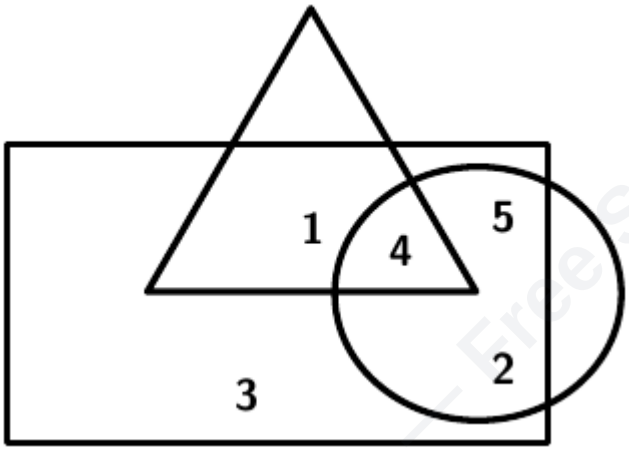
(a) 101 satellites in a single flight.
(b) 104 satellites in a single flight.
(c) 100 satellites in a single flight.
(d) 103 satellites in a single flight.

Q51. In a circle with a radius of 10 cm. XY and PQ are two parallel chords 12 cm and 16 cm in length, respectively. The two chords are situated on the opposite sides of the centre. The distance between the chords is:

(a) 14 cm
(b) 18 cm
(c) 12.80 cm
(d) 12 cm

Q52. In the given figure consisting of multiple shapes, which number is present only in one shape?

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

Q53. The LCM of two numbers is 156 and their HCF is 26. If the difference between the numbers is also 26, then the sum of the numbers is:

(a) 52
(b) 130
(c) 78
(d) 104

Q54. Introducing a person to her husband a, lady said, "His brother's father is only son of my paternal grandfather". How is the lady related to that person?

(a) Daughter
(b) Mother
(c) Sister
(d) Aunt

Q55. The product of three numbers is 10290 and the numbers are in the ratio of 3 : 5 : 2 The greatest number among the three numbers is:

(a) 75
(b) 60
(c) 21
(d) 35

Q56. A row of girls are standing facing north Rama is fifteenth from the left and shalu is eighth from the right If shalu is shifted to the left by five places. then she moves to the immediate left of Rama. How many girls are standing in the row?

(a) 27
(b) 28
(c) 26
(d) 25

Q57. In his career, a tennis player won 5 matches lost 12 matches and had 3 matches as draw. The fraction of the match he lost in his career is:

(a) 12/5
(b) 3/5
(c) 1/5
(d) 2/5

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Q58. The value of $4\sin^2 30° + 3\cot^2 60° - 2\tan^2 45°$ is:

(a) 5
(b) 1
(c) 0
(d) 9

Q59. A group of 463 people were asked to vote for their favourite season among four seasons(rainy, summer, spring and winter) Rainy season got 130 votes. whereas summer season got 100 votes. winter season got 53 more votes than summer season. Spring season got 80 votes. Which season is liked by most people?

(a) Spring
(b) Summer
(c) Rainy
(d) Winter

Q60. A train running at a speed of 60 km/h crossed a pole in 1.5 min.The length of the train (in. m) is:

(a) 1200
(b) 800
(c) 1500
(d) 600

Q61. The least number that when divided by 144, 108 and 72 leaves the remainder 3 in each case is

(a) 435
(b) 429
(c) 432
(d) 72

Q62. A mixture contains acid and alcohol in the ratio of 3 : 2. On adding 10 litres of alcohol in mixture, the ratio of acid to alcohol becomes 3 : 5. The quantity of acid (in litres) in the original mixture was:

(a) 5
(b) 4.5
(c) 5.5
(d) 10

Q63. Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusions logically follow(s) from the statements.

Statements:

1. All Lions are Cats.
2. Some Cats are Pets.
3. All Pets are Animals.

Conclusions:

I. Some Cats are Animals.

II. All Lions are Animals.

(a) Only conclusion I follows.
(b) Neither conclusion I nor II follows.
(c) Only conclusion II follows.
(d) Both conclusion I and II follow.

Q64. Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusions logically follows from the statements.

Statements:

1. All plumbers are men.
2. Some men are electricians.

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3. No electrician is a cook.

Conclusions:

1. Some plumbers are cooks.
2. Some plumbers are not cooks.
3. Some men are not cooks.

(a) None of the conclusions follows.
(b) Only conclusions 2 and 3 follow
(c) Only conclusion 3 follows.
(d) Only conclusions 1 and 2 follow

Q65. Which of the following countries is a member of SAARC?

(a) Afghanistan
(b) Myanmar
(c) China
(d) Mauritius

Q66. The value of 11/5 - (2/3of3/5 - 1/5) + (6/5 ÷ 4/5) is:

(a) 1/5
(b) 3/5
(c) 2/3
(d) 7/2

Q67. If interest is compounded annually, a sum of Rs 25,000 becomes Rs 36,000 after 2 years. The rate of interest is:

(a) 5%
(b) 22%
(c) 20%
(d) 15%

Q68. Which of the following country was the host of the United Nations Environment Program - 'World Environment Day, 2020'?

(a) France
(b) India
(c) Colombia
(d) Japan

Q69. A sum of Rs 5,000 is invested at 10% simple interest per annum. In how many years will the amount of interest become Rs. 1,500?

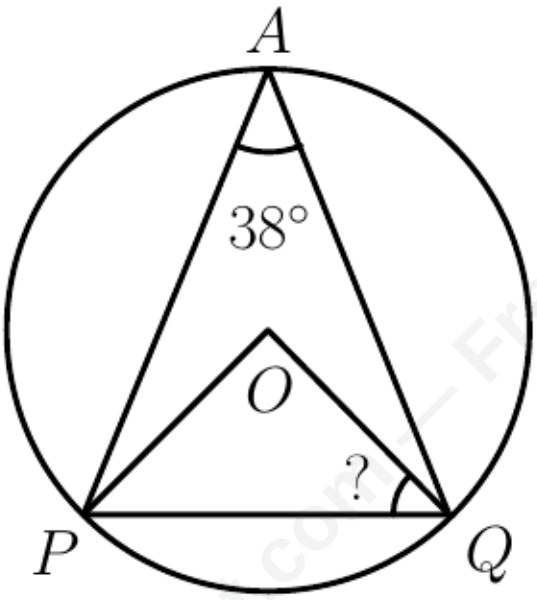
(a) 6
(b) 3
(c) 5
(d) 8

Q70. If x/y = 4/5, then (5x + 7y)/(5x - 7y) + (6x + 4y)/(7x - 8y) is equal to:

(a) • 22/3
(b) • 5/4
(c) • 11/3
(d) • 3/2

Q71. In the given figure, PO and OQ are the radius of the circumcircle of ΔAPQ. If angle PAQ = 38°, then angle PQO will be

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(a) 76°
(b) 52°
(c) 112°
(d) 104°

Q72. If 3 cosθ = √3, then the value of cosec θ. tan θ is:
(a) √2
(b) √3
(c) √3 /2
(d) (2√3)/3

Q73. Which one of the following is NOT a UNESCO world Heritage site?
(a) Rani-ki-vav, Patan
(b) Sun temple, Konark
(c) Ajanta caves, Aurangabad
(d) Jantar Mantar, New Delhi

Q74. Who is Known as the 'Father of Indian Constitution'?
(a) Dr.K.M.Munshi
(b) Shri Sachchidanand Sinha
(c) Dr. Bhim Rao Ambedkar
(d) Dr.Rajendra Prasad

Q75. Which of the following places is famous for mining of uranium?
(a) Jaduguda
(b) Panna
(c) Raniganj
(d) Corba

Q76. 30 Workers can build a bridge in 40 days. If 75 Workers are to be assigned to be complete the same work, then the number of days required will be:
(a) 16
(b) 56
(c) 12
(d) 10

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Q77. Who was the Governor of the Reserve Bank of India when demonetization was announced, on 8 November,2016?

(a) Urjit Patel
(b) D.Subbarao
(c) Shaktikanta Das
(d) Raghuram Rajan

Q78. If $a + b = 8$ and $a^2 + b^2 = 12$, then the value of $a^3 + b^3$ is:

(a) -211
(b) 716
(c) -112
(d) 1136

Q79. As of November 2020, Who is the Education minister of India?

(a) Mahendra Nath Pandey
(b) Prakash Javadekar
(c) Dr.Ramesh Pokhriyal C'Nishank'
(d) Smriti Zubin Irani

Q80. 'Antrix Corporation Limited, Bengaluru' is a

(a) power distribution company
(b) film production company
(c) mobile handset manufacturer
(d) marketing arm of ISRO

Q81. Select the number from among the given that can replace the question mark(?) in the following series.

1, 27, 125, 343.?

(a) 216
(b) 625
(c) 729
(d) 999

Q82. Who wrote Gita Govinda?

(a) Surdas
(b) Jayadeva
(c) Raskhan
(d) Meerabai

Q83. The Communal Electorate system in India was first introduced by the _____

(a) Rowlatt Act, 1919
(b) Morley - Minto Reforms, 1909
(c) Wavel Plan, 1945
(d) Cripps Mission, 1942

Q84. Which of the following human diseases is caused by bacteria?

(a) Hepatitis A
(b) Typhoid
(c) Measles
(d) Polio

Q85. Who was the chief guest at the Republic Day celebrations of India in 2020?

(a) The President of the USA
(b) The King of Saudi Arabia
(c) The President of Brazil
(d) The Sultan of Brunei

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Q86. In certain code language, LEADER is written as ELDARE How will FOUNTAIN be written as in that code language?

(a) FONUATIN
(b) OFUNATIN
(c) OFNUATNI
(d) FOUNTANI

Q87. Four letter-clusters have been given, out of which three are alike in some manner and one is different. Select the odd one.

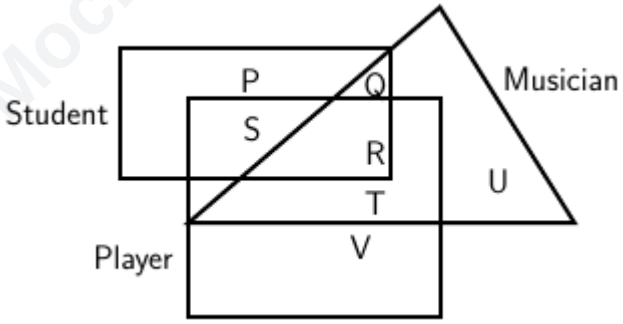
(a) HGST
(b) FEUV
(c) BAYZ
(d) DCWV

Q88. Select the numbers from among the given options that can replace the question mark (?) in the following series.

4, 11, 30, 67, 128, ?

(a) 346
(b) 195
(c) 182
(d) 219

Q89. Study the following figure and answer the given question.



Which region represents students who are musicians but NOT players?

(a) U
(b) S
(c) R
(d) Q

Q90. Four numbers have been given, out which three are alike in some manner and one is different. select the number that is different from the rest.

(a) 41
(b) 35
(c) 39
(d) 37

Q91. In a certain code language, FIVE is coded as 5137 and RAT is coded as 924. How will FEAR be coded as in that code language?

(a) 5729
(b) 5192
(c) 5972
(d) 5392

Q92. 'India' is related to 'New Delhi' in the same way as 'China' is related to _____

(a) Beijing
(b) Seoul
(c) Pyongyang

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(d) Tokyo

Q93. Pointing to a photograph, a person said, "she is the daughter of the woman who is the mother of the husband of my mother". How is the lady in the photograph related to this person?

(a) Sister-in-law
(b) Daughter
(c) Aunt
(d) Sister

Q94. Six girls. P, Q, R, U, V and W. are sitting on a school ground. P and Q are from the Mani House while the rest are from the Gargi House. U and W are short while the other girls are tall. P, R and U are wearing caps while the others are not. Which tall girl from the Gargi House is NOT wearing a cap?

(a) W
(b) Q
(c) V
(d) P

Q95. P is taller than T, Q is taller than S, U is taller than R, S is taller than P and T is taller than U. who is the shortest among them?

(a) S
(b) R
(c) U
(d) P

Q96. Select the option that is related to the third letter-cluster in the same way as the second letter-cluster is related to the first letter-cluster.

KOPT : AEFJ :: QUVZ : ?

(a) NRSW
(b) GKLP
(c) PTUY
(d) OSTX

Q97. Read the given statement and conclusions carefully and decide which of the given conclusions logically follows from the statement.

Statement:

Chanchal is prettier than Lila but not as pretty as Bhoomi.

Conclusions:

I. Lila is not as pretty as Chanchal.

II. Lila is prettier than Bhoomi.

III. Bhoomi is not as pretty as Chanchal.

IV. Chanchal is pretteir than Bhoomi.

(a) Only conclusion I follows.
(b) Only conclusion III follows.
(c) Only conclusion II follows.
(d) Only conclusion IV follows.

Q98. In a class of 50 students, Aryan ranks 17^(th) from the top. What is his rank from the bottom?

(a) 18th
(b) 33rd
(c) 32nd
(d) 34th

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Q99. If 8 + 5 = 1340 is true, then 4 + 6 = ?

(a) 1012
(b) 1024
(c) 1414
(d) 1304

Q100. Four words have been given, out of which three are alike in some manner and one is different. Select the odd one.

(a) Leopard
(b) Fox
(c) Wildcat
(d) Tiger

ANSWER KEY

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

SOLUTIONS

Q1. Answer: (c) 17

Symbol	•	•	×	÷
Meaning	•	÷	•	×

Given expression: 13 + 6 ÷ 2 × 32 - 2?
After replacing the symbols by their meaning,
we get:
= 13 - 6 × 2 + 32 ÷ 2
= 13 – 12 + 16
= 29 - 12
= 17
Hence, ‘17’ is the correct answer.

Q2. Answer: (d) 25

The correct answer is 25.
Key Points
• Article 214- Each state of India shall have a High Court.
• Article 217- It deals with the appointment of Judges of the High Courts in India
• Article 231- It mentions that there can be a common High Court for two or more States or for two or more states and a union territory.
• The High Court is the supreme judicial body in a state.
• Every High Court comprises of a Chief Justice and other judges appointed by President.
• As of Nov. 2020. there are 25 High Courts in India.

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• The Calcutta High Court is one of the three High Courts in India established at the Presidency Towns by Letters patent granted by Her Majesty Queen Victoria, bearing date June 26, 1862.

• Calcutta High Court is the oldest High Court in India.

Q3. Answer: (a) 2

The correct answer is 2.

Key Points

• The pH scale is a logarithmic scale used to specify the acidity or basicity (alkalinity) of an aqueous solution.

• A solution that has a pH of 0 is very acidic with a high concentration of hydrogen ions and a pH of 7 is a neutral solution with equal concentrations of hydrogen ions and their basic counterpart hydroxy ions.

• pH 14 represents a high concentration of hydroxy ions and any solution with pH value 14 is basic in nature.

• Numerically, the pH equals the negative logarithmic value of the concentration of hydrogen ion (H+).

• Substances having a value of pH ranging 0 to 7 on pH scale are termed as acidic and for the value of pH ranging 7 to 14 on pH scale are known as basic solutions.

• The pH values of the most common aqueous solutions are given below-

• | pH value | Substances |

0	Battery Acid
1	Hydrochloric Acid
2	Lemon Juice, Vinegar
3	Soda, Orange Juice
4	Tomato Juice, Beer
5	Black Coffee, Banana
6	Urine, Saliva, Milk
7	Pure Water, Blood
8	Eggs, Baking Soda, Seawater
9	Toothpaste, Hand soap
10	Milk of Magnesia
11	Ammonia Solution
12	Soapy water
13	Bleach, Oven Cleaner
14	Caustic Soda, Liquid Drain Cleaner

Hint

• Even if you do not know the correct pH of lemon juice, just remember that lemon juice is highly acidic.

• Out of the given options, the first option seems to fall under the highly acidic category.

Q4. Answer: (d) Dr Syama Road Tunnel

The correct answer is Dr. Syama Road Tunnel.

Key Points

• Dr. Syama Road Tunnel in Jammu is the longest highway tunnel in India.

• This tunnel was earlier known as Chenani Nashri Tunnel.

• It is the nine km long tunnel that connects Udhampur to Ramban in Jammu.

• It cuts down 31 km of travel distance and reduces the travel time between the two points by about two hours, in addition to substantial savings in fuel cost.

• It is the first tunnel in India to be equipped with an "integrated tunnel control system" through which ventilation, fire control, signals, communication, and electrical systems would be automatically controlled.

• Around 124 cameras are installed inside the tunnel for traffic surveillance and the operators at the main control center.

Additional Information

• Atal Tunnel is the world's longest highway tunnel above 10,000(3,048 m) feet.
• Atal Tunnel is also known as Rohtang tunnel.
• The tunnel was inaugurated by Prime Minister Narendra Modi on 3rd October 2020
• It is located on the Leh-Manali Highway in Himachal Pradesh.
• It is named after the former prime minister Atal Bihari Vajpayee.
• The 9.02 km-long tunnel, was built by the Border Roads Organisation (BRO).
• The tunnel connects Manali to Lahaul-Spiti valley.
• The Atal tunnel project was announced by the then Prime Minister Atal Bihari Vajpayee in 2000.

Confusion Points

• Atal tunnel is the world's longest highway tunnel above 10,000 ft. This 9.02 km long road tunnel connects Manali to Lahaul and Spiti Valley throughout the year.
• J&K's Chenani-Nashri Tunnel renamed as Shyama Prasad Mukherjee Tunnel.
• It is India's longest road tunnel with a length of 9.28 km.

Q5. Answer: (a) Rs. 520

Given:
SP of an article = Rs. 360
Loss = 10%
Gain = 30%
Formula used:
cp = [sp × 100/(100 – loss%)]
where, cp = cost price
sp = selling price
Calculation:
cp = [sp × 100/(100 – loss%)]
=> [360 × 100/(100 – 10)]
=> 360 × 100/90
=> Rs. 400
According to question
Sp of an article = 400 × 130/100
=> Rs. 520
Therefore Sp of an article is Rs. 520
Shortcut Trick
Let CP be 100%
So, if loss is 10%, then SP = 90%
So, 90% = Rs. 360
Then, 130% = Rs. 360 × (130/90)
=> Rs. 520
Therefore Required SP is Rs. 520

Q6. Answer: (d) Paris

The correct answer is Paris.
Key Points
• UNESCO
• Full form- United Nations Educational, Scientific and Cultural Organization
• It was established on 16 November 1945.
• It has 195 Members and 8 Associate Members and is governed by the General Conference and the Executive Board.
• Its mission is to contribute to the building of a culture of peace, the eradication of poverty, sustainable development and intercultural dialogue through education, the sciences, culture, communication and information.
• It primarily focuses on a set of objectives in the global priority areas "Africa" and "Gender Equality"
• Headquarters- Paris, France
• Director-General- Audrey Azoulay

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Q7. Answer: (d) 21

Given:

26, 12, 15, 42, 36, 16

Concept used:

Median : The median is the middle number in a sorted, ascending or descending, list of numbers

Case 1 : If the number of observations (n) is even

Median = [value of (n/2)^(th) observation + value of (n/2 + 1)^(th) observation]/2

Case 2 : If the number of observations (n) is odd

Median = Value of (n + 1/2)^(th) observation

Calculation:

Arrange the observations in ascending order

12, 15, 16, 26, 36, 42

Here, n = 6 = even

As we know, if n is even then,

Median = [value of (n/2)th observation + value of (n/2 + 1)th observation]/2

=> (3^(rd) observations + 4^(th) observations)/2

=> (16 + 26)/2

=> 21

Therefore Median is 21

Q8. Answer: (a) The speaker of the Lok-Sabha

The correct answer is The speaker of the Lok-Sabha

Key Points

• As per Article 108 of the Indian Constitution, the speaker of the Lok-Sabha presides over the joint sitting of the Lok Sabha and the Rajya Sabha.

• Rajya Sabha

• It is also known as the Upper House and the Council of States.

• Article 80 of the Constitution says that the maximum strength of the Rajya Sabha is 250, out of which 12 members are nominated by the President and 238 are representatives of the States and of the two Union Territories.

• The Fourth Schedule to the Constitution provides for the allocation of seats to the States and Union Territories in Rajya Sabha.

• The Vice-President of India is the ex-officio Chairman of Rajya Sabha.

• Lok Sabha

• It is also known as Lower House.

• It was duly constituted for the first time on 17 April 1952.

• As per the Constitution of India, the maximum strength of the House is 552.

• Article 84 of the Indian Constitution sets qualifications for being a member of the Lok Sabha.

Q9. Answer: (a) 82/11

Given:

Time taken by A to fill a tank = 15 hours

Time taken by B to fill a tank = 12 hours

Time taken by C to fill a tank = 18 hours

Formula used:

Total time = Volume/Volume filled in 1 hour

Calculation:

LCM of 15, 12, and 18 is 180

Efficiency of A = 180/15 = 12 units

Efficiency of B = 180/12 = 15 units

Efficiency of C = 180/18 = 10 units

According to question

A and C are opened simultaneously into the empty tank

=> [180/(12 + 10)]

=> 180/22 = 90/11

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=> 82/11

Therefore Time taken to fill the tank is 82/11

LCM of 15, 18 = 90 units = Total work

Efficiency of A = 90/15 = 6 units

Efficiency of C = 90/18 = 5 units

Total efficiency of A and C = (6 + 5) units

=> 11

Time taken by A and C = 90/11 hours

Therefore Time taken to fill the tank is 82/11

Q10. Answer: (a) vitamin B1

The correct answer is vitamin B1.

Key Points

• Vitamin B1

• It is required by our bodies to properly use carbohydrates.

• It also helps maintain proper nerve function.

• It is also involved in the flow of electrolytes into and out of muscle and nerve cells.

Additional Information

Vitamin	Chemical name	Disease due to deficiency
Vitamin C	Ascorbic acid	Scurvy
Vitamin D	ergocalciferol-D2, cholecalciferol-D3	Rickets
Vitamin E	Tocopherols	It can cause nerve and muscle damage
Vitamin B	thiamin (B1) riboflavin (B2) niacin (B3) pantothenic acid (B5) pyridoxine (B6) biotin (B7) cyanocobalamin (B12)	Beriberi (B1) Pellagra (B3) Anemia (B6 and B12)

Q11. Answer: (c) Tapti

The correct answer is Tapti.

Key Points

• The Tapti river drains into the Arabian sea.

• Tapti and Narmada are the only Indian rivers that drain into the Arabian sea.

Rivers	Origin	Falls into	State of origin	Tributaries
Krishna	Mahabaleshwar, Satara District,	Bay of Bengal	Maharashtra	Ghataprabha, Malaprabha, Bhima, Tungabhadra, Musi, etc
Mahanadi	Dandakaranya region in Raipur district	Bay of Bengal	Chhattisgarh	Seonath, Jonk, Hasdo, Mand, Ib, Ong, Tel, etc
Tapti	Multai in Betul district	Arabian Sea	Madhya Pradesh	Girna, Purna, Panzara, Bori, Waghur, Aner, etc
Godavari	Trimbakeshwar in the Nashik district	Bay of Bengal	Maharashtra	Indravati, Purna, Sabara, Manjira, Pravara, etc

Q12. Answer: (d) 1982 - 83

Calculation:

Difference between 1980-21 and 1981-82

=> (200 – 100) = 100

Difference between 1981-82 and 1982-83

=> (400 – 200) = 200

Difference between 1982-83 and 1983-84

=> (500 – 400) = 100

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Difference between 1983-84 and 1984-85

=> (600 – 500) = 100

Therefore Required increase in production as highest as compared to previous year is 1982-83

Q13. Answer: (d) Marchantia

The correct answer is Marchantia.

Key Points

• Bryophyte

• It is the collective term for mosses, hornworts, and liverworts.

• These are non-vascular plants.

• They play a vital role in regulating ecosystems because they provide an important buffer system for other plants, which live alongside and benefit from the water and nutrients that bryophytes collect.

• Many bryophytes are found in association with freshwater.

• Marchantia genus belongs to Bryophyta. It is mainly confined to temperate regions and is found to grow in moist, cool, and shady places.

Additional Information

• Marsilea belongs to Polypodiophyta.

• Deodar belongs to Pinophyta.

• Cladophora belongs to Chlorophyta

Q14. Answer: (a) Sri Atal Bihari Vajpayee

The correct answer is Sri Atal Bihari Vajpayee.

Key Points

• 'Bharat Ratna' is the highest civilian award in India.

• It is awarded in recognition of exceptional service/performance of the highest order in any field of human endeavor.

• This award was instituted in the year 1954.

• The first recipients of the Bharat Ratna were C. Rajagopalachari, Sarvepalli Radhakrishnan, and Nobel Prize Laureate C. V. Raman.

• The number of annual awards is restricted to a maximum of three in a particular year.

• The recipient receives a certificate signed by the President and a medallion. This award does not carry any monetary grant.

• Sri Atal Bihari Vajpayee- Bharat Ratna in 2015

• Shri Nanaji Deshmukh- Bharat Ratna in 2019

• Sri Pranab Mukherjee- Bharat Ratna in 2019

• Dr. Bhupen Hazarika- Bharat Ratna in 2019

Q15. Answer: (a) Only conclusion I follows.

The least possible Venn diagram is:

Conclusions:

I. Some women are intelligent. → True (As, All lawyers are intelligent and Some women are lawyers → Some women are intelligent)

II. All those intelligent are women. → False (As, All lawyers are intelligent and Some women are lawyers → Some intelligent are women)

Hence, only conclusion I follows.

Q16. Answer: (b) 8

Given:

Part of acid in mixture = 1/5

Part of alcohol in mixture = 2/5

Total quantity of mixture = 20 litres

Calculation:

According to question

Remaining part of water = 1 – (1/5 + 2/5)

=> 1 – 3/5

=> 2/5

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Now,

Mixture contain water = Total quantity of mixture × Remaining part of water

=> (20 × 2/5) litres

=> 8 litres

Therefore Required mixture contain water is 8

Q17. Answer: (a) Brahmos

The correct answer is Brahmos.

Key Points

• BrahMos is a supersonic cruise missile developed by BrahMos Aerospace, a joint venture between the Defence Research and Development Organisation (DRDO) of India and NPO Mashinostroeyenia (NPOM) of Russia.

• The BrahMos has a range of between 300-500 km depending on which variant and launch platform is used.

• The missile is powered by a solid propellant boost motor with a liquid-fueled ramjet sustainer motor.

• Various versions of the BrahMos, including those which can be fired from land, warships, submarines and Sukhoi-30 fighter jets have already been developed and successfully tested in the past.

Additional Information

• Akash is a surface-to-air missile developed by Defence Research and Development Organisation. It is developed to protect vulnerable areas and vulnerable points from air attacks.

• Prithvi is a tactical surface-to-surface short-range ballistic missile (SRBM) developed by Defence Research and Development Organisation.

• Trishul is a short-range surface-to-air missile developed by the Defence Research and Development Organisation as a part of the Integrated Guided Missile Development Program

Q18. Answer: (c) 4.8%

Given:

Total amount of solution = 10 litres

Concentration of salt = 6%

Amount of water evaporated = 2 litres

Formula used:

Solution = solute + solvent

% of solute = (solute/solution) × 100

Calculation:

Remaining amount of solution = (10 – 2) litres

=> 8 litres

Amount of salt = (6/100) × 8

=> 48/100

=> 0.48 litres

Required percentage =Amount of salt/Total amount of solution × 100

=> 0.48/10 × 100

=> 4.8%

Therefore The required percentage is 4.8%

Q19. Answer: (c) Diverging lens

The correct answer is Diverging lens.

Concept:

• Human eye: The organ due to which we can see the world is called the human eye.

• It consists of a convex lens/converging lens and the image by the human eye lens forms at the retina.

Explanation:

Myopia:

• A normal human eye can see any object from 25 cm to infinity.

• In myopia, the person cannot see far objects. The far point is less than infinity.

• Myopia can be caused by a longer-than-normal eyeball or by any condition that prevents light rays from focusing on the retina.

• This is corrected by a suitable concave lens.

• The concave lens (diverging lenses) diverges the ray of light such that the image of the far object can be formed on the retina.

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Important Points

Defects of Vision	Details	Corrections
Hypermetropia or Farsightedness	The human eye can see distant objects clearly but cannot see nearby objects clearly.	Convex Lens
Presbyopia	In this defect, both near and far objects are not clearly visible. It is an old age disease and it is due to the losing power of accommodation.	Bifocal lenses
Astigmatism	In this defect, the eye cannot see horizontal and vertical lines clearly, simultaneously. It is due to the imperfect spherical nature of the eye lens.	Cylindrical lens

Q20. Answer: (c) 1946

The correct answer is 1946.

Key Points

• The Cabinet Mission was a high-powered mission sent to India in February 1946 by the Atlee Government who was the British Prime Minister.

• The mission had three British cabinet members – Pethick Lawrence, Stafford Cripps, & and A.V. Alexander.

Additional Information

• The primary aim of the mission was to discuss the transfer of power from British to Indian leadership.

• The mission wanted to obtain an agreement with the Indian leaders as to the framing of a constitution for India.

• It wanted to establish an Executive Council with the support of the major Indian parties.

• It also aimed to formulate a constitution-making body.

• The mission proposed a complicated system for India with three tiers: the provinces, provincial groupings, and the center.

• The plan by Cabinet Mission was not welcomed by INC and the Muslim League.

• The Congress Party wanted a strong center with minimum powers for the provinces whereas the Muslim League wanted strong political safeguards for the Muslims like parity in the legislatures.

Q21. Answer: (d) Karnataka and Tamil Nadu

The correct answer is Karnataka and Tamil Nadu.

Key Points

• The Cauvery water dispute is between Karnataka and Tamil Nadu.

• Cauvery river water dispute started in 1892 between Madras Presidency (under the British rule) and the Princely state of Mysore.

• Madras had disagreed with the Mysore administration’s proposal to build irrigation systems, arguing that it would impede water flow into Tamil Nadu.

• The issue of water sharing became a real problem after the re-organization of the states in 1956.

• In 1990, a Cauvery Water Disputes Tribunal (CWDT), headed by justice Chittatosh Mookerjee, was set up under the center after the Supreme Court’s direction.

• In 1998, the Cauvery River Authority (CRA) was formed and was tasked with implementing the interim order of the CWDT.

• The final verdict of the Supreme Court came in 2018 where it declared the Cauvery a national asset and largely upheld the water-sharing arrangements finalised by the CWDT and also reduced the allocation of water from Karnataka to Tamil Nadu.

Q22. Answer: (c) 1

The correct answer is 1.

Key Points

• Resistance: The property of any conductor that opposes the flow of electric current through it is called resistance.

• It is denoted by R and the SI unit is the ohm (Ω).

• Superconductors are said to have zero resistance.

• One can control Voltage and Current by altering the resistance of the circuit.

• The resistance (R) is given by:

$R = \rho L/A$

where ρ is resistivity, L is the length and A is the area of the cross-section.

• Please note that the resistors are connected in series. Hence, the current flowing would be the same in all the resistors.

• The total and maximum resistance when resistors are connected in series is the sum of resistances= 1/4Ω + 1/4Ω + 1/4Ω + 1/4Ω = 1Ω

Q23. Answer: (d) 11

Calculation:

200 ÷ (5.23 + 4.77) × (3/5-2/10) + (5 – 2)

=> 200 ÷ 10 × (3/5 – 2/10) + (5 – 2)

=> 200 ÷ 10 × 4/10 + 3

=> 20 × 4/10 + 3

=> 8 + 3

=> 11

Therefore The value is 11

Q24. Answer: (b) Uttarakhand

The correct answer is Uttarakhand.

Key Points

• The National park is an area that is strictly reserved for the betterment of the wildlife & biodiversity, and where activities like developmental, forestry, poaching, hunting and grazing on cultivation are not permitted.

• Jim Corbett National Park is located in the Nainital district of Uttarakhand. It was established in 1936.

• Famous National Parks in Uttarakhand- Gangotri National Park, Nanda Devi National Park, etc.

• Famous National Parks in Gujarat- Gir National Park, Velavadar National Park, Vansda National Park, etc.

• Famous National Parks in Karnataka- Bannerghatta National Park, Bandipur National Park, Nagarhole National Park, Kudremukh National Park, etc.

• Famous National Parks in Rajasthan- Keoladeo National Park, Ranthambore National Park, etc.

Q25. Answer: (d) D

Confusion Points D has B his left B - It means B is to the left of D.

Five children - A, B, C, D and E.

1. D has B his left B and C are always together (Next to each other) and C is at one end of the row.

2. D cannot be at the fourth or fifth place, E is to the right of A.

Clearly, D is standing in the middle of the row.

Hence, ‘D’ is the correct answer.

Q26. Answer: (d) 10

The number of triangles in the figure is shown below:

Hence, ‘10’ is the correct answer.

Q27. Answer: (d) 3

Calculation:

Number divisible by 5, 6 and 7 should be divisible by their LCM

=> LCM of 5, 6 and 7 is 210

Number of multiplies of 210 in 250 to 1000

=> 210 × 2 = 420, 210 × 3 = 630, 210 × 4 = 840

Therefore Numbers from 250 to 1000 are exactly divisible by 5, 6 and 7 is 3

Q28. Answer: (b) Goods and Services Tax

The correct answer is Goods and Services Tax.

Key Points

• In order to implement GST, the Constitutional (122nd Amendment) Bill (CAB for short) was introduced in the Parliament and passed by Rajya Sabha on 03rd August 2016 and Lok Sabha on 08th August 2016.

• The Goods and Services Tax (GST) is a uniform indirect tax levied on goods and services across India.

• It has replaced central taxes like central excise, service tax, additional duties of excise & customs, special additional duties of customs, besides cesses and surcharges, on supply of goods and services.

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• The Objectives Of GST-
• To achieve the ideology of 'One Nation, One Tax'
• To subsume a majority of the indirect taxes in India
• To eliminate the cascading effect of taxes
• To curb tax evasion
• To increase the taxpayer base
• Online procedures for ease of doing business
• To promote competitive pricing and increase consumption
• There are three taxes applicable under this system:
• CGST
• SGST
• IGST
• CGST: It is the tax collected by the Central Government on an intra-state sale
• SGST: It is the tax collected by the State government on an intra-state sale
• IGST: It is the tax collected by the Central Government for an inter-state sale

Q29. Answer: (b) 280

Given:

A number when decreased by 22 1/2% becomes 217.

Calculation:

Let the number be x

Now, according to the question

=> x – 22.5% of x = 217

=> x – 22.5x/100 = 217

=> 100x – 22.5x = 21700

=> 77.5x = 21700

=> x = 21700/77.5

=> x = 280

Therefore The answer is 280

Q30. Answer: (a) 10

Given:

Capacity of tank = 6160 m^3

Diameter of tank = 28 m

Formula used:

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

Calculation:

Radius of tank = 28/2 m

=> 14 m

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

=> $22/7 \times (14)^2 \times h = 6160$

=> $22/7 \times 196 \times h = 6160$

=> $22 \times 28 \times h = 6160$

=> $616 \times h = 6160$

=> h = 10 m

Therefore The depth of the tank is 10

Q31. Answer: (b) Lucknow

The correct answer is Lucknow.

Key Points

• Central Drug Research Institute

• It is a premier drug research institute of India that was inaugurated on 17th Feb 1951 by the then Prime Minister of India Pt. Jawaharlal Nehru.

• It was established with a vision to strengthen and advance the field of drug research and development in the country.

• It has become a unique model for modernized drug research in India – having everything under one roof, from synthesis, screening, development studies, process up-scaling to clinical studies.

• So far, more than 10,000 research articles have been published by the Institute in peer-reviewed journals.

• It is in Lucknow, Uttar Pradesh.

• Mission

• To discover, develop and deploy therapeutic strategies to alleviate disease burden.

• Priority Areas

• Parasitic diseases (Malaria & Leishmaniasis)

• AMR (MDR Mycobacteria & ESKAPE pathogens)

• Bone health

• Metabolic and lifestyle diseases

• Cancer

Q32. Answer: (c) R

Four silver articles - P, Q, R and S, each having a different weight.

Let the weights of S = x

1) R weighs half as much as S.

Therefore, the weight of R = 0.5x

2) Q weighs two and a half times as much as S.

Therefore the weight of Q = 2.5x

3) P weights trice as much as Q.

Therefore the weight of P = 3 × 2.5x = 7.5x

Arrangement from heaviest to lowest:

P (7.5x) > Q (2.5x) > S (x) > R (0.5x)

Clearly, R is the silver article which is the lightest in weight.

Hence, 'R' is the correct answer.

Q33. Answer: (d) 37

Calculation:

√(72 × 18) + √0.04 + √0.64

=> √1296 + √0.04 + √0.64

=> 36 + 0.2 + 0.8

=> 37

Therefore The value is 37

Q34. Answer: (a) processor

The correct answer is processor.

Key Points

• Intel Core processors first came to the desktop in mid-2006, replacing the Pentium line that had previously comprised Intel's high-end processors.

• The Core "i" names are primarily "high-level" categorizations that help differentiate processors within a given generation.

• The Core i9 is at the top of the Intel Core pack.

• At the Core i9 level in the current ninth-generation CPUs, a larger cache is present than the Core i5 processors.

• It has faster clock speeds (up to 5 GHz for boost), and another bump in graphics performance.

• However, Core i9 CPUs still have the same maximum memory capacity as the Core i5.

Q35. Answer: (b) 70

Given:

Area of rectangle = 300 cm^2

Diagonal = 25 cm

FORMULA USED:

Area of a rectangle = length × breadth

Perimeter of a rectangle = 2 (length + breadth)
Diagonal = √(length2 + breadth2)
Calculation:
According to question,
=> length × breadth = 300
Again,
Diagonal = √(length2 + breadth2)
=> √(length2 + breadth2) = 25
=> (length2 + breadth2) = 625
Let the length be a and breadth be b
Then,
=> $(a + b)^2 = a^2 + b^2 + 2ab$
=> $(a + b)^2 = 625 + 2 \times 300$
=> $(a + b)^2 = 1225$
=> a + b = 35
Perimeter of rectangle = 2(a + b)
=> 2 × 35
=> 70
Therefore Perimeter of rectangle is 70.

Q36. Answer: (d) 7100

Given:
$x + (1/x) = 12$ ----(i)
$x^2 - 1/(x^2) = 50$ ----(ii)
Formula used:
$(a + b)^2 = a^2 + b^2 + 2ab$
Calculation:
$x + (1/x) = 12$
=> $[x + (1/x)]^2 = 12^2$
=> $x^2 + (1/x^2) + 2 \times x \times (1/x) = 144$
=> x2 + (1/x2) + 2 = 144
=> x2 + (1/x2) = 142 ----(iii)
Now, Multiplying equation (ii) and (iii)
$(x^2 + 1/(x^2)) \times (x^2 - 1/(x^2)) = 142 \times 50$
=> x^4 - 1/(x^4) = 7100 [Because $(a^2 - b^2) = (a + b) \times (a - b)$]
Therefore The required value is 7100

Q37. Answer: (a) Programming language

The correct answer is Programming language.
Key Points
• Python
• It is one of the most popular programming languages in the world.
• It is commonly used for developing websites and software, task automation, data analysis, and data visualization..
• It has become a 'go-to' in data science, allowing data analysts and other professionals to use the language to conduct complex statistical calculations, create data visualizations, build machine learning algorithms, etc.
• It can build a wide range of different data visualizations, like line and bar graphs, pie charts, histograms, and 3D plots.
• It was created by Guido van Rossum, and first released on February 20, 1991

Q38. Answer: (a) Gulbadan Begum

The correct answer is Gulbadan Begum.
Key Points
• Humayun-Nama was written by Gulbadan Begum.
• It is officially a biography of Humayun, son of Babur and father of Akbar.

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• Gulbadan Begum was the daughter of Babur and sister of Humayun.
• She was commissioned by Akbar (her nephew) to chronicle the story of Humayun.
• She wrote in simple Persian language and wrote a factual account of what she remembered.
• It is the only writing penned by a woman of Mughal royalty in the sixteenth century.
• A battered copy of the manuscript is kept in the British museum. Annette S. Beveridge translated Gulabadan's Persian work to English in 1902.

Q39. Answer: (a) Brazil

The correct answer is Brazil.

Key Points

• Brazil is the largest country in South America which spans over 8,515,767 km² and the fifth largest nation in the world.
• It has borders with every South American country except Chile and Ecuador.
• It is most well known for its dense forests, including the Amazon, the world's largest jungle, in the north.
• Its capital is Brasília, and its most populous city is São Paulo.
• Official Name: Federal Republic of Brazil
• Official languages: Portuguese
• Currency: Real
• It has the highest GDP per capita in South America.
• The Brazilian landscape is immense and complex, with interspersed rivers, wetlands, mountains, and plateaus adjoining other major features and traversing the boundaries of states and regions.

Additional Information

• The smallest country in South America is Suriname, which spans over 163,820 km².
• Argentina :
• The Argentine Republic is a country in the southern half of South America.
• It covers an area of 2,780,400 km².
• Official languages - Spanish
• Capital - Buenos Aires
• It is the second-largest country in South America after Brazil, the fourth-largest country in the Americas, and the eighth-largest country in the world.
• Colombia :
• The Republic of Colombia is a country in South America.
• It covers an area of 1,141,748 square kilometers with a population of 50 million.
• Official Language - Spanish
• Capital - Bagota
• President -Iván Duque Márquez
• It is one of the world's seventeen megadiverse countries and has the second-highest level of biodiversity in the world.
• it is the only country in South America with coastlines and islands along both the Atlantic and Pacific oceans.
• Bolivia :
• The Plurinational State of Bolivia is a landlocked country located in western-central South America.
• It is the fifth-largest country in South America after Brazil, Argentina, Peru, and Colombia.
• Bolivia remains the second poorest country in South America, though it has slashed poverty rates and has the fastest growing economy in South America.
• Bolivia is a charter member of the UN, IMF, NAM, OAS, ACTO, Bank of the South, ALBA, and USAN.
• Capital - La Paz
• Official languages - Spanish, Quechua, Aymara, Guarani
• President - Luis Arce

Q40. Answer: (a) American Standard Code for Information Interchange

The correct answer is American Standard Code for Information Interchange.

Key Points

• ASCII is a character encoding that uses numeric codes to represent characters.
• These include upper and lowercase English letters, numbers, and punctuation symbols.
• It is a code for representing 128 English characters as numbers, with each letter assigned a number from 0 to 127.

• For example, the ASCII code for uppercase M is 77.
• Most computers use ASCII codes to represent text, which makes it possible to transfer data from one computer to another.
• Text files stored in ASCII format are sometimes called ASCII files.
• The standard ASCII character set uses just 7 bits for each character.
• There are several larger character sets that use 8 bits, which gives them 128 additional characters.

Additional Information

•

Q41. Answer: (a) pre-nursery to class XII

The correct answer is pre-nursery to class XII.

Key Points

• 'Samagra Shiksha' is an integrated scheme for school education covering the entire gamut from pre-school to class XII.
• It 1.16 million schools, over 156 million students, and 5.7 million Teachers of Govt. and Aided schools
• It has been prepared with the broader goal of improving school effectiveness measured in terms of equal opportunities for schooling and equitable learning outcomes.
• It subsumes the three Schemes of Sarva Shiksha Abhiyan (SSA), Rashtriya Madhyamik Shiksha Abhiyan (RMSA), and Teacher Education (TE).
• It is being implemented as a centrally sponsored scheme.
• It involves a 60:40 split in funding between the Centre and most States.
• Human Resource Development Minister Prakash Javadekar launched the Samagra Shiksha scheme for school education in 2018.
• The scheme launched in 2018 has been extended for the period 1st April 2021 to 31st March 2026 with a Financial outlay of Rs.2,94,283.04 crore which includes the Central share of Rs.1,85,398.32 crore.

Additional Information

• The Cabinet Committee on Economic Affairs has approved the school education program Samagra Shiksha Scheme 2.0 till the 2025-26 financial year.
• It has been upgraded to align it with the Sustainable Development Goal for Education and the new National Education Policy launched in 2020.
• Samagra Shiksha Scheme 2.0 :
• The scheme has to focus for another five years based on the quality of education in every state of the country.
• To enhance the direct outreach of the scheme, all child-centric interventions will be provided directly to the students through DBT mode on an IT-based platform over a while.
• The scheme aims to universalize access to school education, promote equity through the inclusion of disadvantaged groups and weaker sections, and improve the quality of education across all levels of school education.
• Provision for Bagless days, school complexes, internships with local artisans, curriculum and pedagogical reforms, etc included.
• Financial support for State Commission for Protection of Child Rights @ Rs 50 per elementary school in the state, for protection of child rights and safety.

Q42. Answer: (b) Belgaum

The correct answer is Belgaum.

Key Points

• Gandhiji became the president of the Indian National Congress in 1924 at the Belgaum session of the Indian National Congress.
• Indian National Congress was the first modern nationalist movement to emerge in the British Empire in Asia and Africa.
• From the late 19th century and especially after 1920, under the leadership of Mahatma Gandhi, Congress became the principal leader of the Indian independence movement.
• The Indian National Congress was founded in Bombay in December 1885.
• It was Founded By A.O. Hume, a retired British officer.
• The Session began with " Vande Maatram " sung by Paluskar.
• National Song ‘Vande Mataram’ sung for the first time by Rabindranath Tagore.

Additional Information

• The first Session by presided by W.C. Bannerjee in December 1885 at Bombay.
• The Second Session by presided by Dadabhai Naoroji was held at Calcutta in 1886.
• Mahatma Gandhi presided over the 39th Session in 1924 In Belgaum, Karnataka.
• 1925: Kanpur. President: Sarojini Naidu, First Indian Woman President.

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• 1927: Madras. President: Dr. M.A. Ansari.

• 1931: Karachi. President: Vallabhbhai Patel.

• The early leadership – Dadabhai Naoroji, Pherozeshah Mehta, Badruddin Tyabji, W.C. Bonnerji, Surendranath Banerji, Romesh Chandra Dutt, S. Subramania Iyer, among others was largely from Bombay and Calcutta.

• The formation of the Indian National Congress was an effort in the direction of promoting the process of nation-building.

Q43. Answer: (b) 6

Calculation:

1/0.24 of 1.44

=> 1/0.24 × 1.44

=> 1 × 6

=> 6

Therefore The value is 6

Q44. Answer: (a) Buddhism

The correct answer is Buddhism.

Key Points

• The Jataka tales depict stories related to the Gautama Buddha in both human and animal forms.

• The Jataka is a collection of stories about the previous birth life of Gautam Buddha.

• The future Buddha may appear as a king, an outcast, a god, an elephant but, in whatever form, he exhibits some virtue that the tale thereby inculcates.

• The literary text called the Jataka contains more than 500 tales and constitutes the tenth book of the fifteen texts written in the ancient Indic language of Pali.

• Buddhism :

• It is one of the world's largest religions and originated 2,500 years ago in India.

• It is an Indian religion based on a series of original teachings attributed to the Gautama Buddha.

• These stories were written in Pali and Sanskrit languages.

Additional Information

• Sikhism:

• Sikhism is an Indian religion that originated in the Punjab region of the Indian subcontinent around the end of the 15th century CE.

• The purpose of Sikhism is to meditate on the name of God and to explore the wonder of the earth in communion with all people.

• Jainism:

• Jainism traditionally known as Jain Dharma is an ancient Indian religion.

• It is centered on the life and teachings of Mahavira.

• The three guiding principles of Jainism, the 'three jewels', are right belief, right knowledge, and right conduct.

• Hinduism :

• It is an Indian religion and dharma or way of life.

• It is the world's third-largest religion, with over 1.2 billion followers.

• It is the most widely professed faith in India, Nepal, and Mauritius.

Q45. Answer: (b) Mumbai Indians

The correct answer is Mumbai Indians.

Key Points

• Mumbai Indians won the Indian Premier League (IPL), 2020.

• The final match was played between Mumbai Indians and Delhi Capitals.

• Mumbai Indians won this match by 5 wickets.

• Mumbai Indians also won Paytm Fairplay Award this year.

• This is the consecutive second time Mumbai Indians won the IPL title & and overall 5th time.

• IPL 2019: Mumbai Indians beat Chennai Super Kings by 1 run.

• IPL 2017: Mumbai Indians beat Rising Pune Supergiant by 1 run.

• IPL 2015: Mumbai Indians beat Chennai Super Kings by 41 runs.

• IPL 2013: Mumbai Indians beat Chennai Super Kings by 23 runs.

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• Orange Cap - KL Rahul (670 runs)
• Purple Cap - Kagiso Rabada (30 wickets)
Additional Information
• IPL 2020 was the 13th edition of India's premier T20 league.
• Indian Premier League was conceptualized after India's landmark victory in the maiden ICC WT20 in 2007.
• The league came into existence in 2008 with 8 franchises.
• IPL has been a great platform for young talent to showcase their skills and rub shoulders with the best players in the world.
• The Delhi Capitals are a franchise cricket team based out of Delhi in the Indian Premier League (IPL).
• Founded in 2008 as the Delhi Daredevils, the franchise is jointly owned by the GMR Group and the JSW Group.
• The team's home ground is Arun Jaitley Stadium, located in New Delhi.
• The Capitals appeared in their first IPL final in 2020.
• In March 2018, GMR sold a 50% stake in the Delhi Daredevils to JSW Sports for Rs. 550 crores.
• In December 2018, the team changed its name from the Delhi Daredevils to the Delhi Capitals.

Q46. Answer: (c) Goat

The correct answer is Goat.
Key Points
• The sound made by a Horse is called Neigh.
• Similarly, the sound made by a Goat is called Bleat.
• Hence, Goat is the correct answer.
• | Animal | Sound |

Cat	Meow
Cow	Moo
Deer	Bellow
Dog	Barks

Q47. Answer: (d) Morocco

The correct answer is Morocco.
Key Points
• Ibn Battuta a famous traveler was a native of Morocco.
• He came from Morocco in the 14thC.
• He wrote a book on his traveling in Arabic literature called Rihla, indicating a journey in search of divine knowledge.
• In 1334, Ibn Battuta arrived in India all the way through the mountains of Afghanistan during the time of the Tughlaq dynasty.
• He was a Muslim Moroccan scholar and explorer who traveled extensively in Afro-Eurasia.
• He came to Delhi in 1334, he acted as the Qazi of the capital for 8 years.
Additional Information
• Different Travellers:

Traveler	Century	Came From
Al-Biruni	11th C	Uzbekistan
Francois Bernier	17th C	France
Marco Polo	12th C	Italy

Q48. Answer: (d) -1

Formula used:
$\sin\theta = \cos(90 - \theta)$
$\sec\theta = \text{cosec}(90 - \theta)$
$\sin\theta/\cos\theta = \tan\theta$
$\tan 2\theta - \sec 2\theta = -1$
$\tan^2 45 = 1$

Calculation:

fracsin 27^0cos 63^0cos² 27^0 - fracsec 27^0cosec 63^0tan² 45^0

=> (sinθ × sinθ)/cos²θ – (secθ × secθ)/tan²45

=> (sin27°× sin(90°- 63°))/cos²27° - (sec27°× sec(90° - 63°))/tan²45°

=> sin²θ/cos²θ – sec²θ/tan²45 Because θ = 27°

=> tan²θ – sec²θ/1 Because tan45° = 1

=> tan²θ – sec²θ = -1

Therefore The required value is -1

Q49. Answer: (c) Only assumption II is implicit

Assumptions:

I. P advises everybody. → The assumption is not implicit in the statement as the statement states that P advises to Q, but the statement does not mentions whether P advises to everybody or not.

II. Q wishes to go to Mumbai. → The assumption is implicit in the statement as the statement indirectly suggests it. P suggests Q the best route to go to Mumbai, which implies Q wishes to go to Mumbai.

Hence, only assumption II is implicit.

Q50. Answer: (b) 104 satellites in a single flight.

The correct answer is 104 satellites in a single flight.

Key Points

• ISRO created history by launching 104 satellites in a single flight in Feb 2017.

• Indian Space Research Organisation's workhorse rocket PSLV launching 104 satellites in a single mission from the space center at Sriharikota, Andhra Pradesh.

• Polar Satellite Launch Vehicle or PSLV, in its 39th flight (PSLV-C37), launched the 714 kg Cartosat-2 series satellite for earth observation along with 103 co-passenger satellites, together weighing about 664 kg at liftoff.

• ISRO the co-passenger satellites comprise 101 nano-satellites, one each from Israel, Kazakhstan, the Netherlands, Switzerland, United Arab Emirates (UAE), and 96 from the United States of America (USA), as well as two from India.

• The two Indian nano-satellites are ISRO's INS-1A and INS-1B.

Additional Information

• Initially, the planned mission was to launch 83 satellites in one go in the last week of January, which would have been a record.

• ISRO scientists then added 20 more satellites to the launch, rescheduling the launch date to the first week of February.

• ISRO was formed in 1969 with a vision to develop and harness space technology in national development while pursuing planetary exploration and space science research.

• ISRO is the space agency under the Department of Space of Government of India, headquartered in the city of Bengaluru, Karnataka.

• Its vision is to harness space technology for national development while pursuing space science research and planetary exploration.

• Antrix Corporation Limited (ACL) is a Marketing arm of ISRO for the promotion and commercial exploitation of space products, technical consultancy services, and transfer of technologies developed by ISRO.

• ISRO replaced its predecessor, INCOSPAR (Indian National Committee for Space Research), established in 1962 by India's first Prime Minister.

• PSLV full Form - Polar Satellite Launch Vehicle

Q51. Answer: (a) 14 cm

Given:

Radius of circle = 10 cm

Length of XY = 12 cm

Length of PQ = 16 cm

Formula used:

$AC^2 = AB^2 + BC^2$

where, AB, BC - Sides of right - angled triangle, AC - Hypotenuse of right - angled triangle

Calculation:

Let O be the centre of circle

In ΔOAP,

$OP^2 = OA^2 + AP^2$
$\Rightarrow (10)^2 = OA^2 + (8)^2$
$\Rightarrow 100 = OA^2 + 64$
$\Rightarrow OA^2 = 36$
$\Rightarrow OA = 6$ cm
Similarly, in ΔOBX,
$OX^2 = OB^2 + XB^2$
$\Rightarrow (10)^2 = OB^2 + (6)^2$
$\Rightarrow 100 = OB^2 + 36$
$\Rightarrow OB^2 = 64$
$\Rightarrow OB = 8$ cm
Now,
Distance between both chords = OA + OB = (8 + 6) = 14 cm
Therefore The distance between the chords is 14 cm

Q52. Answer: (d) 3

In the given figure consisting of multiple shapes, the number which is present only in one shape is shown below:
Clearly, number 3 is present only in one shape.
Hence, '3' is the correct answer.

Q53. Answer: (b) 130

Given:
LCM of two number = 156
HCF of two number = 26
Difference between them = 26
Formula used:
LCM × HCF = first number × second number
Calculation:
Let the number be a and b respectively
According to question
$\Rightarrow a - b = 26$
$\Rightarrow b = a - 26$ ----(1)
LCM × HCF = a × b
$\Rightarrow 156 \times 26 = a \times (a - 26)$
$\Rightarrow 4056 = a^2 - 26a$
$\Rightarrow a^2 - 26a - 4056 = 0$
$\Rightarrow a^2 + 52a - 78a - 4056 = 0$
$\Rightarrow (a + 52)(a - 78) = 0$
$\Rightarrow a = 78$ (a = -52 not possible as we need to take positive number)
$\Rightarrow b = a - 26 = 78 - 26 = 52$
The sum of the number = (78 + 52)
$\Rightarrow 130$
Therefore Required sum is 130

Q54. Answer: (c) Sister

By using the symbols in the table given below, we can draw the following family tree:
Clearly, the Lady is sister of that person.
Hence, 'Sister' is the correct answer.

Q55. Answer: (d) 35

Given:
The product of three numbers = 10290
Their ratios = 3 : 5 : 2

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Calculation:
Let the ratio of number be 3x, 5x and 2x respectively
Since,
=> (3x) × (5x) × (2x) = 10290
=> $30x^3 = 10290$
=> $x^3 = 10290/30$
=> x3 = 343
=> x = 7
Now,
The greatest number among the three = 5x
=> 5 × 7
=> 35
Therefore Required greater number is 35

Q56. Answer: (c) 26

1. A row of girls are standing facing north.
2. Rama is fifteenth from the left and shalu is eighth from the right.
3. If shalu is shifted to the left by five places, then she moves to the immediate left of Rama.

Therefore, number of girls in the row = 15 + 3 + 8 = 26
Hence, '26' is the correct answer.

Q57. Answer: (b) 3/5

Given:
No of matches won by the player = 5
No of matches lost by the player = 12
No of matches become draw (neither won nor lost) = 3
Therefore Total no of matches played = 5 + 12 + 3 = 20
Formula used:
Fraction = Required part ÷ Whole part
Calculation:
Therefore Fraction of the matches lost by the player = 12/20 = 3/5

Q58. Answer: (c) 0

Calculation:
$4 \sin230° + 3 \cot260° - 2 \tan245°$
=> $4 \times (1/2)^2 + 3 \times (1/\sqrt{3})^2 – 2 \times (1)^2$
=> 4 × 1/4 + 3 × 1/3 – 2 × 1
=> 1 + 1 – 2
=> 2 – 2
=> 0
Therefore The value is 0

Q59. Answer: (d) Winter

Given:
Total number of people asked to vote = 463
Number of votes by people in rainy season = 130
Number of votes by people in summer season = 100
Number of votes by people in winter season = 53 more than summer season = 100 + 53
=> 153
Number of votes by people in Spring season = 80
Calculation:
We must know total votes by people in all the season = (130 + 100 + 153 + 80)
=> 463

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Central angle of rainy season = 130/463 × 360
=> 101.07
Central angle of summer season = 100/463 × 360
=> 77.75
Central angle of winter season = 153/463 × 360
=> 118.96
Central angle of spring season = 80/463 × 360
=> 62.20
Therefore Season liked by most is winter season

Q60. Answer: (c) 1500

Given:
Speed = 60 kmph
Time = 1.5 min = 1.5 × 60 = 90 sec
Formula used:
Distance = speed × time
Calculation:
speed = 60 × 5/18 m/s
=> 50/3 m/s
Length of train = 50/3 × 90
=> 1500
Therefore Length of train is 1500

Q61. Answer: (a) 435

Given:
Numbers = 144, 108, 72
Remainder = 3
Calculation:
LCM of 144, 108 and 72 is 432
Number which will be give 3 as a remainder = 432 + 3
=> 435
Therefore The least number is 435

Q62. Answer: (d) 10

Given:
Mixture of acid and alcohol in the ratio = 3 : 2
Alcohol adding in the mixture = 10 litres
After adding water the ratio of mixture = 3 : 5
Calculation:
Let acid and alcohol in the mixture be 3x and 2x respectively
According to question
=> 3x/(2x + 10) = 3/5
=> 15x = 6x + 30
=> 9x = 30
=> x = 10/3
The quantity of acid in the mixture = 10/3 × 3
=> 10
Therefore The quantity of acid in the original solution is 10.

Q63. Answer: (a) Only conclusion I follows.

The least possible Venn diagram is:
Conclusions:
I. Some Cats are Animals. → True (As, All Lions are Cats)

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II. All Lions are Animals. → False (As, there is no definite relation between Lions and Animals. Hence, false)

Hence, only conclusion I follows.

Q64. Answer: (c) Only conclusion 3 follows.

The least possible Venn diagram is:

Conclusions:

1. Some plumbers are cooks. → False (As, there is no definite relation between plumbers and cooks. Hence, false)

2. Some plumbers are not cooks. → False (As, there is no definite relation between plumbers and cooks. Hence, false)

3. Some men are not cooks. → True (As, Some men are electricians and No electrician is a cook → Some men who are electricians are not cooks)

Hence, only conclusion 3 follows.

Confusion Points 1. When There is no relation given between the two elements, in that case, we cannot define their relation so here between a plumber and cook we cannot define relation so it will not follow here.

Q65. Answer: (a) Afghanistan

The correct answer is Afghanistan.

Key Points

• The South Asian Association for Regional Cooperation (SAARC) is an economic and political organization of eight countries in South Asia.

• SAARC was founded in Dhaka on 8 December 1985.

• Initially, there were 7 members in the SAARC but Afghanistan joined it on April 3, 2007.

• Now it has 8 members which include; Afghanistan, Bangladesh, Bhutan, India, Nepal, the Maldives, Pakistan, and Sri Lanka.

• Its main aim is to promote the welfare of the people of its countries, cooperate and collaborate and also work harmoniously with international organizations.

• Its Secretariat was established in Kathmandu, Nepal on 16 January 1987 by Bangladeshi diplomat Abul Ahsan, who was its first Secretary-General.

• Ahmed Saleem is the current Secretary-General of SAARC.

Additional Information

• China isn't part of SAARC because it isn’t a part of South Asia.

• More precisely China isn't part of the Indian sub-continent.

• As we can see all countries in SAARC are part of the Indian sub-continent, which has a separate identity from the rest of Asia.

• Myanmar and Mauritius are not members of the SAARC.

• What is ASEAN?

• The Association of Southeast Asian Nations is a regional organization that was established to promote political and social stability amid rising tensions among the Asia-Pacific’s post-colonial states.

• The motto of ASEAN is “One Vision, One Identity, One Community”.

• 8th August is observed as ASEAN Day.

• ASEAN Secretariat – Indonesia, Jakarta.

Q66. Answer: (d) 7/2

Calculation:

11/5 - (2/3of3/5 - 1/5) + (6/5 ÷ 4/5)

=> 11/5 – (2/3 × 3/5 – 1/5) + (6/5 ÷ 4/5)

=> 11/5 – (2/5 – 1/5) + (6/5 ÷ 4/5)

=> 11/5 – 1/5 + (6/5 × 5/4)

=> 11/5 – 1/5 + 3/2

=> 11/5 + 3/2 – 1/5

=> (22 + 15 - 2)/10

=> (37 - 2)/10 = 35/10 = 7/2

Therefore The required value is 7/2

Q67. Answer: (c) 20%

Given:

Principal = Rs. 25000

Amount = Rs. 36000

Time = 2 years

Formula used:

(1 + R/100)^t

Calculation:

Let the compound interest rate be R%

=> 36000 = 25000(1 + R/100)²

=> 36000/25000 = (1 + R/100)²

=> 36/25 = (1 + R/100)²

taking square both sides

=> √36/25 = (1 + R/100)

=> 6/5 = 1 + R/100

=> 6/5 – 1 = R/100

=> 1/5 = R/100

=> R = 20

Therefore Rate of interest is 20%

Q68. Answer: (c) Colombia

The correct answer is Colombia.

Key Points

• Colombia will host World Environment Day 2020 and focuses on the theme of biodiversity.

• It will be done in partnership with Germany.

• The theme of World Environment Day 2020 is Biodiversity.

• World Environment Day is the United Nations' principal vehicle for encouraging worldwide awareness and action for the environment.

• World Environment Day is a powerful platform to accelerate, amplify and engage people, communities, and governments around the world to take action on critical environmental challenges facing the planet

• Major corporations, non-governmental organizations, communities, governments, and celebrities from across the world adopt the World Environment Day brand to champion environmental causes.

• World Environment Day takes place every year on 5 June.

• It is the United Nations' flagship day for promoting worldwide awareness and action for the environment.

Additional Information

• UNEP is the leading global voice on the environment.

• It provides leadership and encourages partnership in caring for the environment by inspiring, informing, and enabling nations and peoples to improve their quality of life without compromising that of future generations.

• United Nations Environment Programme (UNEP) at the helm, over 150 countries participate each year.

• World Environment Day was celebrated for the first time in 1974 under the "Only One Earth" slogan.

• Pakistan will host the World Environment Day 2021 event.

• The theme of World Environment Day 2021 is " Ecosystem Restoration".

• UN Environment Day was celebrated at the headquarters in Nairobi, Kenya, by presenting the first of its Global 500 awards to environmental champions including Wangari Maathai in 1987.

• Through 2003, the awards become the backbone of World Environment Day celebrations.

Q69. Answer: (b) 3

Given:

Principal = Rs. 5000

Rate = 10%

Interest = Rs. 1500

Formula used:

SI = (P × R × T)/100

where, p is principal

R is rate

T is time

Calculation:
SI = (P × R × T)/100
=> 1500 = (5000 × 10 × T)/100
=> 1500 = 500T
=> T = 3 years
Therefore Required time is 3

Q70. Answer: (a) • 22/3

Calculation:
(5x + 7y)/(5x - 7y) + (6x + 4y)/(7x - 8y)
=> (5 × 4 + 7 × 5)/(5 × 4 – 7 × 5) + (6 × 4 + 4 × 5)/(7 × 4 – 8 × 5)
=> (20 + 35)/(20 – 35) + (24 + 20)/(28 – 40)
=> 55/(-15) + 44/(-12)
=> -11/3 + (-11)/3
=> -22/3
Therefore Required value is -22/3

Q71. Answer: (b) 52°

Given:
PO and OQ are the radii of the circumference of ΔAPQ
angle PAQ = 38°
Concept used:
The angle made at the center is twice the angle made at the circumference on the same arc of a circle
The angle opposite to the equal side is equal
The sum of all the three angles of a triangle is 180°
Calculation:
angle POQ = 2 × angle PAQ
=> 2 × 38°
=> 76°
Now,
PO and OQ are the radii of the ΔPOQ
PO = OQ therefore, angle PQO = angle QPO
In ΔPOQ
angle POQ + angle PQO + angle PQO = 180°
=> 76° + 2angle PQO = 180°
=> 2angle PQO = 104°
=> angle PQO = 52°
Therefore The value of angle PQO is 52°

Q72. Answer: (b) √3

Calculation:
3 cosθ = √3
=> cosθ = √3/3 = 1/√3
By pythagoras theorem
Hypotenuse² = Base² + Perpendicular²
Perpendicular² = (√3)² - (1)2
=> Perpendicular = √2
cosecθ = Hypotenuse/Perpendicular = √3/√2
Tanθ = Perpendicular/Base = √2/1
According to question
Cosecθ × tanθ
=> √3/√2 × √2/1
=> √3

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Therefore Required value is √3

Q73. Answer: (d) Jantar Mantar, New Delhi

The correct answer is Jantar Mantar, New Delhi.

Key Points

• A World Heritage Site is a landmark or area with legal protection by an international convention administered by the United Nations Educational, Scientific, and Cultural Organization (UNESCO).

• World Heritage Sites are designated by UNESCO for having cultural, historical, scientific, or another form of significance.

• A World Heritage Site may signify a remarkable accomplishment of humanity, and serve as evidence of our intellectual history on the planet.

• As of July 2021, a total of 1,154 World Heritage Sites (897 cultural, 218 natural, and 39 mixed properties) exist across 167 countries.

• At present, there are 43 World Heritage Sites located in India.

Additional Information

• The first sites to be inscribed were Ajanta Caves, Ellora Caves, Agra Fort, and Taj Mahal, of which all were inscribed in the 1983 session of the World Heritage Committee.

• The Konark Sun Temple is a 13th-century Sun Temple (also known as the "Black Pagoda"), at Konark, in Odisha.

• The temple is one of the most renowned temples in India and is a World Heritage Site inscribed in 1984 as a cultural property.

• Rani ki Vav or is a stepwell situated in the town of Patan in the Gujarat state of India.

• It has been listed as one of the UNESCO's World Heritage Sites since 2014.

Q74. Answer: (c) Dr. Bhim Rao Ambedkar

The correct answer is Dr. Bhim Rao Ambedkar.

Key Points

• Dr. B.R Ambedkar is recognized as the Father of the Constitution of India.

• He was appointed as the Chairman of the Constitution Drafting Committee and was appointed by the Assembly to write India's new Constitution on 29th August.

• He was an expert when it came to constitutions as he had already studied the constitutions of over sixty countries.

• Ambedkar played the most effective role in presenting the Constitution as a guiding document for Indian society.

• He was a renowned public figure, a social reformer, one politician, and a jurist.

• He was given Union Law Portfolio in the First Cabinet of Independent India.

• He advocated for bridging the gaps between people and stood for equality for all.

Additional Information

• The Indian Constitution is the supreme law of India.

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

• The Indian Constitution is federal in nature and unitary in spirit.

• Sardar Vallabhai Patel was rightly called the Iron-man of India.

• Dr. B.R Ambedkar was the first Indian to get a Doctorate (Ph.D.) degree in Economics from abroad.

• Ambedkar is the only Indian whose statue is attached to Karl Marx in the London Museum.

Q75. Answer: (a) Jaduguda

The correct answer is Jaduguda.

Key Points

• Jaduguda is the village in Purbi Singhbhum district of Jharkhand state.

• Jaduguda Mine has the distinction of being the first Uranium Mine in the country where mining operations began in 1967.

• Jaduguda uranium mine, the deepest operating underground mine in the country, is in uninterrupted operation since 1968.

• It has a depth of nearly 3000 feet, one of the deepest in the country.

• It is the largest and first of India's uranium mines.

• It is the first mine in the country to produce uranium ore on a commercial scale.

• Jadugoda is the headquarters of Uranium Corporation of India Limited.

Additional Information

• Famous Mines:

Mines	Place

Panna Mine	Madhya Pradesh
Raniganj Mine	West Bengal
Corba Mine	Chhattisgarh

• Petroleum reserves are located along the Saurashtra shelf, KG basin, Bengal Bangladesh shelf, Brahmaputra shelf.

• Manganese:

• Jharkhand – all iron-producing regions, Chaibasa – biggest

• MP – Balaghat

Q76. Answer: (a) 16

Given:

30 workers can build a bridge = 40 days

75 workers are to be assigned to complete the same work

Formula used:

Efficiency = work done/Time taken

Calculation:

Let the number of days be x

30 workers can build a bridge in 40 days = 30 × 40

=> 1200

Now,

75 Workers are to be assigned to be complete the same work

=> x = 1200/75

=> 16 days

Therefore The number of days required will be 16

Q77. Answer: (a) Urjit Patel

The correct answer is Urjit Patel.

Key Points

• On 8 November 2016, the Government of India announced the demonetization of all Rs. 500 and Rs. 1,000 banknotes of the Mahatma Gandhi Series.

• Modi claimed that the action would curtail the shadow economy and reduce the use of illicit and counterfeit cash to fund illegal activity and terrorism.

• Urjit Patel :

• He is an Indian economist, who served as the 24th Governor of the Reserve Bank of India from 4 September 2016 to 10 December 2018.

• He resigned from his post on 10 December 2018, being the first RBI governor to state personal reasons as a driving factor for resigning.

• He is the fifth RBI governor to have resigned from his post before his term ended in September 2019.

• Demonetization - Demonetization is the act of stripping a currency unit of its status as legal tender.

• It occurs whenever there is a change in national currency.

• The current form or forms of money is pulled from circulation and retired, often to be replaced with new notes or coins.

Additional Information

• Shaktikanta Das :

• Currently, Shaktikanta Das serving as the 25th governor of the Reserve Bank of India (RBI).

• He was appointed Governor of the Reserve Bank of India by the ACC on 11 December 2018 for three years, replacing Urjit Patel who had resigned the day before.

• He has also served as India’s Alternate Governor in the World Bank, ADB, NDB & AIIB.

• He has represented India in various international forums like the IMF, G20, BRICS, SAARC, etc.

• He was earlier a member of the Fifteenth Finance Commission and India's Sherpa to the G20.

• Raghuram Rajan :

• On 6 August 2013, Raghuram Rajan was announced as the Governor of the Reserve Bank of India for a term of 3 years.

• He was serving as the 23rd governor of RBI.

• In 2016, he was named by Time in its list of the '100 Most Influential People in the World'.

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• In 2015, during his tenure at the RBI, he became the Vice-Chairman of the Bank for International Settlements.
• Awards: Financial Times and McKinsey Business Book of the Year Award
• Duvvuri Subbarao :
• He is an Indian economist, Central Banker, and retired IAS officer.
• He was the 22nd Governor of the Reserve Bank of India, served under Prime Minister Dr. Manmohan Singh.
• He lives in Singapore and is a distinguished visiting faculty at the National University of Singapore.
• Dr. Subbarao's taking charge as RBI Governor in 2008 was coincident with the outbreak of the Global Financial Crisis.

Q78. Answer: (c) -112

Given:

a + b =8 and a2 + b2 = 12

Calculation:

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

$\Rightarrow (8)^2 = 12 + 2ab$

$\Rightarrow 2ab = 64 – 12$

$\Rightarrow ab = 26$

Now,

$a^3 + b^3 = (a + b)(a^2 + b^2 – ab)$

$\Rightarrow a^3 + b^3 = 8 \times (12 – 26)$

$\Rightarrow a^3 + b^3 = 8 \times (-14)$

$\Rightarrow a^3 + b^3 = -112$

Therefore The value of $a^3 + b^3$ is -112

Q79. Answer: (c) Dr.Ramesh Pokhriyal C‘Nishank’

The correct answer is Dr.Ramesh Pokhriyal C‘Nishank’.

Key Points

• The Ministry of Education was created on September 26, 1985, through the 174th amendment to the Government of India Rules, 1961.
• The Ministry of Education (MoE), formerly the Ministry of Human Resource Development (1985–2020) is a Ministry of Government of India responsible for the implementation of the National Policy on Education.
• Currently, the MoE works through two departments:
• Department of School Education & Literacy
• Department of Higher Education
• Ramesh Pokhriyal :
• The BJP candidate was appointed as the minister of education in Narendra Modi’s ministry serving his term from May 2019 to July 2021.
• He resigned in July 2021 reportedly having given health reasons.
• He was the 5th Chief Minister of Uttarakhand from 2009 to 2011.
• He was a member of the 16th Lok Sabha and chairperson, Committee on Government Assurances.
• His literary contributions won him the Vatayan Lifetime Achievement Award.

Additional Information

• Mahendra Nath Pandey :
• Shri Mahendra Nath Pandey is an Indian politician and currently serving as Union Minister of Heavy Industries.
• Dr. Pandey was earlier the Union Minister for Skill Development and Entrepreneurship.
• He has also served as the Minister of State in the Human Resource Development Ministry from 5 July 2016 to 2nd September 2017.
• He is a member of the Bharatiya Janata Party and is the president of the party's Uttar Pradesh unit.
• Smriti Irani :
• Smriti Zubin Irani is an Indian politician and a former television actress and producer.
• She is the Minister of Women and Child Development in the Union Cabinet of India since May 2019.
• She is a Member of Parliament in the Lok Sabha, representing Amethi.
• Some of her contributions to the education sector during her ministerial term include The Global Initiative of Academic Networks (GIAN), the inception of the National Institute Ranking Framework (NIRF), and the Udaan Yojna and Pragati Scheme addressing

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low enrolment of girls in engineering colleges.

• Prakash Javadekar :

• Prakash Keshav Javadekar is an Indian politician and served as the minister of HRD under Narendra Modi's ministry.

• He is a member of the Bharatiya Janata Party (BJP) who previously served as the Minister of Environment, Forest and Climate Change, Minister of Information and Broadcasting, and Minister of Heavy Industries and Public Enterprises between 2014 to 2021.

• Javadekar was elected to the upper house Rajya Sabha as a Member of Parliament from Maharashtra in 2008 and re-elected from Madhya Pradesh in 2014.

Important Points

• The current education minister is Dharmendra Pradhan, a member of the Council of Ministers.

Q80. Answer: (d) marketing arm of ISRO

The correct answer is the Marketing arm of ISRO.

Key Points

• Indian Space Research Organisation (ISRO)

• ISRO is the space agency under the Department of Space of Government of India, headquartered in the city of Bengaluru, Karnataka.

• Its vision is to harness space technology for national development while pursuing space science research and planetary exploration.

• Antrix Corporation Limited (ACL) is a Marketing arm of ISRO for the promotion and commercial exploitation of space products, technical consultancy services, and transfer of technologies developed by ISRO.

Additional Information

• ISRO created history by launching 104 satellites in a single flight in Feb 2017.

• Indian Space Research Organisation's workhorse rocket PSLV launching 104 satellites in a single mission from the space center at Sriharikota, Andhra Pradesh.

• Polar Satellite Launch Vehicle or PSLV, in its 39th flight (PSLV-C37), launched the 714 kg Cartosat-2 series satellite for earth observation along with 103 co-passenger satellites, together weighing about 664 kg at liftoff.

• ISRO the co-passenger satellites comprise 101 nano-satellites, one each from Israel, Kazakhstan, the Netherlands, Switzerland, United Arab Emirates (UAE), and 96 from the United States of America (USA), as well as two from India.

• The two Indian nano-satellites are ISRO's INS-1A and INS-1B.

Q81. Answer: (c) 729

The logic is:

$1^3 = 1$

$3^3 = 27$

$5^3 = 125$

$7^3 = 343$

$9^3 = 729$

Hence, '729' is the correct answer.

Q82. Answer: (b) Jayadeva

The correct answer is Jayadeva.

Key Points

• Gita Govinda is written by Jayadeva.

• Gita Govinda is written in Sanskrit during the twelfth century and was performed in many venues including the Puri temple.

• It describes the relationship between Krishna and Srimati Radhika and the gopikas of Vrindavana.

• It follows the love of Krishna, the beloved eighth reincarnation of Lord Vishnu of the Hindu religion.

• It follows the ups and downs of a love that is portrayed as so divine and beautiful.

• It starts with the attraction followed by estrangement and final reconciliation through the help of a Sakhi.

• The Gita Govinda is organized into twelve chapters.

• Each chapter is further sub-divided into one or more divisions called Prabandhas, totaling twenty-four in all.

• The poem has been translated into most modern Indian languages and many European languages.

• The first English translation of the Gita Govinda was written by Sir William Jones in 1792.

Additional Information

• Saguna

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• Saguna represented those poet-saints who composed verses extolling a god with attributes or form.
• Tulsidas, Chaitanya, Surdas, and Meera were the main proponents of Saguna.
• Nirguna
• Nirguna represented those poet-saints who extolled god without and beyond all attributes or form.
• They are also known as Monotheistic Bhakti saints.
• Nanak and Kabir were the main proponents of Nirguna.

Q83. Answer: (b) Morley - Minto Reforms, 1909

The correct answer is Morley - Minto Reforms, 1909.

Key Points

• The Communal Electorate system in India was first introduced by the Minto- Morley reforms in 1909.
• The Indian Councils Act of 1909 is also known as Morley-Minto Reforms.
• Lord Morley was the then Secretary of State for India and Lord Minto was the then Viceroy of India.
• Indian Council Act of 1909, also known as Morley-Minto Reform, introduced separate electorates based on the religion known as the communal electorate.
• Lord Minto came to be known as the Father of Communal Electorate.
• This Act provided for the separate representation of zamindars, chambers of commerce, presidency corporations, and universities.
• It allowed for a non-official majority in the provincial legislative councils but retained the official majority in the Central Legislative Council.
• For the first time, Indians were associated with the executive councils of the Viceroy and Governors.
• Satyendra Prasad Sinha was appointed as the law member and he thus became the first Indian to join the Viceroy's Executive Council.

Additional Information

• Cripps Mission, 1942 :
• The Cripps Mission was sent by the British government to India in March 1942 to obtain Indian cooperation for the British war efforts in the 2nd World War.
• It was headed by Sir Richard Stafford Cripps, a Labour minister in Winston Churchill's coalition government in Britain.
• Purpose of Cripps Mission: Britain suffered many losses in Southeast Asia and Japan's threat to invade India seemed real for them.
• Britain was pressurized by the allies (USA, USSR & China) to seek India's cooperation.
• Indian nationalists had agreed to support the Allied as they hoped for immediate transfer of substantial power and complete independence after the war.
• Members of Cripps Mission - Lord Pethick-Lawrence, the Secretary of State for India, Sir Stafford Cripps, President of the Board of Trade, and A.V. Alexander, the First Lord of the Admiralty.
• Rowlatt Act, 1919 :
• The Rowlatt Act was an act that allowed the British government the authority and the power to arrest people and keep them in prison for up to two years, without any trial if they were suspected of the charge of terrorism.
• It is officially called the Anarchical and Revolutionary Crimes Act and gave enormous power to the British government and police to arrest anyone suspected of seditious activities.
• The Act was passed by the Rowlatt Committee, presided by Sir Sydney Rowlatt.
• Wavell Plan, 1945 :
• The Wavell Plan was first presented at the Shimla Conference in 1945.
• It was named after the Viceroy of India, Lord Wavell.
• On 14 June 1945 Lord Wavell announced a plan for a new Executive Council in which all members except the Viceroy and the Commander in Chief would be Indians.
• This executive council was to be a temporary measure until a new permanent constitution could be agreed upon and come into force.
• Lord Wavell was the Governor-General who proposed the Wavell plan in 1945 which is called the Breakdown plan.

Q84. Answer: (b) Typhoid

The correct answer is Typhoid.

Key Points

• Typhoid is a bacterial infection that can lead to a high fever, diarrhea, and vomiting and can be fatal.

• It is caused by the bacteria Salmonella typhi.
• Typhoid fever is a type of enteric fever, along with paratyphoid fever
• The infection is often passed on through contaminated food and drinking water.
• It is more prevalent in places where handwashing is less frequent.
• Typhoid fever is uncommon in the UK, with an estimated 500 cases occurring each year.
• Two typhoid vaccines are licensed for use for the prevention of typhoid:
• Oral Ty21a vaccine and the injectable typhoid polysaccharide vaccine

Additional Information

• Bacteria are found even inside the human body, on our skin, in our hairs, and on all other surfaces.
• Bacteria inside our gut or stomach are good bacteria and we must have them to lead a healthy life.

List of Bacterial Diseases in Humans

Human Bacterial Diseases	Bacteria Responsible
Pulmonary Tuberculosis	Mycobacterium tuberculosis
Cholera	Vibrio cholerae
Plague	Yersinia pestis
Leprosy	Mycobacterium leprae

• Hepatitis A :
• Hepatitis A is an inflammation of the liver caused by the hepatitis A virus (HAV).
• The virus is primarily spread when an uninfected person ingests food or water that is contaminated with the feces of an infected person.
• Measles :
• Measles is caused by morbillivirus, which is mostly seen in the winter and spring.
• It is a highly contagious illness caused by a virus that replicates in the nose and throat of an infected child or adult.
• it is spread through airborne droplets from an infected child.
• Polio :
• Polio is a disease caused by the poliovirus.
• The virus enters the body through the mouth or nose, getting into the digestive and respiratory systems.
• It multiplies in the throat and intestines.
• It can also attack the nervous system, the nerve network that helps the brain communicate with the rest of the body.
• It happens mostly in children younger than 5.
• The World Health Organization (WHO) continues to work to eliminate polio.

Q85. Answer: (c) The President of Brazil

The correct answer is The President of Brazil.

Key Points

• Brazil President Jair Bolsonaro was the chief guest at the Republic Day celebrations of India in 2020.
• PM Modi invited him to be the chief guest at the Republic Day in 2020 During his meeting with Bolsonaro on the sidelines of the 11th BRICS Summit held in Brasilia.
• Bolsonaro arrived in India on a four-day visit beginning on Friday with an aim to “re-energize” the bilateral strategic partnership by boosting trade and investment, and deepening cooperation in key sectors such as agriculture, defense, and energy.
• He was the chief guest at the 71st Republic Day celebrations.
• He watched the parade at Rajpath along with President Ram Nath Kovind, Prime Minister Narendra Modi, and other leaders.

Additional Information

• India celebrated its 72nd Republic Day on January 26, 2021.
• The Prime Minister wore a special 'Paghdi' from Jamnagar on the occasion of Republic Day.
• The first such 'Paghdi' was gifted to the PM by the royal family of Jamnagar, Gujarat.
• 21 Gun Salute presented by Ceremonial Battery of 223 Field Regiment following the unfurling of the national flag.
• Flt Lt Bhawna Kanth, one of the first three female fighter pilots of the country, is part of the Indian Air Force tableau at the Republic Day parade.
• The 122-member contingent of the Bangladesh Armed Forces also took part in India's Republic Day Parade.
• The contingent comprised soldiers of the Bangladesh Army, sailors of the Bangladesh Navy, and Air Warriors of the Bangladesh

Air Force.

Q86. Answer: (c) OFNUATNI

The logic is:

Similarly,

Hence, 'OFNUATNI' is the correct answer.

Q87. Answer: (d) DCWV

The pattern followed here is:

According to the alphabetical positions of the letters,

1. HGST → H - 1 = G and S + 1 = T
2. FEUV → F - 1 = E and U + 1 = V
3. BAYZ → B - 1 = A and Y + 1 = Z
4. DCWV → D - 1 = C and W - 1 = V

Hence, 'DCWV' is the correct answer.

Alternate Method Logic: First alphabet is reverse opposite to third alphabet then Second alphabet is reverse opposite to Fourth alphabet.

1. HGST →
2. FEUV
3. BAYZ
4. DCWV

Q88. Answer: (d) 219

The logic is:

$1^3 + 3 = 1 + 3 = 4$

$2^3 + 3 = 8 + 3 = 11$

$3^3 + 3 = 27 + 3 = 30$

$4^3 + 3 = 64 + 3 = 67$

$5^3 + 3 = 125 + 3 = 128$

$6^3 + 3 = 216 + 3 = 219$

Hence, '219' is the correct answer.

Q89. Answer: (d) Q

The region which represents students who are musicians but NOT players is shown below:

Hence, 'Q' is the correct answer.

Q90. Answer: (a) 41

The logic is:

1. 41 → 4 + 1 = 5, which is odd
2. 35 → 3 + 5 = 8, which is even
3. 39 → 3 + 9 = 12, which is even
4. 37 → 3 + 7 = 10, which is even

Hence, '41' is the odd one out.

Q91. Answer: (a) 5729

The logic is:

F	I	V	E
5	1	3	7

R	A	T
9	2	4

Similarly,

F	E	A	R

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5	7	2	9

Hence, '5729' is the correct answer.

Q92. Answer: (a) Beijing

The logic followed here is:
New Delhi is the capital of India.
Similarly,
Beijing is the capital of China.
Hence, the correct answer is "Beijing".
Additional Information

Country	Capital
South Korea	Seoul
North Korea	Pyongyang
Japan	Tokyo

Q93. Answer: (c) Aunt

By using the symbols in the table given below, we can draw the following family tree:
Clearly, the woman in the photograph is aunt of the person.
Hence, 'aunt' is the correct answer.

Q94. Answer: (c) V

Six girls – P, Q, R, U, V and W.
1. P and Q are from the Mani House while the rest are from the Gargi House.
2. U and W are short while the other girls are tall.
3. P, R and U are wearing caps while the others are not.

	Mani House	Gargi House	Short Girls	Tall Girls	Wears Cap	Does not wears cap
Girls	P, Q	R, U, V, W	U, W	P, Q, R, V	P, R, U	Q, V, W

V is the tall girl from the Gargi House who is NOT wearing a cap.
Hence, 'V' is the correct answer.

Q95. Answer: (b) R

1. P is taller than T
P > T
2. Q is taller than S
Q > S
3. U is taller than R
U > R
4. S is taller than P
S > P
5. T is taller than U.
T > U
From all the statements, we get:
Q > S > P > T > U > R
Clearly, R is the shortest among them.
Hence, 'R' is the correct answer.

Q96. Answer: (b) GKLP

The pattern followed here is:
According to the alphabetical positions of the letters,

Similarly,

Hence, 'GKLP' is the correct answer.

Q97. Answer: (a) Only conclusion I follows.

Statement:

Chanchal is prettier than Lila but not as pretty as Bhoomi.

Bhoomi > Chanchal > Lila

Conclusions:

I. Lila is not as pretty as Chanchal. → True (As, Chanchal is prettier than Lila)

II. Lila is prettier than Bhoomi. → False (Bhoomi > Chanchal > Lila → Lila is not as pretty as Bhoomi)

III. Bhoomi is not as pretty as Chanchal. → False (Bhoomi > Chanchal > Lila → Bhoomi is prettier than both Lila and Chanchal)

IV. Chanchal is pretteir than Bhoomi. → False (Chanchal is not as pretty as Bhoomi)

Hence, only conclusion I follows.

Q98. Answer: (d) 34th

In a class of 50 students, Aryan ranks 17th from the top.

Aryan's rank from the bottom = 50 - 17 + 1 = 51 - 17 = 34

Hence, '34th' is the correct answer.

Q99. Answer: (b) 1024

The logic is:

8 + 5 → 1340 → 8 + 5 = 13 and 8 × 5 = 40

Similarly,

4 + 6 → 4 + 6 = 10 and 4 × 6 = 24

Hence, '1024' is the correct answer.

Q100. Answer: (b) Fox

The description is as follows:

Option	Description	
1.	Leopard	Leopard is a member of the cat family.
2.	Fox	Fox is a member of the canine family.
3.	Wildcat	Wildcat is a member of the cat family.
4.	Tiger	Tiger is a member of the cat family.

Hence, 'Fox' is the odd one out.

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