RRB NTPC CBT-I Official Paper (Held On: 10 Feb 2021 Shift 1) (Previous Year Paper)

RRB NTPC • 2021 • 100 questions • 90 minutes • Answer key and solutions

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Q1. The sum of the first four prime number is :

(a) 17
(b) 19
(c) 16
(d) 18

Q2. X said to O, “My paternal grandfather has only three sons, and I have only one brother and no daughter. You are the brother of my paternal uncle." O told X, “Though I am unmarried, I have only two nieces, U and P, and only two nephews, R being one of the two. “How is R related to X?

(a) Sister
(b) Brother
(c) Son
(d) Nephew

Q3. If 1 cm on a map represents 9 km of actual distance, then how many km of actual distance will 2 cm on the same map represent?

(a) 18
(b) 22
(c) 12
(d) 16

Q4. Who is the author of the Panchatantra collection of fables?

(a) Skandagupta
(b) Vishnu Gupta
(c) Vishnu Sharma
(d) Ved Shastri

Q5. Who founded the city of Agra?

(a) Alam Shah
(b) Ibrahim Lodhi
(c) Bahlol Lodhi
(d) Sikander Lodhi

Q6. A sample of milk contains 5% of water. What quantity of pure milk should be added to 10 L of milk sample to reduce this to 2%?

(a) 10 L
(b) 12 L
(c) 50 L
(d) 15 L

Q7. Flying-V, a futuristic and fuel efficient airplane is developed by researchers in _____.

(a) USA
(b) France
(c) Netherland
(d) Germany

Q8. Which of the following CANNOT take a negative value?

(a) Standard Deviation
(b) Skewness
(c) Mean
(d) Median

Q9. The measure of an angle is three times the measure of its complement. The angles are respectively:

(a) 20°, 60°
(b) 20.5°, 67.5°
(c) 22.5°, 67.5°
(d) 22.5°, 60.5°

Q10. What is Nomophobia?

(a) Fear of being out of home contact
(b) Fear of being out of cellular phone contact
(c) Fear of being out of television contact
(d) Fear of being out of computer contact

Q11. Four options have been given, out of which three are alike in some manner and one is different. Select the odd one.

(a) A pair of Socks
(b) A pair of shoes
(c) A pair of gloves
(d) A pair of sweaters

Q12. Four persons with their names starting with the letters K, L, M and N are playing cards. They are all sitting around a rectangular table facing east, west, north and south. L and N are not sitting opposite to each other. K is sitting opposite to N, who is facing towards the west. L is facing north. In which direction is M facing?

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

Q13. What is minimum radius (>1) of a circle whose circumference is an integer?

(a) 3/π
(b) 2
(c) 4/π
(d) 6/π

Q14. Which of the following taxes are NOT collected by the union government?

(a) Custom duty
(b) Profession tax and stamp duty
(c) Estate duty
(d) Excise duty

Q15. Select the number from among the given options that can replace the question mark (?) in the following series

2, 3, 7, 16, 32, ?

(a) 57
(b) 64
(c) 63

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(d) 50

Q16. In a class the ratio of boys to girls was 5 : 7. If there were 6 more girls than boys, find the total number of students in the class.

(a) 24
(b) 36
(c) 48
(d) 60

Q17. Which of the following is the least reactive element?

(a) Neon
(b) Chlorine
(c) Hydrogen
(d) Oxygen

Q18. Which of the following is the edible part of a potato plant?

(a) Root
(b) Leaf
(c) Seed
(d) Stem

Q19. The value of tan (13π/12) is:

(a) 4 - √3
(b) 3 - √3
(c) 2 - √3
(d) 2 + √3

Q20. 6 pipes, all of same type, are required to fill a tank in 1 h 20 min. How long will it take if only 5 pipes of the same type are used?

(a) 5 h
(b) 1 h 36 min
(c) 1 h 40 min
(d) 1 h 63 min

Q21. If 3a = 4b = 6c and a + b + c = 27√29, then what will be the value of √(a² + b² + c²) ?

(a) 3 √81
(b) 87
(c) 81
(d) 85

Q22. Which of the following is true regarding CO2 ?

(a) It has a a white foggy colour and a pungent gas - like smell.
(b) It is a linear electrovalent molecule.
(c) The solid form of CO2 is called dry ice.
(d) It is not soluble in water, ethanol and acetone.

Q23. The Ghadar Party was founded by Indians in the year 1913. Where was its headquarters?

(a) Amritsar
(b) Lahore
(c) Bombay
(d) San Francisco

Q24. In Information Technology, what does DASD stand for?

(a) Device for Access and Storage of Domain
(b) Direct Access Standard Device
(c) Direct Access Storage Domain

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(d) Direct Access Storage Device

Q25. When a wire is bent into the shape of a square, the area of the square is 81 cm². When the wire is bent into a semi-circular shape, what will be the area of the semicircle?

[Take π = 22/7]

(a) 7 cm²
(b) 77 cm²
(c) 77 m²
(d) 11 cm²

Q26. Some one rupee, 50 P and 25 P coins make up Rs. 93.75 and the respective numbers of coins of each type are in the ratio 3 : 4 : 5. Find the number of coins of each type respectively.

(a) 54, 60 and 47
(b) 40, 60 and 57
(c) 34, 38 and 47
(d) 45, 60 and 75

Q27. As of October 2020, who is the CEO of Google?

(a) Indra Nooyi
(b) Ajay Banga
(c) Satya Nadella
(d) Sunder Pichai

Q28. If 1.5x = 0.04y, then what will be the value of ((y-x)/(y+x)) ?

(a) 77/73
(b) 72/77
(c) 73/77
(d) 70/77

Q29. Four options have been given, out of which three are alike in some manner and one is different. Select the odd one.

(a) Meditate
(b) Sleep
(c) Snore
(d) Dream

Q30. Select the alphanumeric-cluster that can replace the question mark (?) in the following series.

5A, 7C, 6E, 8G, ?, 9K, 8M

(a) 8h
(b) 7i
(c) 7J
(d) 9J

Q31. The ratio of two numbers is 3 : 4 and their HCF is 4. Their LCM will be:

(a) 84
(b) 48
(c) 22
(d) 40

Q32. Which of the following is NOT a river of Himalayan origin?

(a) Mahanadi
(b) Ganga
(c) Yamuna
(d) Jhelum

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Q33. Which of the following schemes of the government of India is NOT correctly matched?

(a) Ujjwala Yojana – Distribution of LPG cylinders to woman of BPL family
(b) Mission Indradhanush -Employment for all
(c) Ayushman Bharat – Health for All and Universal Health Coverage
(d) Sukanya Samriddhi Yojana – To promote the welfare of the Girl child

Q34. Three wires of resistance 3 ohm, 6 ohm and 9 ohm are connected in a parallel. What will be the total resistance of the circuit?

(a) 18 ohms
(b) 11 ohms
(c) 18/11 ohms
(d) 11/18 ohms

Q35. A, B and C start at the same time in the same direction to run around a circular stadium. A completes a round in 252 s, B completes it in 308 s and C completes it in 198 s, all starting from the same point. After what time will they meet again at the starting point?

(a) 45 min 11 s
(b) 46 min
(c) 46 min 12 s
(d) 46 s

Q36. Rock shelters of Bhimbetka is famous for which of the following?

(a) Traces of sculpture of the Mughals
(b) Traces of paintings during the Maurya dynasty
(c) Traces of the early Dravidian period
(d) Earliest traces of human life on the Indian subcontinent

Q37. Which of the following is NOT one of the Grand Slam tournaments of tennis?

(a) French Open
(b) Australian Open
(c) Wimbledon
(d) Canadian Open

Q38. Four options have been given, out of which three are alike in some manner and one is different. Select the odd one.

(a) Diabetes
(b) Tuberculosis
(c) Malaria
(d) Paracetamol

Q39. Seven judges, A, B, C, D, E, F and G, are sitting in a row of seven seats on the jury panel. C is sitting to the immediate left of A. D is sitting to the immediate right of B and to the immediate left of F. E is sitting on the last seat from the left of the row. C is sitting to right of G and to left of D.

Who is sitting on the fifth position from the left?

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

Q40. A boy read 3/8 of a book on one day and 4/5 of the remainder on another day. If there were 30 pages unread, how many pages did the book contain?

(a) 209
(b) 200
(c) 240
(d) 380

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Q41. Which of the following statements is NOT true regarding GST?

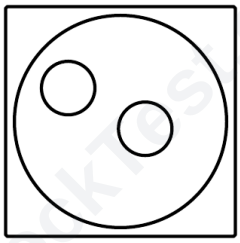
(a) France is the first country to introduce GST.
(b) July 1st is celebrated as GST day by the Central Board of Excise and Customs.
(c) GST cannot be collected by the state government.
(d) India has chosen Canada's structure of dual GST.

Q42. Which emperor shifted his capital from Delhi to Daulatabad?

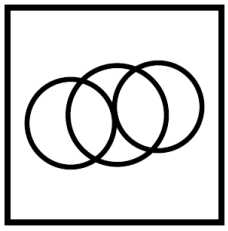
(a) Muhammad Bin Tughlaq
(b) Firoz Shah Tughlaq
(c) Muhammad Ghouri
(d) Allauddin

Q43. Select the Venn diagram that best represents the relationship between the given set of classes.
Sisters, Family, Siblings

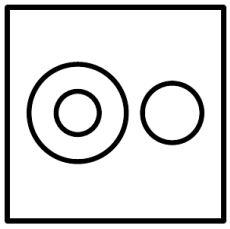
(a)



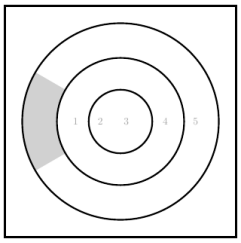
(b)



(c)



(d)



Q44. Which of the following is INCORRECTLY matches?

(a) Kedarnath – Gujarat
(b) Buland Darwaza – Fatehpur Sikri
(c) Elephanta Caves – Maharashtra
(d) Khajuraho – Madhya Pradesh

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Q45. Which of the following is NOT true regarding the President of India?

(a) He cannot declare national emergency.
(b) He is the Supreme Commander of the defence forces.
(c) He appoints the Prime Minister and the Council of Ministers.
(d) The President is the first citizen of the nation.

Q46. Find the smallest natural number N such that the product 288 × N is a perfect cube.

(a) 12
(b) 8
(c) 9
(d) 6

Q47. Who was the first chairman of the Rajya Sabha?

(a) Shri M Hidayatullah
(b) Dr. Zakir Husain
(c) Dr. S Radhakrishnan
(d) Shri VV Giri

Q48. Maintenance of International Peace and Security is the main purpose of which of the following Units/Organisations?

(a) NATO
(b) UNO
(c) WHO
(d) WTO

Q49. Between a square of perimeter 44 cm and a circle of circumference 44 cm, which figure has a larger area and by how much?

(a) Circle, 33 cm^2
(b) Square, 34 cm^2
(c) Square, 33 cm^2
(d) Circle, 23 cm^2

Q50. Which of the following statements is correct?

(a) Oxygen and ozone are the two main components of acid rain.
(b) CO2 is not responsible for the green-house effect.
(c) DDT is a bio-control agent.
(d) The main cause of ozone depletion and the ozone hole is chlorofluorocarbons (CFCs).

Q51. To make Idlies, if you take two parts rice and one part urad dal, what percentage of such a mixture would be rice and what percentage would be urad dal respectively?

(a) 66 2/3 %, 33 2/3 %
(b) 100%, 99%
(c) 66%, 33%
(d) 66 2/3 %, 33 1/3 %

Q52. The first livestock census in India was conducted during:

(a) 2017-2018
(b) 1950-1951
(c) 1992-1993
(d) 1919-1920

Q53. In the following equation, select the correct sequential combination of mathematical sign to replace A and balance the equation.

150 A 50 A 15 A 25 = 20

(a) ×, ÷ and -
(b) ×, + and -

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(c) ÷, × and -
(d) -, × and ÷

Q54. Which of the following statements is INCORRECT?
(a) Vint Cerf is recognised as one of the 'Fathers of the Internet'.
(b) In internet terminology, IP means Internet Practice.
(c) The first computer in India was installed in the Indian Statistical Institute, Kolkata.
(d) Hotmail is the first free web-based email service introduced in 1995.

Q55. Waking at 5/6 of her usual speed Anita took 2 minutes more than usual to reach the bus terminus. How long does Anita take to reach the terminus on days that she isn't late?
(a) 8 minutes
(b) 12 minutes
(c) 10 minutes
(d) 9 minutes

Q56. Article 76 of the Indian Constitution deals with which of the following?
(a) Appointment of Vice-President
(b) Appointment of President
(c) Appointment of Attorney General
(d) Appointment of Auditor General

Q57. Which is the following statement is INCORRECT?
(a) Saffron is cultivated in Jammu and Kashmir.
(b) V Kurien is the Father of the White Revolution in India.
(c) Madhya Pradesh is the highest copper producing state of India.
(d) The Radcliffe line is the boundary between India and China.

Q58. The cost of a flower is Rs. 120. If the shopkeeper sells it at a loss of 10%, then the price (in Rs.) at which it is sold will be:
(a) 80
(b) 104
(c) 110
(d) 108

Q59. Which of the following pairs is INCORRECT?
(a) Sutlej river – India and Pakistan
(b) Nile river – Egypt and Sudan
(c) Niagara Falls – USA and Canada
(d) Andes mountains – Argentina and Brazil

Q60. In which year was the National Bank for Agriculture and Rural Development (NABARD) established?
(a) 1982
(b) 1992
(c) 1947
(d) 1977

Q61. Where is Orang Tiger reserve located in India?
(a) Maharashtra
(b) Assam
(c) Himachal Pradesh
(d) Telangana

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Q62. What was the capital of Hoyasala's Kingdom?

(a) Mysore
(b) Devagiri
(c) Kalyani
(d) Dvarasamudra

Q63. Which of the following organization's headquarters is NOT correctly matched?

(a) Amnesty International – New York, USA
(b) OPEC – Vienna, Austria
(c) IMF – Washington DC, USA
(d) WHO – Geneva, Switzerland

Q64. What is the function of WinZip?

(a) It expands smaller files into a large file.
(b) It is an anti-virus software.
(c) It compresses large files into a smaller file.
(d) It extracts smaller files from larger files.

Q65. If 10% of m is the same as 20% of n, then m : n will be equal to:

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

Q66. Who among the following is NOT a Nobel prize winner?

(a) Mahatma Gandhi
(b) Rabindranath Tagore
(c) Amartya Sen
(d) Kailash Satyarthi

Q67. Read the given statements and conclusions carefully and decide which of the conclusions logically follow(s) from the statements.

Statements:

All pendent is jewellery.

No jewellery is silver.

Some silver is coin.

Conclusions:

1. Some silver are jewellery
2. Some coin is pendent.
3. Some jewellery are pendent.

(a) Conclusion 1 follows
(b) Conclusion 3 follows
(c) Conclusion 2 follows
(d) None of the conclusions follow

Q68. Select the term that can replace the question mark (?) in the following equation.

$(2a^3 - 3)(5a^3 - 2) = 10\ a\text{^}6 + ? + 6$

(a) $19a^3$
(b) $19a^2$
(c) 19
(d) $-19a^3$

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Q69. Which of the following is INCORRECT regarding a disease and its causative organism?

(a) Cholera – Influenza
(b) TB – Mycobacterium
(c) AIDS – HIV
(d) Malaria – Plasmodium

Q70. Which of the following nuclear plant has the highest capacity?

(a) Tarapur Nuclear Reactor
(b) Rajasthan Atomic Power Plant
(c) Kalpakkam Nuclear Power Plant
(d) Kudankulam Nuclear Power Plant

Q71. A competitive exam is to be held on a particular day. The examiner who has to supervise the exam, enters the examination room 30 minutes before 2:30 hours. He came 40 minutes before the student who was 20 minutes late for the exam. At what time will the examination start?

(a) 2:00 hours
(b) 2:40 hours
(c) 3:00 hours
(d) 2:20 hours

Q72. 'Flights', a novel about travel in the 21^(st) century and human anatomy is written by which of the following Booker prize winner (2018) writers?

(a) Taslima Nasreen
(b) Arundhati Roy
(c) Virginie Despentes
(d) Olga Tokarczuk

Q73. The HCF of any two even perfect square will be at least

(a) 4
(b) 2
(c) 6
(d) 1

Q74. Using π = 22/7, find the lateral surface area of a right circular cone whose diameter of the circular base is 8 cm and whose slant height is 14 cm.

(a) 168 cm^2
(b) 176 cm^2
(c) 170 cm^2
(d) 175 cm^2

Q75. Which of the following states does NOT share land boundary with Nepal?

(a) Uttarakhand
(b) Jharkhand
(c) West Bengal
(d) Bihar

Q76. In a certain code language, 'MAGICAL' is written as 'KYEGAYJ'. How will 'NARNIA' be written as in that code language?

(a) MYPLGY
(b) MXPLGX
(c) LYQLGY
(d) LYPLGY

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Q77. Which of the following matches is INCORRECT?

(a) Little Rann of Kutch – Wild Ass
(b) Jim Corbett national park – Tiger
(c) Kaziranga national park – Rhinoceros
(d) Kanha national park – Birds

Q78. A cylinder and a right circular cone having the same height also have equal volumes. What is the ratio of the radius of the base of the cylinder to that of the cone?

(a) 3 : √3
(b) √3 : 3
(c) 3 : 1
(d) 1 : 3

Q79. Which of the following chronological order of events of the freedom struggle is correct?

(a) Non cooperative movement – Sepoy mutiny – Champaran movement – Partition of Bengal
(b) Sepoy mutiny - Partition of Bengal - Champaran movement - Non cooperative movement
(c) Non cooperative movement - Champaran movement - Partition of Bengal - Sepoy mutiny
(d) Non cooperative movement - Champaran movement - Sepoy mutiny - Partition of Bengal

Q80. The number of illiterate persons in a country decreased from 150 lakhs to 100 lakhs in 10 years. What is the percentage of decrease?

(a) 33 2/3
(b) 33 1/3
(c) 22 1/3
(d) 33

Q81. To a number, (1/3 - 1/4) is added. From the sum so obtained 1/3 of 1/4 is subtracted and the remainder is 1/3 + 1/4. Find the number.

(a) 4/9
(b) 1/12
(c) 7/12
(d) 2/3

Q82. The diameter of a bullock cart wheel is 14/11 m. This wheel makes ten complete revolutions per minute. What will be the speed of the cart in km/h?

(a) 2.4
(b) 9.6
(c) 8.8
(d) 4.8

Q83. Four bells begin to toll together at 8.00 am and then each one at intervals of 5 s, 6 s, 7 s and 8 s respectively. How many times will they toll together in a shift of 7 hours?

(a) 21 times
(b) 25 times
(c) 15 times
(d) 31 times

Q84. A statement is given followed by two arguments. Decide which of the arguments is/are strong with respect to the statement.

Statement:

Oils should be totally removed from our diet.

Arguments:

I. Yes, removing oils from our diet will keep the budget in check.

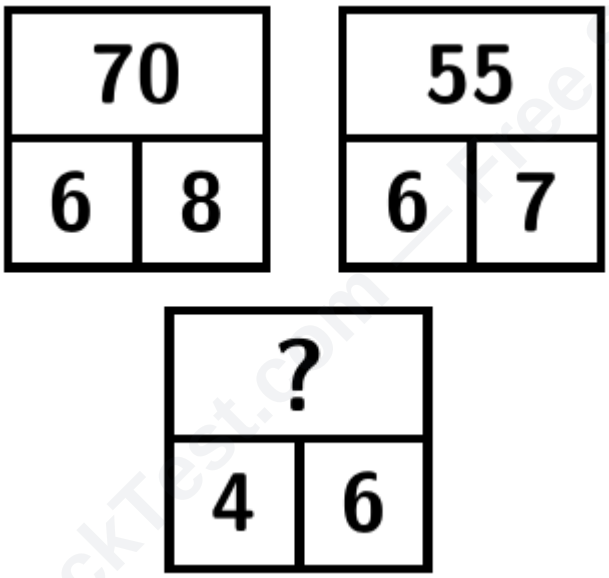
II. No, some types of oils are essential for us as our body cannot produce them on its own.

(a) Neither argument I nor II is strong.

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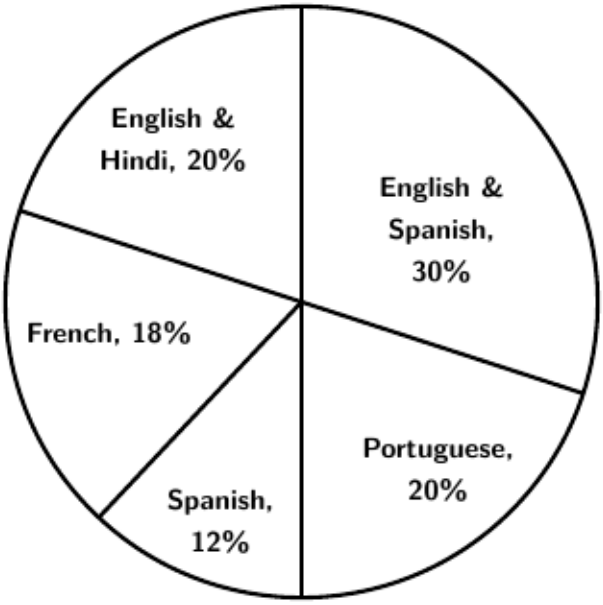
(b) Only argument I is strong.
(c) Only argument II is strong.
(d) Both arguments I and II are strong.

Q85. Study the given pattern carefully and select the number that can replace the question mark(?) in it.



(a) 100
(b) 65
(c) 45
(d) 40

Q86. The following pie chart shows the percentage distribution of 250 students at Delhi University, who are from different parts of the world, speaking different languages. Based on the pie chart answer the question given below.



How many students speak Spanish as one of their languages?

(a) 105
(b) 95
(c) 100
(d) 110

Q87. The following table shows the product of tomatoes (in tons) for three different states, X, Y and Z, over the years 2016 to 2019. Based on the table answer the question given below.

States	Years			
2016	2017	2018	2019	
X	3	4.2	5.3	4.8
Y	5	5.4	4	5.6
Z	4.1	4.3	5	5.6

What is the average production of tomatoes (in tons) for state Y for all the years together?

(a) 4 tons
(b) 3 tons
(c) 5 tons
(d) 6 tons

Q88. The following line graph shows the number of units imported (in lakh) of products A, B, C, D and E in 2015 and 2016. Based on the graph answer the question given below.

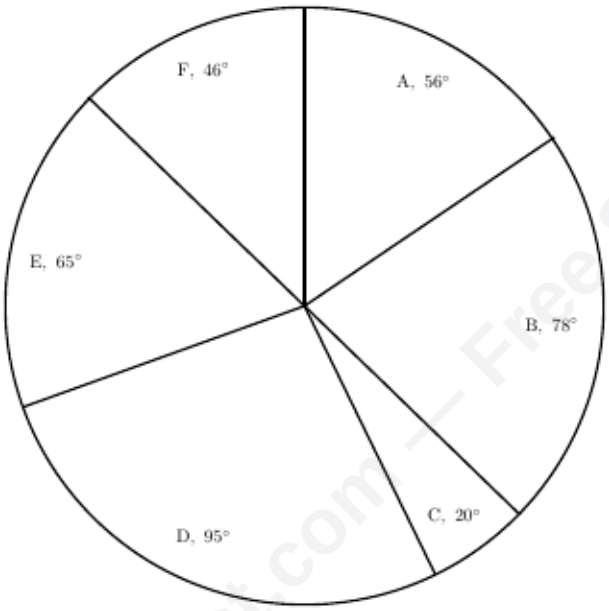


The average number of units imported of product A and that of product E in 2016 was equal to the number of units imported of which product in 2015?

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

Q89. The following circle graph shows the expenditure incurred by a country on various sectors, A, B, C, D, E and F, during a particular year. Based on the graph answer the question given below.

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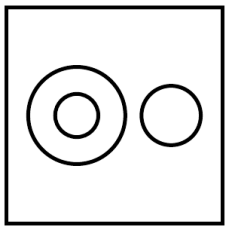
What is the approximate percentage of the expenditure on sector D?

(a) 26.4%
(b) 32.3%
(c) 25%
(d) 40%

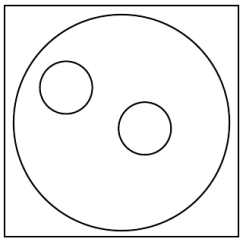
Q90. Select the Venn diagram that best represents the relationship between the given set of classes.

Indian, Russian, Citizen

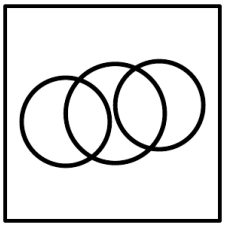
(a)



(b)

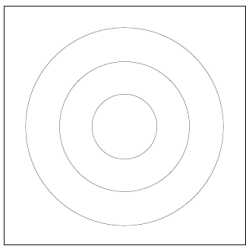


(c)



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(d)



Q91. A told B, “I am your aunt and S is my husband.” B told A, “D is my maternal grandfather and you are the sister to my mother W.” How is S related to W?

(a) Sister’s husband
(b) Father
(c) Paternal uncle
(d) Brother

Q92. Fuzail has 6 pencils A, B, C, D, E and F. He has kept them in two boxes Y and Z. D and B are not kept together. A and F are not kept together. D and A are not kept in box Z. E and C are not kept together. E is not kept in box Y.

Which of the following pencils is kept in box Z?

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

Q93. If ‘+’ means ‘divided’, ‘-' means ‘add’, '×' means ‘minus’, what will be the value of the following expression?

{6- (2/7)+(4/5)}

(a) 45/7
(b) 7
(c) 87/14
(d) 89/14

Q94. In a certain code language:

‘V O C A M’ is written as ‘$&, U*, (#, !*, O=’

‘E R A S E’ is written as ‘g@, +S, g@, DD, $&’.

Which of the following can be the way in which ‘C A M E R A’ is written in that code language?

(a) U*, !*, DD, $&, $&, g@
(b) (#, g@, DD, g@, $&, U*
(c) DD, g@, U8, (#, O=, *%
(d) 1*, O=, $&, +S, g@, DD

Q95. Select the alphanumeric-cluster that can replace the question mark (?) in the following series.

K9R, P27N, U81J, ?

(a) S212F
(b) Y218B
(c) Z243F
(d) T196E

Q96. In a certain code language, ‘ASPIRANT’ is written as '32118112031622'. How will 'GENERATE' be written as in that code language?

(a) 97167203227
(b) 75122412127
(c) 75180372127
(d) 97162703225

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Q97. Select the option that is related to the fourth term in the same way as the first term is related to the second term.

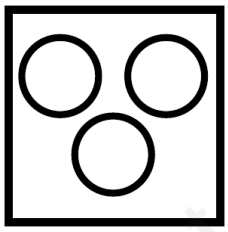
Stripes : Zebra :: ? : Flower

(a) Colour
(b) Fruit
(c) Plant
(d) Leaf

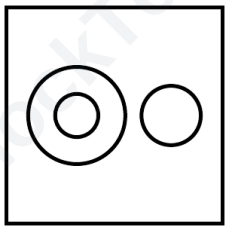
Q98. Select the Venn diagram that best represents the relationship between the given set of classes.

Pizza, Fast Food, Italy

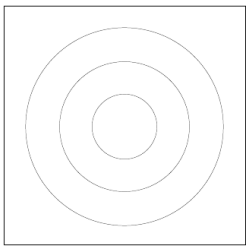
(a)



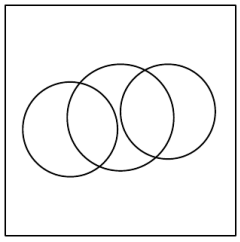
(b)



(c)



(d)



Q99. Four letter-clusters have been given, out of which three are alike in some manner and one is different. Select the odd one.

CAP, FIG, MAN, SIT

(a) CAP
(b) MAN
(c) SIT
(d) FIG

Q100. Select the option that is related to the third term in the same way as the second term is related to the first term.

Desert : Camel :: River : ?

(a) Dam

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(b) Boat
(c) Lake
(d) Tiger

ANSWER KEY

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

SOLUTIONS

Q1. Answer: (a) 17

Given:
The first four prime numbers.
Concept used:
Prime numbers: Numbers whose factor is 1 and itself.
Note: 1 is not a prime number.
Calculation:
First, four prime numbers are :
2, 3, 5 and 7
Now, we get :
2 + 3 + 5 + 7
= 17
Thus, The sum of the first four prime numbers is 17.
Hence, the correct answer is option 1).

Q2. Answer: (b) Brother

Family chart:
According to the statement, the family tree is shown below:
R is the brother of X.
Hence, 'option 2' is the correct answer.

Q3. Answer: (a) 18

Given:
On a map, 1 cm represents 9 km of actual distance.
Calculation:
According to the question,
1 cm represents 9 km,
So, 2 cm represents 2 × 9 = 18 km.
Thus, 2 cm will represent the actual distance of 18 km.
Hence, the correct answer is option1).

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Q4. Answer: (c) Vishnu Sharma

The correct answer is Vishnu Sharma.

Key PointsVishnu Sharma

• Indian scholar and author.

• His notable works include the Panchatantra collection of fables.

Panchatantra

• There are 84 stories and also many interpolated fables in it.

• The first book in the Panchatantra is Loss of Friends (Mitrabhed) and it contains 34 stories.

• Five Tantras were: Mitra Bhedha(Loss of Friends), Mitra Laabha(Gaining Friends), Suhrudbheda(Causing discord between Friends), Vigraha(Separation), and Sandhi(Union).

Additional InformationSkandagupta

• Gupta emperor of India.

• He ascended the throne in the year 136 of the Gupta era.

• Bhitari pillar inscription suggests that he restored the Gupta power by defeating his enemies.

• He repulsed an invasion by the Indo-Hephthalites (Hunas in India), probably the Kidarites.

Vishnu Gupta

• One of the lesser know kings of Gupta Dynasty.

• He was the son of Kumaragupta III and the grandson of Narasimhagupta.

Q5. Answer: (d) Sikander Lodhi

The correct answer is Sikander Lodhi.

Key PointsSikander Lodhi

• He was a Pashtun Sultan of the Delhi Sultanate between 1489 and 1517.

• He expanded Lodi's rule into the regions of Gwalior and Bihar.

• He founded Agra in the year 1504.

• The last king of Agra was Sultan Ibrahim Lodhi(1517-1526).

Additional Information Alam Shah

• He was the fourth and last ruler of the Sayyid dynasty which ruled the Delhi Sultanate.

• An orthodox Sunni Muslim, spent his time reading the Quran.

• He also spread Islam in his Kindom.

Ibrahim Lodhi

• His father was Sikander Lodhi.

• He was the last sultan of the Delhi Sultanate.

• In 1526, first battle of Panipat, he was defeated and killed by the Mughal forces of Babur.

Bahlol Lodhi

• He was the chief of the Pashtun Lodi tribe.

• Founder of the Lodi dynasty from the Delhi Sultanate.

• Bahlul became sultan of the dynasty on 19 April 1451.

Q6. Answer: (d) 15 L

Given:

Quantity of mixed milk = 10 liters

Initially, the quantity of water in milk = 5%

So, the quantity of water (in liters) in the 10 liters of mixed milk is reduced to 2%.

Calculation:

Let x liters of pure milk be added to mixed milk to reduce the water contained to 2%.

5% of 10 = 2% of (10 + x)

=> 0.5 × 100 = 2(10 + x)

=> 50 = 20 + 2x

=> 2x = 30

=> x = 15

Therefore 15 liters of pure milk should be added to reduce it to 2%.

Hence, the correct answer is option 4).

Q7. Answer: (c) Netherland

The correct answer is Netherland.

Key PointsFlying-V airplane

• Its unique design places the passenger cabin, the cargo hold, and the fuel tanks in the wings.

• Experts hope that the plane's aerodynamic shape will cut fuel consumption by 20% compared to today's aircraft.

• Experts tested a 22.5 kg and 3-meter scale model, developed by researchers at the Delft University of Technology in the Netherlands and partner Dutch airline KLM.

Additional Information

• The most fuel-efficient airline was Norwegian Air Shuttle.

• A blended wing is often presented as the most efficient aircraft design.

• Flying-V aircraft will have a length of 55m, a wingspan of 65m, and a height of 17m.

• Capacity of Flying-V: to accommodate 314 passengers and hold 160m3 of cargo.

Q8. Answer: (a) Standard Deviation

The correct answer is Standard Deviation.

Key PointsStandard Deviation

• It is square root of Variance of observations and square root is always positive.

• It is a measure of how dispersed the data is in relation to the mean.

Variance

• It is a measure of variability.

• Calculated by taking the average of squared deviations from the mean.

• The degree of spread in your data set.

• The more spread the data, the larger the variance is in relation to the mean.

Additional InformationSkewness

• It is a measure of the asymmetry of a distribution.

• A distribution is asymmetrical when its left and right side are not mirror images.

• A distribution can have positive, negative, zero skewness.

Mean

• It is the average of all the observations in data set.

Median

• It is the middle value of the given list of data, when arranged in an order.

Q9. Answer: (c) 22.5°, 67.5°

Given:

The measure of an angle is three times the measure of its complement.

Concept used:

Complimentary angle : $x + y = 90°$

Calculation:

Let x be the required angle, the other angle is 3x.

According to the question,

$\Rightarrow x + 3x = 90°$

$\Rightarrow 4x = 90°$

$\Rightarrow x = 22.5°$

And the other angle measures

$\Rightarrow 3x = 3 \times (22.5°) = 67.5°$

Therefore The Required angles are 22.5° and 67.5°.

Hence, the correct answer is option 3).

Q10. Answer: (b) Fear of being out of cellular phone contact

The correct answer is Fear of being out of cellular phone contact.

Key Points

• Psychological condition when people have a fear of being detached from mobile phone connectivity.

• It most likely stems from increased reliance on technology and concern over what might happen if you suddenly couldn't access needed information.

• This can lead to anxiety, depression and isolation, as well as physical problems such as headaches.

Additional Information

• A phobia is an anxiety disorder defined by a persistent and excessive fear of an object or situation.

• Phobias typically result in a rapid onset of fear and are usually present for more than six months.

• Some of the most common phobias are:

• Social Phobia: The Fear of Judgment or Rejection

• Arachnophobia: The Fear of Spiders

• Agoraphobia: The Fear of Open or Crowded Spaces

• Claustrophobia: The Fear of Tight Spaces

• Acrophobia: The Fear of Heights

Q11. Answer: (d) A pair of sweaters

Things such as socks, shoes, gloves comes in pair. So it would be correct to say a pair of socks, a pair of shoes, a pair of gloves.

These are two identical items that are used together.

But to say a pair of sweaters, it would be incorrect. So it is the odd one out.

Hence, 'option 4' is the correct answer.

Q12. Answer: (d) South

Persons: K, L, M and N

1) They are all sitting around a rectangular table facing east, west, north and south.

2) K is sitting opposite to N, who is facing towards the west. L is facing north. L and N are not sitting opposite to each other.

According to the statement:.

M is facing South direction.

Hence, 'option 4' is the correct answer.

Q13. Answer: (c) 4/π

Given:

Radius > 1

Calculation:

Circumference of circle = 2πr

For an integer, the value of r must be an integer multiple of 1/π

Let r = x/π, where x is a positive integer.

But r > 1

=> π/x > 1

=> x > π

=> x > 3.14

For minimum r, x must be minimum

Since the least integer greater than π is 4.

Therefore x = 4

Minimum value of r = 4/π

Hence, The Required value of r is 4/π.

Q14. Answer: (b) Profession tax and stamp duty

The correct answer is Profession tax and stamp duty.

Key PointsProfession tax and stamp duty

• The Commercial Taxes Department is the nodal agency which collects the Profession Tax dues from professionals in the State.

• Profession Tax subject to a maximum of Rs.2500/- p.a. and a minimum slab of as low as Rs.110/- p.a.

• The tax payers fulfill their Income Tax obligations by 31st March.

• Professional Tax paid by individuals/organisations is 100% rebatable against Income Tax dues and there is no additional levy.

Additional InformationCustom Duty

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• The tax imposed on goods when they are transported across international borders.
• The government uses this duty to raise its revenues, safeguard domestic industries, and regulate movement of goods.

Estate duty

• Form of tax which was levied on the total value of the property held by an individual calculated at the time of his / her demise.
• Payable time is when the deceased individual's property was passed on to the successors.

Excise duty

• Tax charged on goods produced within the country.
• It is a tax on the production or sale of a good.
• This tax is now known as the Central Value Added Tax (CENVAT).

Q15. Answer: (a) 57

Logic : Difference between numbers in the series is the square of natural numbers from 1 to 5
So the value of '?' is 57.
Hence, 'option 1' is the correct answer.

Q16. Answer: (b) 36

Given:
Boys : Girls = 5 : 7
There are 6 more girls than boys.
Calculation:
Let's say the total number of boys is 5x,
Then the total number of girls will be 7x,
According to the question,
=> 5x = 7x - 6
=> 2x = 6
=> x = 6/2
=> x = 3
Number of boys = 5x
=> Number of boys = 5 × 3 = 15
Number of girls = 7x
=> Number of girls = 7 × 3 = 21
Total number of students = 5x + 7x = 12x = 12 × (3) = 36
Therefore Total number of students is 36.
Hence, the correct answer is option 2).

Q17. Answer: (a) Neon

The correct answer is Neon.
Key PointsNeon

• Colorless, odorless, inert monatomic gas under standard conditions.
• It has about two-thirds the density of air.
• It is used in vacuum tubes, high-voltage indicators, lightning arresters, wavemeter tubes, television tubes, and helium–neon lasers.
• Liquefied neon is commercially used as a cryogenic refrigerant.

Additional InformationChlorine

• Yellow-green gas at room temperature.
• Used in industry and found in some household products.
• Sometimes, it can be in the form of a poisonous gas.

Hydrogen

• Colorless, odorless, tasteless, non-toxic, and highly combustible.
• Most abundant chemical substance in the universe, constituting approx. 75% of all normal matter.

Oxygen

• Highly reactive nonmetal, and an oxidizing agent.
• It readily forms oxides with most elements as well as with other compounds.

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Q18. Answer: (d) Stem

The correct answer is Stem.

Key Points

• The underground stem of the potato is edible part of the plant.

• The stem of potato is also called the tuber.

• Potatoes are rich in fibres, potassium, vitamin C, vitamin B6.

Additional Information Tuber

• They are the part of a plant that store nutrients and energy.

• They are plant structures that are large and act as storage containers so the plant can live during the winter months and during dry periods.

• There are two types of tubers. Stem tubers and Root tubers.

Q19. Answer: (c) 2 - √3

Given:

tan (13π/12)

Calculation:

tan (13π/12)

= tan (π + π/12)

= - tan π/12

= - tan(15°)

= - tan(45° - 30°)

= - (tan45° - tan30°)/(1 + tan45° × tan30°)

= - (1 - 1/√3)/(1 + 1/√3)

= (√3 - 1)/(√3+ 1)

= (√3 - 1)/(√3+ 1) × (√3 - 1)/(√3- 1)

= 2 - √3

Thus, the required value is 2 - √3.

Hence, the correct answer is option 3).

Q20. Answer: (b) 1 h 36 min

Given:

6 pipes fill a tank in = 1 h 20 min.

Formula:

P1 × T1 = P2 × T2 (P = number of pipes, T = time taken)

Calculation:

P1 = 6, T1 = 1 1/3, P2 = 5 and T2 =?

=> 6 × 1 1/3 = 5 × T2

=> 6 × 4/3 = 5 × T2

=> T2 = 8/5

=> T2 = 1.6 = 1 hour 36 minutes

Thus, Time required to fill the tank with 5 pipes is 1 hour 36 minutes.

Hence, the correct answer is option 2).

Q21. Answer: (b) 87

Given:

3a = 4b = 6c and a + b + c = 27√29

Calculation:

3a = 4b = 6c

=> a : b : c

=> 4 × 6 : 3 × 6 : 3 × 4

=> 4 : 3 : 2

According to the question,

a + b + c = 27 √29

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=> 4x + 3x + 2x = 27 √29

=> 9x = 27 √29

=> x = 3 √29

We have to find,

√(a² + b² + c²)

=> √((4x)² + (3x)² + (2x)²)

=> √(29x²)

=> x √29

=> 3 × √29 × √29 = 87

Therefore The correct answer is 87.

Q22. Answer: (c) The solid form of CO2 is called dry ice.

The correct answer is The solid form of CO2 is called dry ice.

Key PointsCarbon Dioxide

• Transparent to visible light but absorbs infrared radiation, as a greenhouse gas.

• Solid form of carbon dioxide is known as dry ice.

• Used as a refrigerant, in fire extinguishers, for inflating life rafts and life jackets, blasting coal, foaming rubber and plastics, promoting the growth of plants in greenhouses, immobilizing animals before slaughter, and in carbonated beverages.

Additional Information Dry Ice

• Colorless, odorless, and non-flammable, and can lower the pH of a solution when dissolved in water, forming carbonic acid.

• It sublimates directly from the solid state to the gas state.

• Ued for temporary refrigeration, preserving frozen foods, blasting, etc.

Q23. Answer: (d) San Francisco

The correct answer is San Francisco.

Key PointsGhadar Party

• An international political movement consisting of expatriate Indians to overthrow British rule in India.

• Found on 15 July 1913 in Astoria, Oregon, the United States of America.

• Ghadar headquarters and Hindustan Ghadar newspaper based in San Francisco, California.

Additional Information

• Party in the United States fractured into a Communist and an Indian Socialist faction.

• The party was formally dissolved in 1948.

• Ideologies of Party: Indian Independence and Nationalism.

Q24. Answer: (d) Direct Access Storage Device

The correct answer is Direct Access Storage Device.

Key PointsDASD

• Direct Access Storage Devices are fixed or removable storage devices.

• It is a type of secondary storage device that supports direct access to stored data.

• Access methods for DASD include sequential, partitioned, indexed, and direct.

Additional Information

• Direct access storage devices had been associated with mainframe computers and other types of servers.

• IBM is often credited with having coined the term DASD to refer to HDDs, magnetic drums and data cells.

• Now the term incorporates other device types including SSDs, HDDs for personal computers and RAID storage systems.

Q25. Answer: (b) 77 cm²

Given:

Area = 81 cm²

Concept used:

Area of semicircle= πr²/2

Calculations:

Area of square = (side)²

=> Side = √81 = 9 cm

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=> Now we find the length of the wire
=> Length of wire = 4 × side = 4 × 9 = 36 cm
=> Now we have to find the radius of a semicircle
=> Circumference of semicircle = πr + 2r = (π + 2)r = (22/7 + 2)r
=> 36 = (22/7 + 2)r
=> r = 36/(22/7+ 2)
Therefore r = 7 cm
Now, area of the semicircle = (πr²)/2
= (22/7×7 × 7)/2
= 77 cm²
Hence, The area of the semicircle is 77 cm².

Q26. Answer: (d) 45, 60 and 75

Given:
Rs. 1, 50 paise, and 25 paise coins are in the ratio of 3 : 4 : 5. The total money amounts to Rs.93.75.
Concept used:
Ratio and proportion
Calculation:
Let the coins be in the ratio
3x : 4x : 5x
1 rupee = 1 rupee
50 paise = (1/2) rupee
25 paise = (1/4) rupee
As per the question,
=> 3x(1) + 4x(1/2) + 5x(1/4) = 93.75
=> 12x + 8x + 5x = 93.75 × 4
=> 25x = 375
=> x = 15
1 rupee coins = 3 × 15 = 45
50 paise coins = 4 × 15 = 60
25 paise coins = 5 × 14 = 75.
Hence, The number of coins of Rs.1, 50 paise, and 25 paise is 45, 60, and 75 respectively.

Q27. Answer: (d) Sunder Pichai

The correct answer is Sundar Pichai.
Key PointsSundar Pichai
• Indian-American business executive.
• He is the chief executive officer of Alphabet Inc. and its subsidiary Google.
• He was selected to become the CEO of Google on August 10, 2015.
Additional Information Indra Nooyi
• Indian-American business executive.
• Former chairperson and chief executive officer of PepsiCo.
• She has consistently ranked among the world's 100 most powerful women.
Ajay Banga
• Indian-American business executive.
• Currently Vice Chairman at General Atlantic.
• He was executive chairman of Mastercard.
Satya Nadella
• He has been the Chief Executive Officer of Microsoft Corporation since February 4, 2014.
• He joined Microsoft in 1992
• He served leadership roles in both enterprise and consumer businesses across Microsoft for over 22 years.

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Q28. Answer: (c) 73/77

Given:

1.5x = 0.04y

Calculation:

According to the question,

1.5x = 0.04y

=> x/y = 0.04/1.5

=> x/y = 4/150

Now, we have to find the value of:

((y-x)/(y+x))

On dividing both the numerator and denominator by y, we get:

= (1-x/y)/(1 + x/y)

= (1-4/150)/(1+4/150)

= 146/154

= 73/77

Hence, The Required value is 73/77.

Q29. Answer: (a) Meditate

Meditate is the odd one out.

It is a practice that connects the mind and the body in order to get peace.

While other three terms - sleep, snore, dream are related to sleeping.

Hence, 'option 1' is the correct answer.

Q30. Answer: (b) 7i

The positional values of the English alphabet is as follows:

The pattern followed here is:

So the value of '?' is 7I.

Hence, 'option 2' is the correct answer.

Q31. Answer: (b) 48

Given:

The numbers are in the ratio 3 : 4.

HCF of the numbers is 4.

Calculation:

Let the numbers be 3x and 4x

As the H.C.F. is the common factor so H.C.F. is x

So, H.C.F = x = 4

So the numbers are 12 and 16

L.C.M × H.C.F. = Product of two numbers

=> L.C.M = Product/H.C.F.

=> L.C.M = (12 × 16)/4

Therefore The L.C.M is 48.

Hence, the correct answer is option 2).

Q32. Answer: (a) Mahanadi

The correct answer is Mahanadi.

Key Points

• The major Himalayan rivers are the Indus, Jhelum, Chenab, Beas, Ravi, Saraswati, Sutlej, Ganga, Yamuna, and Brahmaputra.

• All these rivers collectively cover an area of 2,250 km.

• The average width of these rivers is 200 km.

Additional Information

• The Himalayan mountain range or the Himalayas or Himalaya is a mountain range located in Asia, segregating the Tibetan Plateau from the Indian subcontinent.

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• The Himalayan mountain range broadly includes the Hindu Kush, the Karakoram and other small mountain ranges that branch out from the Pamir Knot.

• The forests on the banks of the Himalayan Rivers include Deodar, Pine, Oak, Fir, Birch, and Rhododendron.

Q33. Answer: (b) Mission Indradhanush -Employment for all

The correct answer is Mission Indradhanush -Employment for all.

Key PointsMission Indradhanush

• A health mission of the Government of India.

• It was launched by Union Health Minister J. P. Nadda on 25 December 2014.

• The main objective is to ensure full immunization with all available vaccines for children up to two years of age and pregnant women.

• The diseases come under this scheme are: polio, diphtheria, measles, whooping cough, hepatitis B, tetanus, meningitis, rubella, Japanese encephalitis and pneumonia.

Additional Information

• To boost this act: Intensified Mission Indradhanush 2.0

• IMI 2.0 aims to achieve targets of full immunization coverage in 272 districts in 27 States and in 652 blocks in Uttar Pradesh and Bihar among hard-to-reach and tribal populations.

Q34. Answer: (c) 18/11 ohms

Given:

Three wires of resistance of 3 ohms, 6 ohms, and 9 ohms are connected in a parallel combination.

Concept used:

When the resistances are connected in series, the equivalent resistance is given by

R1 + R2 + R3 +.....Rn = Req

The equivalent resistance is greater than the largest resistance in the series circuit

When the resistances are connected in parallel, the equivalent resistance is given by

1/R1 + 1/R2 + ... + 1/Rn = 1/Req

The equivalent resistance is lesser than the smallest resistance in the parallel circuit.

Calculation:

R1 = 3 ohm, R2 = 6 ohm, R3 = 9

1/3 + 1/6 + 1/9 = 1/Req

=> (6 + 3 + 2)Req = 18

=> Req = 18/11 Ω

Hence, The Total resistance of the circuit is 18/11 Ω.

Q35. Answer: (c) 46 min 12 s

Given:

A completes the round in 252 seconds

B completes the round in 308 seconds

C completes the round in 198 seconds

Concept used:

Here we will use the concept of LCM

Calculation:

First find the factors

=> 252 = 22 × 32 × 71

=> 308 = 22 × 71 × 111

=> 198 = 21 × 32 × 111

LCM is,

=> 22 × 32 × 71 × 111

=> 2772 seconds

Convert into minutes

=> 2772/60 = 46 minutes 12 seconds

Therefore They will meet again in 46 minutes and 12 seconds.

Hence, the correct answer is option 3).

Q36. Answer: (d) Earliest traces of human life on the Indian subcontinent

The correct answer is Earliest traces of human life on the Indian subcontinent.

Key PointsRock Shelters of Bhimbetka

• An archaeological site in central India that spans the Paleolithic, Mesolithic periods and historic period.

• It exhibits the earliest traces of human life in India

• It is the evidence of Stone Age starting at the site in Acheulian times.

• One of the oldest-known rock art in India and largest prehistoric complexes.

Additional Information

• Bhimbetka has around 243 rock shelters and have earned the honour of UNESCO World Heritage Site.

• Wakankar had discovered 700-odd rock shelters, spread over a 10-km area in Bhimbetka.

• Located in the Raisen District in the Indian state of Madhya Pradesh about 45 kilometres south-east of Bhopal.

• It also contain fossils from the Precambrian, hundreds of millions of years before the human era, including the enigmatic basal animal Dickinsonia.

Q37. Answer: (d) Canadian Open

The correct answer is Canadian Open.

Key PointsGrand Slam tournaments of tennis

• The achievement of winning all four major championships in one discipline in the same calendar year.

• Four major championships: the championships of Australia, France, Britain (Wimbledon), and the United States.

• The tournaments are overseen by the International Tennis Federation (ITF).

• The Grand Slam is important in terms of world ranking points, tradition, prize-money awarded, and public attention.

Additional Information

• The four Grand Slam tournaments (with each played over two weeks) are the

• Australian Open in January,

• French Open from late May to early June,

• Wimbledon in late June to early July, and

• US Open in August–September

• The Australian and the United States tournaments are played on hard courts, the French on clay, and Wimbledon on grass.

Q38. Answer: (d) Paracetamol

Paracetamol is the odd one out.

As it is a medicine used to treat fever.

While other three terms - Diabetes, Tuberculosis, Malaria are the diseases.

Hence, 'option 4' is the correct answer.

Q39. Answer: (c) D

Judges: A, B, C, D, E, F, and G

Step 1) They are sitting in a row of seven seats on the jury panel.

Step 2) E is sitting on the last seat from the left of the row.

Step 3) D is sitting to the immediate right of B and to the immediate left of F.

Step 4) C is sitting to the immediate left of A and is sitting to the right of G and to the left of D.

D is sitting on the fifth position from the left.

Hence, 'option 3' is the correct answer.

Q40. Answer: (c) 240

Given:

Book read by Boy in one day = 3/8 of total

4/5 of the rest part was read in next day

Pages left to read = 30

Calculations:

After reading 3/8 of the book,

The remaining fraction 1 - 3/8 = 5/8

The boy then reads 4/5 of 5/8 = 4/5 x 5/8 = 1/2

Total fraction read = 3/8 + 1/2 = 7/8

The unread fraction = 1 - 7/8 = 1/8

This is equivalent to 30 pages (Given)

Therefore The book has 30/(1/8) = 240 pages.

Hence, the correct answer is option 3).

Q41. Answer: (c) GST cannot be collected by the state government.

The correct answer is GST cannot be collected by the state government.

Key PointsGoods and Services Tax(GST)

• Indirect tax used in India on the supply of goods and services.

• comprehensive, multistage, destination-based tax.

• Goods and services are divided into five different tax slabs for collection of tax: 0%, 5%, 12%, 18% and 28%.

• The tax came into effect from 1 July 2017.

Additional Information

• Petroleum products, alcoholic drinks, and electricity are not taxed under GST and instead are taxed separately by the individual state governments.

• With the implementation of the One Hundred and First Amendment of the Constitution of India by the Indian government.

• The GST replaced existing multiple taxes levied by the central and state governments.

Q42. Answer: (a) Muhammad Bin Tughlaq

The correct answer is Muhammad Bin Tughlaq.

Key PointsMuhammad Bin Tughlaq

• He was the eighteenth sultan of the Delhi Sultanate.

• Founder of the Tughlaq dynasty.

• He imposed heavy tax in the land between the Ganga and the Yamuna rivers in his reign.

• In 1327, he ordered to move his capital from Delhi to Daulatabad (Devagiri in Maharashtra) in the Deccan region of India.

Additional Information Firoz Shah Tughlaq

• Ruler from the Tughlaq dynasty, reigned over the Sultanate of Delhi from 1351 to 1388.

• He repaired the Qutub Minar which had been damaged by an earthquake.

• He had around 180,000 slaves to get support in ruling over Delhi.

Muhammad Ghouri

• Sultan of the Ghurid Empire from 1173 to 1206.

• He is credited with laying the foundation of Muslim rule in the Indian subcontinent.

Allauddin Khalji

• Emperor of the Khalji dynasty that ruled the Delhi Sultanate in the Indian subcontinent.

• He fended off several Mongol invasions of India.

Q43. Answer: (d) [figure]

As all sisters are siblings and both sisters and siblings are a part of family.

Therefore, it can be best shown as:

Hence, 'option 4' is the correct answer.

Q44. Answer: (a) Kedarnath – Gujarat

The correct answer is Kedarnath – Gujarat.

Key Points

• Kedarnath is a town in Rudraprayag district in the state of in India.

• It has gained importance because of the Kedarnath Temple.

Additional Information

• Buland Darwaza is the main entrance to the Jama Masjid at Fatehpur Sikri, which is 43 km from Agra, India.

• Elephant Caves or Elephanta Island, or Gharapuri, in Mumbai Harbour, 10 kilometres east of Mumbai in the Indian state of Maharashtra.

• Khajuraho Group of Monuments are a group of Hindu and Jain temples in Chhatarpur district, Madhya Pradesh.

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Q45. Answer: (a) He cannot declare national emergency.

The correct answer is He cannot declare national emergency.

Key Points

• The president is the Supreme Commander of the Indian Armed Forces.

• The president can declare war or conclude peace, on the advice of the Union Council of Ministers headed by the prime minister.

• All important treaties and contracts are made in the president's name.

Additional Information Duties of President

• The primary duty is to preserve, protect and defend the constitution and the law of India

• The president is the common head of all independent constitutional entities.

• All their actions, recommendations (Article 3, Article 111, Article 274, etc.) and supervisory powers (Article 74(2), Article 78C, Article 108, Article 111, etc.) over the executive and legislative entities of India shall be used in accordance to uphold the constitution.

• There is no bar on the actions of the president to contest in the court of law.

Q46. Answer: (d) 6

Given:

288 × N is a perfect cube.

Calculation:

288 = 2 × 2 × 2 × 2 × 2 × 3 × 3

To make it a perfect cube it must be multiplied by 2 × 3.

2 × 2 × 2 × 2 × 2 × 2 × 3 × 3 × 3 = 288 × 6

Therefore The value of N is 6.

Hence, the correct answer is option 4).

Q47. Answer: (c) Dr. S Radhakrishnan

The correct answer is Dr. S Radhakrishnan.

Key PointsDr. S Radhakrishnan

• 2nd President of India from 1962 to 1967

• 1st Vice President of India from 1952 to 1962.

• 2nd Ambassador of India to Soviet Union from 1949 to 1952

• 4th Vice-Chancellor of Banaras Hindu University from 1939 to 1948

Additional InformationShri M Hidayatullah

• 11th Chief Justice of India from 25 February 1968 to 16 December 1970.

• 6th vice president of India from 31 August 1979 to 30 August 1984.

• acting president of India from 20 July 1969 to 24 August 1969 and from 6 October 1982 to 31 October 1982 and from 25 July 1983 to 25 July 1983.

Dr. Zakir Husain

• 3rd president of India from 13 May 1967 to 3 May 1969.

• Governor of Bihar from 1957 to 1962.

• 2nd vice president of India from 1962 to 1967.

Shri VV Giri

• 4th president of India from 24 August 1969 to 24 August 1974

• 3rd vice president of India from 13 May 1967 to 3 May 1969.

• 1st president to be elected as an independent candidate.

Q48. Answer: (b) UNO

The correct answer is UNO.

Key PointsUNO

• The United Nations is an intergovernmental organization whose stated purposes are

• maintain international peace and security,

• develop friendly relations among nations,

• achieve international cooperation, and

• be a centre for harmonizing the actions of nations.

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• It has six main organs:
• the General Assembly,
• the Security Council,
• the Economic and Social Council,
• the Trusteeship Council,
• the Secretariat are based at UN Headquarters in New York and
• the International Court of Justice, is located at The Hague in the Netherlands.

Additional Information

• The North Atlantic Treaty Organization(NATO) is an intergovernmental military alliance between 30 member states(28 European and two North American).
• The World Health Organization(WHO) is a specialized agency of the United Nations responsible for international public health.
• The World Trade Organization(WTO) is an intergovernmental organization that regulates and facilitates international trade.

Q49. Answer: (a) Circle, 33 cm²

Given:

Perimeter of the square = 44 cm

Perimeter of square = Circumference of the circle

Formula used:

Circumference of the circle = 2πr

Area of the circle = πr2

Perimeter of square = 4 × side

Area of square = (side)²

Calculation:

Side of square = 44/4 = 11 cm

As, Perimeter of square = Circumference of the circle

=> 44 = 2πr

=> r = 7 cm

Area of the circle = πr2

=> Area of the circle = (22/7) × 72 = 154 cm²

And, Area of square = 11² = 121 cm²

Now, 154 > 121

=> Area of Circle > Area of Square

Difference in area

= Area of Circle - Area of Square

= 154 - 121

= 33 cm²

Therefore Area of the circle is larger by 33 cm².

Hence, the correct answer is option 1).

Q50. Answer: (d) The main cause of ozone depletion and the ozone hole is chlorofluorocarbons (CFCs).

The correct answer is The main cause of ozone depletion and the ozone hole is chlorofluorocarbons (CFCs).

Key Points

• Main Causes of ozone depletion and the ozone hole is manufactured chemicals, especially manufactured halocarbon refrigerants, solvents, propellants, and foam- blowing agents (chlorofluorocarbons (CFCs), HCFCs, halons).
• Ozone Depletion result in serious health issues among humans, such as skin diseases, cancer, sunburns, cataract, quick ageing and weak immune system.
• When chlorine and bromine atoms come into contact with ozone in the stratosphere, they destroy ozone molecules.

Additional Information

• The Antarctic ozone hole is expected to close by the 2060s, while other regions will return to pre-1980s values even earlier.
• In 2019, NASA reported that the ozone hole was the smallest ever since it was first discovered in 1982.

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Q51. Answer: (d) 66 2/3 %, 33 1/3 %

Given:

Idlies are made with two parts rice and one part urad dal.

i.e., Rice and urad dal are in the ratio 2 : 1.

Formula used:

Percentage = Fractional part × 100

Calculation:

According to the question,

Rice : Urad dal = 2 : 1

Fractional part of Rice in the mixture = 2/(2 +1) = 2/3

Percentage of rice in the mixture = 2/3 × 100 = 66 2/3 %

Fractional part of urad dal in mixture = 1/3

Percentage of urad dal in mixture = 1/3 × 100 = 33 1/3 %

Thus, The percentage of rice and urad dal in the mixture is 66 2/3 % and 33 1/3 % respectively.

Hence, the correct answer is option 4).

Q52. Answer: (d) 1919-1920

The correct answer is 1919-1920.

Key PointsLivestock Census in India

• The Livestock Census covers all domesticated animals and its headcounts.

• 19 censuses have been conducted in participation with State Governments and UT Administrations.

• The 20th Livestock Census was conducted in participation with all States and Union Territories.

Additional Information

• Rajasthan has the highest number of Sheep in India.

• Brazil has the largest cattle inventory in the world followed by India and China.

• West Bengal had the highest cattle population across India, at about 19 million in 2019.

Q53. Answer: (c) ÷, × and -

BODMAS Rule:

Lets check each option:

1) ×, ÷ and -

After replacing A with mathematical signs, we get:

=> 150 × 50 ÷ 15 - 25

=> 150 × 3.33 - 25

=> 499.5 - 25

=> 474.5 ≠ 20

2) ×, + and -

After replacing A with mathematical signs, we get:

=> 150 × 50 + 15 - 25

=> 7500 + 15 - 25

=> 7515 - 25

=> 7490 ≠ 20

3) ÷, × and -

After replacing A with mathematical signs, we get:

=> 150 ÷ 50 × 15 - 25

=> 3 × 15 - 25

=> 45 - 25

=> 20 = 20

4) -, × and ÷

After replacing A with mathematical signs, we get:

=> 150 - 50 × 15 ÷ 25

=> 150 - 50 × 0.6

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=> 150 - 30

=> 120 ≠ 20

Hence, 'option 3' is the correct answer.

Q54. Answer: (b) In internet terminology, IP means Internet Practice.

The correct answer is In internet terminology, IP means Internet Practice.

Key Points

• In Internet Terminology, IP means Internet Protocol.

• The Internet Protocol (IP) is a set of requirements for addressing and routing data on the Internet.

• IP can be used with several transport protocols, including TCP and UDP.

Additional Information

• Transmission Control Protocol (TCP) is a transport protocol dictates the way data is sent and received.

• A TCP header is included in the data portion of each packet that uses TCP/IP.

• User Datagram Protocol(UDP) is widely used transport protocol.

• UDP is faster than TCP, but it is also less reliable.

Q55. Answer: (c) 10 minutes

Given:

Anita walks 5/6 of the usual speed

Anita reaches the bus terminus late by 2 minutes.

Formula Used:

Distance = Speed × Time

Concept used:

If the distance is the same then the ratio of time is the reverse of the ratio of speed.

Calculation:

Usual Speed : Change speed

=> 1 : 5/6

=> 6 : 5

If the distance is the same then the ratio of time is the reverse of the ratio of speed.

Usual time : Change time

=> 5 : 6

=> 1 unit of time (6 - 5) = 2 minutes

=> 5 units = 2 × 5 = 10 minutes

Therefore The usual time taken by her to reach the bus terminus is 10 minutes.

Hence, The usual time taken by Anita is 10 minutes.

Q56. Answer: (c) Appointment of Attorney General

The correct answer is Appointment of Attorney General.

Key Points

• The Attorney General of India is appointed by the President of the country, as per Article 76.

• The person must be qualified for the post of a Supreme Court Judge to get eligible for this post.

• This is provided under Article 76 of the Indian Constitution.

• The qualifications required for a Supreme Court Judge are given in Article 124 of the Indian Constitution.

• According to Article 76 of the Indian Constitution, Attorney General of India is the highest law officer in the country and a Union Executive member.

• The Attorney General of India will hold office during the pleasure of the President, according to Article 76.

• The duration to hold the office by Attorney General is not given in the constitution and also there is no any procedure for the removal of office in the constitution.

Additional Information

• The Attorney General for India is the Indian government's chief legal advisor, and is its principal Advocate before the Supreme Court of India.

• The attorney general is necessary for advising the Government of India on legal matters referred to them.

• The 15th and current Attorney General is K. K. Venugopal. He was reappointed by President Ram Nath Kovind in 2020.

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• Senior advocate R Venkataramani was appointed as India's 16th Attorney General (AG) on 28 September 2022.

Q57. Answer: (d) The Radcliffe line is the boundary between India and China.

The correct answer is The Radcliffe line is the boundary between India and China.

Key Points

• The Radcliffe Line was the boundary demarcated between the Indian and Pakistani portions of the Punjab Province and the Bengal Presidency of British India.

• It was named after its architect, Cyril Radcliffe, who, as the joint chairman of the two boundary commissions for the two provinces, received the responsibility to equitably divide 175,000 square miles of territory with 88 million people.

• The demarcation line was published on 17 August 1947 upon the Partition of British India.

• Today, its western side is part of the India–Pakistan border while its eastern side serves as the Bangladesh–India border.

• The Radcliffe line is spread through the Rann of Kutch in Gujarat to the international border in Jammu in Jammu & Kashmir, dividing India and Pakistan into two different countries.

Additional Information

• McMahon Line is the boundary between India and China.

• In Jammu and Kashmir, four districts – Pulwama, Budgam, Srinagar, and Kishtwar grow saffron.

• V Kurien was given the title 'The Milkman of India' because he created milk powder using buffalo milk when the world was still using milk. Hence he is called the "Father of the White Revolution in India".

• Madhya Pradesh is the leading producer of copper in India. It accounts for producing 53% of copper in this country.

Q58. Answer: (d) 108

Given:

Total cost price of two flower pots = Rs. 120

Loss = 10%

Concept used:

Selling price = Cost price - Loss

Calculations:

According to the question,

Loss = 10% of CP

= 0.10 × 120

= Rs. 12

Now, the Selling price

= Cost price - Loss

= 120 - 12

= Rs. 108

Therefore The Selling price of two flower pots is Rs. 108.

Hence, the correct answer is option 4).

Q59. Answer: (d) Andes mountains – Argentina and Brazil

The correct answer is Andes mountains – Argentina and Brazil.

Key Points

• The Andes mountains extend from north to south through seven South American countries i.e Venezuela, Colombia, Ecuador, Peru, Bolivia, Chile, and Argentina.

• They are the longest continental mountain range in world.

• The range is 8,900 km long, 200 to 700 km wide, and has an average height of about 4,000 m.

• It is also the highest mountain range outside Asia.

• The Andes are also part of the American Cordillera, a chain of mountain ranges (cordillera) it consists of an almost continuous sequence of mountain ranges that forms the western backbone of North America, Central America, South America, and Antarctica.

Additional Information

• The Sutlej River is the longest of the five rivers that flow through the region of Punjab in northern India and Pakistan.

• The Nile is a major north-flowing river in northeastern Africa. It flows into the Mediterranean Sea.

• Niagara Falls is a group of three waterfalls spanning the border between the province of Ontario in Canada and the state of New York in the United States.

Q60. Answer: (a) 1982

The correct answer is 1982.

Key Points

• The National Bank for Agriculture and Rural Development (NABARD) was established in 1982.

• National Bank for Agriculture and Rural Development (NABARD) is an apex regulatory body for the overall regulation of regional rural banks and apex cooperative banks in India.

• It is under the jurisdiction of the Ministry of Finance, Government of India.

• The bank has been entrusted with "matters concerning policy, planning, and operations in the field of credit for agriculture and other economic activities in rural areas in India".

• NABARD is active in developing and implementing financial inclusion.

Additional Information

• NABARD operates at 32 Regional Offices in the country.

• NABARD conducted statutory inspections of 338 banks with reference to financial position as on 31 March 2019.

• These included 32 StCBs, 253 DCCBs and 45 RRBs.

• Reserve Bank of India divests its share in NABARD and NHB.

• With this, the Government of India now holds 100% stake in both the financial institutions.

Q61. Answer: (b) Assam

The correct answer is Assam.

Key Points

• Orang Tiger reserve is a national park located on the Northern Bank of the Bramhaputra River in Assam.

• In Darrang and Sonitpur districts of Assam.

• Covers an area of 79.28km²(30.61 sq. mi).

• Established as a sanctuary in the year 1985 and declared a national park on 13th of April 1999.

• It is the only stronghold of the Rhinoceros on the north bank of the Bramhaputra river with rich flaura and fauna.

Additional Information

• Assam is a state in northeastern India known for its wildlife, archeological sites and tea plantations.

• The 15th Chief Minister of Assam is Sri Himanta Biswa Sarma.

• The 30th Governor of Assam is Prof Jagdish Mukhi and he assumed his office on 10th October 2017.

• Dispur is the capital of Assam.

Q62. Answer: (d) Dvarasamudra

The correct answer is Dvarasamudra.

Key Points

• The capital of Hoyasala’s Kingdom is Dvarasamudra.

• Hoysalas ruled in India from about 1006 to about 1346 ce in the southern Deccan and for a time in the Kaveri River valley.

• The capital of the Hoysalas was initially situated at Belur but was then moved to Halebidu, which is also known as Dwarasamudra.

• By the 13^(th) century, they governed most of present-day Karnataka, parts of Tamil Nadu and parts of western Andhra Pradesh in Deccan India.

• The Hoysala rulers were originally from Malenadu, an elevated region in the Western Ghats.

• The Hoysala era was an important period in the development of art, architecture, and religion in South India.

Additional Information

• Mysore, a city in India's southwestern Karnataka state, was the capital of the Kingdom of Mysore from 1399 to 1947.

• Devagiri city is located in Aurangabad district, Maharashtra. It was the capital city of the Yadava dynasty.

• Kalyani is a city and a municipality and Community Development Block of Nadia district in the Indian state of West Bengal.

Q63. Answer: (a) Amnesty International – New York, USA

The correct answer is Amnesty International – New York, USA.

Key Points

• Amnesty International is an international non-governmental organization focused on human rights, with its headquarters in the United Kingdom.

• The organization says it has more than ten million members and supporters around the world.

• This stated mission of the organization is to campaign for 'a world in which every person enjoys all of the human rights enshrined

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in the Universal Declaration of Human Rights and other international human rights instruments.'

• Amnesty International was founded in London in 1961, following the publication of the article "The Forgotten Prisoners" in The Observer on 28 May 1961, by the lawyer Peter Benenson.

• Amnesty considers capital punishment to be "the ultimate, irreversible denial of human rights."

• The organization was awarded the 1977 Nobel Peace Prize for its "defense of human dignity against torture," and the United Nations Prize in the Field of Human Rights in 1978.

Additional Information

• The Organization of the Petroleum Exporting Countries(OPEC) is an intergovernmental organization of 13 countries headquartered in Austria,Vienna.

• The International Monetary Fund (IMF) works to achieve sustainable growth and prosperity for all of its 190 member countries. It is headquartered in Washington, DC.

• The World Health Organization(WHO) is a specialized agency of the United Nations responsible for international public health. It is headquartered in Geneva, Switzerland.

Q64. Answer: (c) It compresses large files into a smaller file.

The correct answer is It compresses large files into a smaller file.

Key Points

• WinZip is a Windows program that lets you archive and compress files so that you can store or distribute them more efficiently.

• WinZip is a more capable and easier-to-use Windows equivalent of two earlier programs commonly used in the DOS operating system.

• WinZip has a simple drag-and-drop interface that allows you to view individual files in a zip file without unzipping the file.

• WinZip will also launch installation programs from a zip file and automatically clean up after the installation.

• When creating a zip file (or archive), you can choose from five levels of compression.

Additional Information

• To expands smaller files into a large file - Open that folder, then select File, New, Compressed (zipped) folder. Type a name for the compressed folder and press enter

• Antivirus software, also known as anti-malware, is a computer program used to prevent, detect, and remove malware.

• To extract smaller file from larger file - Go to the folder which contains the file or subfolder you want to compress. Note that the file you are about to compress must not be open in any program. Right-click the file or folder. Select Send to, and then in the next submenu, select Compressed (zipped) folder.

Q65. Answer: (d) 2 : 1

Given:

10% of m = 20% of n

Concept used:

x% = x/100

Calculation:

According to the question,

10% of m = 20% of n

=> 0.1 of m = 0.2 of n

=> 0.1m = 0.2n

=> m : n = 2 : 1

Hence, the correct answer is option 4).

Q66. Answer: (a) Mahatma Gandhi

The correct answer is Mahatma Gandhi.

Key Points

• Mahatma Gandhi has never won the Nobel prize.

• Mohandas Gandhi has become the strongest symbol of non-violence in the 20th century.

• It is widely held in retrospect that the Indian national leader should have been the very man to be selected for the Nobel Peace Prize.

• He was nominated several times, but was never awarded the prize.

• Gandhiji was nominated in 1937, 1938, 1939, 1947, and, the last time in 1948, a few days before his assassination.

• The Nobel Committee had even expressed regret over not giving him the award.

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Additional Information

• Poet Rabindranath Tagore won the Nobel Prize for Literature in 1913 for his collection Gitanjali published in London in 1912.

• Amartya Sen, Indian economist who was awarded the 1998 Nobel Prize in Economic Sciences for his contributions to welfare economics and social choice theory and for his interest in the problems of society's poorest members.

• Children's rights activist Kailash Satyarthi was awarded the Nobel Peace Prize for “focusing attention on the grave exploitation of children for financial gain

Q67. Answer: (b) Conclusion 3 follows

Statements:

All pendent is jewellery.

No jewellery is silver.

Some silver is coin.

Possible Venn diagram:

Conclusions:

1. Some silver are jewellery → False (Since no jewellery is silver)

2. Some coin is pendent → False (Since all pendent is jewellery and there is no relation between coin and pendent.)

3. Some jewellery are pendent → True (Since all pendent is jewellery)

Hence, 'option 2' is the correct answer.

Q68. Answer: (d) -19a³

Given:

(2a3 - 3)(5a3 - 2)

Calculation:

(2a3 - 3)(5a3 - 2)

= 2a3(5a3 - 2) - 3(5a3 - 2)

= 10a6 - 4a³ - 15a³ + 6

= 10a6 - 19a3 + 6

Thus, - 19a³ is the required value.

Hence, the correct answer is option 4).

Q69. Answer: (a) Cholera – Influenza

The correct answer is Cholera – Influenza.

Key Points

• Cholera is an acute diarrheal illness caused by infection of the intestine with Vibrio cholerae bacteria.

• People can get sick when they swallow food or water contaminated with cholera bacteria.

• The infection is often mild or without symptoms, but can sometimes be severe and life-threatening.

• People with severe cholera can develop severe dehydration, which can lead to kidney failure.

• If left untreated, severe dehydration can lead to shock, coma, and death within hours.

• To prevent the bacteria from spreading, all feces (human waste) from sick persons should be thrown away carefully to ensure it does not contaminate anything nearby.

Additional Information

• Tuberculosis (TB) is caused by a type of bacterium called Mycobacterium tuberculosis. It's spread when a person with active TB disease in their lungs coughs or sneezes and someone else inhales the expelled droplets, which contain TB bacteria.

• HIV causes AIDS and interferes with the body's ability to fight infections.The virus can be transmitted through contact with infected blood, semen or vaginal fluids.

• Malaria is caused by a single-celled parasite of the genus plasmodium. The parasite is transmitted to humans most commonly through mosquito bites.

Q70. Answer: (d) Kudankulam Nuclear Power Plant

The correct answer is Kudankulam Nuclear Power Plant.

Key Points

• Kudankulam Nuclear Power Plant is the largest nuclear power station in India, situated in Kudankulam in the Tirunelveli district of the southern Indian state of Tamil Nadu.

• Construction on the plant began on 31 March 2002, but faced several delays due to opposition from local fishermen.

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• Kudankulam Nuclear Power Plant is scheduled to have six VVER-1000 reactors built in collaboration with Atomstroyexport, the Russian state company, and Nuclear Power Corporation of India Limited (NPCIL).

• Thermal capacity is 3,000 MW, and gross electrical capacity is 1,000 MW with a net capacity of 917 MW.

• As of the present time on 1st December 2021, the government is considering increasing its capability to 6000 MW, on completion of KKNPP-3 & 4 (2 X 1000 MW) and KKNPP-5 & 6 (2 X 1000 MW) which are presently under construction.

Additional Information

• Tarapur Atomic Power Station is located in Tarapur, Palghar, India. It was the first commercial nuclear power station built in India.

• The Rajasthan Atomic Power Station is located at Rawatbhata in the state of Rajasthan, India.

• Madras Atomic Power Station located at Kalpakkam about 80 kilometres south of Chennai, India, is comprehensive nuclear power production, fuel reprocessing, and waste treatment facility that includes plutonium fuel fabrication for fast breeder reactors.

Q71. Answer: (d) 2:20 hours

The supervisor enters the examination room 30 minutes before 2:30 hours => It means he came at 2:00 hours (2:30 - 00:30)

He came 40 minutes before the student who was 20 minutes late for the exam => It means the student came at 2:40 hours (2:00 + 00:40)

The student was 20 mins late for the exam => It means the examination started at 2:20 hours (2:40 - 00:20)

Hence, 'option 4' is the correct answer.

Q72. Answer: (d) Olga Tokarczuk

The correct answer is Olga Tokarczuk.

Key Points

• 'Flights', a novel about travel in the 21st century and human anatomy is written by Olga Tokarczuk.

• Polish author Olga Tokarczuk and translator Jennifer Croft discuss Tokarczuk's Flights, winner of the 2018 Man Booker International Prize.

• Her works include Primeval and Other Times, Drive Your Plow Over the Bones of the Dead, and The Books of Jacob.

• Tokarczuk is noted for the mythical tone of her writing.

• For Flights and The Books of Jacob, she won the Nike Awards, Poland's top literary prize, among other accolades; she also won five times Nike audience award.

• Her works have been translated into almost 40 languages, making her one of the most translated contemporary Polish writers.

Additional Information

• Taslima Nasrin is a Bangladeshi-Swedish writer, physician, feminist, secular humanist, and activist. She is known for her writing on women's oppression and criticism of religion.

• Suzanna Arundhati Roy is an Indian author best known for her novel The God of Small Things, which won the Man Booker Prize for Fiction in 1997 and became the best-selling book by a non-expatriate Indian author.

• Virginie Despentes is a French writer, novelist, and filmmaker. She is known for her work exploring gender, sexuality, and people who live in poverty or other marginalised conditions.

Q73. Answer: (a) 4

Given:

Two even perfect squares.

Concept used:

The square of even is always even and odd is always odd.

The square of two consecutive even numbers is always a consecutive even perfect square.

Calculation:

Let's take two consecutive even numbers i.e, 2x and 2x + 2.

So, two even consecutive perfect square is $(2x)^2$ and $(2x + 2)^2$ i.e., $4x^2$ and $4(x + 1)^2$

Now, factor of both numbers

$4x^2$ and $4(x+1)^2$. Therefore, the only common factor we get here is one and only 4, which turns out to be HCF itself.

Thus, The HCF of two even consecutive perfect squares will be at least 4.

Hence, the correct answer is option 1).

Q74. Answer: (b) 176 cm^2

Given:

Diameter of cone = 8 cm

Slant height of cone = 14 cm

Formula used:

Lateral surface Area of cone = πrl

Where, l = slant height

r = radius of cone

h = height

Calculation:

Radius = Diameter/2 = 8/2 = 4cm

Lateral surface area of the cone = πrl

= 22/7 × 4 × 14

= 176 cm^2

Thus, the lateral surface area of cone is 176 cm^2.

Hence, the correct answer is option 2).

Q75. Answer: (b) Jharkhand

The correct answer is Jharkhand.

Key Points

• Jharkhand does not share land boundary with Nepal.

• Nepal shares a border of about 1850 km with five Indian States - Uttarakhand, Uttar Pradesh, Bihar, West Bengal and Sikkim.

• An estimated 6 million Nepalese live and work in India.

• The India–Nepal border is an open international border running between India and Nepal.

• The 1,770 km (1,099.83 mi) long border includes the Himalayan territories as well as Indo-Gangetic Plain.

• The current border was delimited after the Sugauli treaty of 1816 between Nepal and the British Raj.

• Following Indian independence, the current border was recognised as the border between Nepal and the Republic of India.

Additional Information

• Hemant Soren is an Indian politician from Jharkhand, who is currently the Chief Minister of Jharkhand.

• Ranchi, in its modern form, is the capital city of the Indian state of Jharkhand.

• The present governor of Jharkhand is Ramesh Bais.

• Indian Elephant is the state animal of Jharkhand.

Q76. Answer: (d) LYPLGY

The positional values of the English alphabet is as follows:

The pattern followed here is:

'MAGICAL' is written as 'KYEGAYJ'

Similarly,

'NARNIA' will be written as:

Hence, 'option 4' is the correct answer.

Q77. Answer: (d) Kanha national park – Birds

The correct answer is Kanha national park – Birds.

Key Points

• Kanha Tiger Reserve, also called Kanha National Park, is one of the tiger reserves of India and the largest national park of Madhya Pradesh, a state in the heart of India.

• The Kanha national park has a significant population of the Royal Bengal tiger, Indian leopards, the sloth bear, barasingha, and Indian wild dog.

• The forest depicted in the famous novel by Rudyard Kipling, The Jungle Book is based on jungles including this reserve.

• It is also the first tiger reserve in India to officially introduce a mascot, "Bhoorsingh the Barasingha".

• Kanha Tiger Reserve is home to over 1000 species of flowering plants.

Additional Information

• The Little Rann of Kutch is home to the Indian wild ass (khur). To conserve this species, the Indian Wild Ass Sanctuary (IWAS) was created in 1973 and covers nearly five thousand square km.

• Jim Corbett National Park is a forested wildlife sanctuary in northern India's Uttarakhand State. Rich in flora and fauna, it's known for its Bengal tigers.

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• Kaziranga is regarded as one of the finest wildlife refuges in the world. The park's contribution in saving the Indian one-horned rhinoceros from the brink of extinction at the turn of the 20th century to harboring the single largest population of this species is a spectacular conservation achievement.

Q78. Answer: (b) √3 : 3

Given:

A cylinder and a right circular cone having the same height also have equal volumes.

Formula used:

Volume of right circular cone = (1/3) × π × r2 × h

Volume of right circular cylinder = π × r2 × h

Calculation:

Let the radius of cone = ‘r1’ cm and the radius of cylinder = 'r2' cm.

Height of cone = height of cylinder = h (say)

According to the question,

(1/3) × π × r12 × h = π × r22 × h

=> r12 = 3 × r2²

=> r12 : r2² = 3 : 1

=> r1 : r2 = √3 : 1

=> r2 : r1 = 1 : √3

=> r2 : r1 = √3 : 3

Therefore The ratio of the radius of the cylinder to that of the cone is √3 : 3.

Hence, the correct answer is option 2)

Q79. Answer: (b) Sepoy mutiny - Partition of Bengal - Champaran movement - Non cooperative movement

1905..The correct answer is Sepoy mutiny - Partition of Bengal - Champaran movement - Non cooperative movement.

Key Points

• The following chronological order of events of the freedom struggle is correct : Sepoy mutiny - Partition of Bengal - Champaran movement - Non cooperative movement.

• Indian Mutiny, also called Sepoy Mutiny or First War of Independence, widespread but unsuccessful rebellion against British rule in India in 1857–59.

• The partition of Bengal took place in the year 1905. It was a territorial reorganization of the Bengal Presidency implemented by the authorities of the British Raj.

• The Champaran Satyagraha of 1917 was the first Satyagraha movement led by Gandhi in India and is considered a historically important revolt in the Indian Independence Movement.

• Noncooperation movement, unsuccessful attempt in 1920–22, organized by Mahatma Gandhi, to induce the British government of India to grant self-government, or swaraj, to India.

Additional Information

• Modern Indian History is considered the history 1850 onwards.

• A major part of Modern Indian History was occupied by the British Rule in India.

• Modern history is the history of the world beginning after the Middle Ages.

• Generally the term "modern history" refers to the history of the world since the advent of the Age of Reason and the Age of Enlightenment in the 17th and 18th centuries and the beginning of the Industrial Revolution.

Q80. Answer: (b) 33 1/3

Given:

The number of illiterate persons in a country decreased from 150 lakhs to 100 lakhs in 10 years.

Formula used:

Percentage decrease= (Decrease/Total) × 100

Calculation:

Decrease in the number of illiterate persons in a country in 10 years

= (150 - 100) lakhs

= 50 lakhs

Percentage decrease = 50/150 × 100

= 1/3 × 100

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= 33 1/3 %

Thus, the percentage decrease is 33 1/3 %.

Hence, the correct answer is option 2).

Q81. Answer: (c) 7/12

Given:

To a number (1/3 - 1/4) is added. From the sum so obtained 1/3 of 1/4 is subtracted and the remainder is 1/3 + 1/4.

Calculation:

Let the number be x.

Now, According to the question,

x + (1/3 - 1/4) - 1/3 of 1/4 = 1/3 + 1/4

=> x + (4-3)/12 - 1/12 = (4+3)/12

=> x + 1/12 - 1/12 = 7/12

=> x = 7/12

Thus, the Required number is 7/12.

Hence, the correct answer is option 3).

Q82. Answer: (a) 2.4

Given:

The diameter of the bullock cart wheel is 14/11 m.

Formula used:

Circumference of circle = 2πr

Speed = Distance/Time

Calculation:

Diameter of the wheel = 14/11 m

Radius of the wheel = 14/22 = 7/11 m

Distance covered in one revolution = Circumference of wheel = 2πr

= 2 × 22/7 × 7/11

= 4 m

= 0.004 km

Speed of the cart = Distance/Time

= 0.004/(1/60)

= 2.4 km/h

Therefore The speed of the cart is 2.4 km/h.

Hence, the correct answer is option 1).

Q83. Answer: (d) 31 times

Given:

Interval of four bells are 5 s, 6 s, 7 s, and 8 s

Concept used:

To calculate the intervals of all bells tolling together is to take the L.C.M of the respective intervals.

Calculation:

L.C.M of 5, 6, 7, 8 =

Given four bells are tolling together at an interval of 840 s or in 840 s, bells are tolling together only one time.

=> 840 s = 840/60 = 14 minutes

Given time span = 7 h = 420 minutes

In 420 minutes, bells are tolling together = 420/14 = 30 times

Total number of times all bells rang together in 7 hours

= 1 at the beginning + 30 times

= 31 times

Therefore They toll together 31 times in 7 h (Once they have tolled at the start).

Hence, the correct answer is option 4).

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Q84. Answer: (c) Only argument II is strong.

Statement:

Oils should be totally removed from our diet.

Arguments:

I. Yes, removing oils from our diet will keep the budget in check.

→ This argument is weak as it does not seems much relevant with the statement given. Only for such reason, removal of oil from diet is not desirable.

II. No, some types of oils are essential for us as our body cannot produce them on its own.

→ The argument states that some types of oils are necessary for us as our body cannot produce them on its own which is true and strong enough.

Hence, 'option 3' is the correct answer.

Q85. Answer: (d) 40

Logic :

=> (8 × 8) + 6 = 70

=> (7 × 7) + 6 = 55

Similarly,

=> (6 × 6) + 4

=> 36 + 4 = 40

Hence, 'option 4' is the correct answer.

Q86. Answer: (a) 105

Given:

The following pie chart shows the percentage distribution of 250 students at Delhi University, who are from different parts of the world, and speaking different languages.

Calculation:

Total number of students speaking English and Spanish is 30% of 250

= 0.30 × 250

= 75

Total number of students speaking Spanish only

= 12% of 250

= 0.12 × 250

= 30

So, Total number of students who speaks Spanish as one of their languages

= 75 + 30

= 105

Thus, 105 students speak Spanish as one of the languages.

Hence, the correct answer is option 1).

Q87. Answer: (c) 5 tons

Given:

The following table shows the production of tomatoes (in tons) for three different states, X, Y, and Z over the years 2016 to 2019.

States	Years			
2016	2017	2018	2019	
X	3	4.2	5.3	4.8
Y	5	5.4	4	5.6
Z	4.1	4.3	5	5.6

Formula used:

Average = (Sum of numbers)/(Total number)

Calculation:

Production of tomatoes for state Y in 206, 2017, 2018, and 2019 are 5, 5.4, 4, and 5.6 (in tons) respectively.

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So, Average = (Sum of numbers)/(Total number)

= (5 + 5.4 + 4 + 5.6)/4

= 20/4

= 5 tons

Thus, the required average value is 5 tons.

Hence, the correct answer is option 3).

Q88. Answer: (b) Only B

Given:

The following line graph shows the number of units imported (in lakh) of products A, B, C, D and E in 2015 and 2016.

Formula used:

Average = (Sum of numbers)/(Total number)

Calculation:

Number of units imported of product A in 2016 = 30

Number of units imported of product E in 2016 = 20

Average number of units imported for product A and product E in the year 2016 is

= (30 + 20)/2

= 50/2

= 25

So, the average number of units imported for product A and product E in the year 2016 is 25 which is equal to the number of units imported for product B only in the year 2015.

Thus, the required answer is only B.

Hence, the correct answer is option 2).

Q89. Answer: (a) 26.4%

Given:

The circle graph shows the expenditure incurred by a country on various sectors, A, B, C, D, E and F, during a particular year.

Formula used:

Percentage = Fractional part × 100

Calculation:

The Fractional part of the Total expenditure on sector D

= 95°/360°

= 19/72

Percentage value of expenditure on sector D

= Fractional part × 100

= 19/72 × 100

= 26.4%

Thus, The Required percentage value is 26.4%.

Hence, the correct answer is option 1).

Q90. Answer: (b) [figure]

The logic followed here is:

Indian and Russian are the nationality of India and Russia respectively. They are the citizens of India and Russia respectively.

So, Indian and Russian come under the citizen category.

Therefore, the diagram best represents the relation between Indian, Russian and citizen is:

Hence, 'option 2' is the correct answer.

Q91. Answer: (a) Sister’s husband

Family chart:

According to the statement, the family tree is:

S is sister's husband of W.

Hence, 'option 1' is the correct answer.

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Q92. Answer: (d) B

Boxes : Y and Z

Pencils : A, B, C, D, E and F.

Step 1) E is not kept in box Y. E and C are not kept together.

Step 2) D and A are not kept in box Z.

Step 3) D and B are not kept together. A and F are not kept together.

B is kept in box Z whereas all other pencils - D,C,A are kept in box Y.

Hence, 'option 4' is the correct answer.

Q93. Answer: (d) 89/14

Given:

{6- (2/7)+(4/5)}

Decoding the given information:

Symbol	Stands for
•	÷
•	•
×	•

Substituting the operations in the equation:

6 + (2/7) ÷ (4/5) = ?

We substitute the values in the given equation and solve it using the BODMAS rule:

= 6 + (2/7) ÷ (4/5)

= 6 + (2/7)/(4/5)

= 6 + ((2×5)/(7×4))

= 6 + (5/14)

= ((14×6)+5)/14

= 89/14

Hence, the correct answer is option 4).

Q94. Answer: (a) U*, !*, DD, $&, $&, g@

From the given information, we get:

'V O C A M' is written as '$&, U*, (#, !*, O='

and,

'E R A S E' is written as 'g@, +S, g@, DD, $&'

We have the letter 'A', which is common in both statements.

And if we see the code of the statement then we can get '$&' as common.

So, we can say that 'A' is coded as: '$&'

Now from the given options, we compare the codes for 'C A M E R A' that consist of the above codes,

Option 1) U*, !*, DD, $&, $&, g@ → As letter 'A' comes twice in the word 'CAMERA' so code '$&' should also come twice fit in this option thus this is correct.

Option 2) (#, g@, DD, g@, $&, U* → '$&' is a code for A but it is not included twice so this option is incorrect.

Option 3) DD, g@, U8, (#, O=, *% → '$&' is a code for A but it is not included in this code so this option is incorrect.

Option 4) 1*, O=, $&, +S, g@, DD → '$&' is a code for A but it is not included twice so this option is incorrect.

Hence the correct answer is option 1).

Q95. Answer: (c) Z243F

The positional values of the English alphabet is as follows:

The pattern followed here is:

So the value of '?' is Z243F.

Hence, 'option 3' is the correct answer.

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Q96. Answer: (a) 97167203227

The positional values of the English alphabet is as follows:
The pattern followed here is:
‘ASPIRANT’ is written as '32118112031622'
Similarly,
'GENERATE' will be written as:
Hence, 'option 1' is the correct answer.

Q97. Answer: (a) Colour

The pattern followed in the given series is:
Stripes : Zebra - Identity of a species : Species
Similarly,
? : Flower - ? will be the identity of a flower.
We consider the given options:
Option 1) Colour - It represents the identification of a flower.
Option 2) Fruit - It has no relation with flower.
Option 3) Plant - Flower grows from a plant.
Option 4) Leaf - It is a part of a plant.
Hence the correct answer is option 1).

Q98. Answer: (b) [figure]

All pizza are fast food. So it comes under the category of fast food.
Whereas Italy is a country, so it has no direct relation with pizza and fast food.
Venn diagram 2^(nd)depicts the best relation between pizza, fast food, Italy:
Hence, 'option 2' is the correct answer.

Q99. Answer: (a) CAP

The positional values of the English alphabet is as follows:
The pattern followed is:
So, CAP is the odd one.
Hence the correct answer is option 1).

Q100. Answer: (b) Boat

Desert : Camel
Camel lives in the desert.
Similarly, River : ?
The boat is present in the river.
Hence, 'option 2' is the correct answer.

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