RRB NTPC CBT-I Official Paper (Held On: 28 Jan 2021 Shift 2) (Previous Year Paper)

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

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Scan the QR code or click the link to open it.

Q1. Nalanda University is widely recognised as one of the ancient world's great universities and an important Buddhist centre of academic excellence. Which Indian ruler founded it?

(a) Kumaragupta I
(b) Ashok
(c) Chandragupta Maurya
(d) Harshavardhan

Q2. Which of the following is NOT caused by global warming?

(a) Proper rainfall
(b) Erratic weather pattern
(c) Melting of glaciers and ice sheets
(d) Sea level rise

Q3. The State List contains the subjects of local importance. Which of the following falls under the State List?

(a) Corporation tax
(b) Banking and Insurance
(c) Taxes on income other than agricultural income
(d) Public Health and Sanitation

Q4. Select the letter that can replace the question mark (?) in the following series.

A, B, D, G, K, ?

(a) M
(b) Q
(c) O
(d) P

Q5. Select the option that can replace the question mark (?) in the following series.

DF, LH, RL, ?

(a) WS
(b) VR
(c) XZ
(d) UQ

Q6. Which of the following statements is NOT correct about antibiotics?

(a) Antibiotics are not effective against viruses.
(b) Antibiotics are effective against bacterial diseases.
(c) Side effects of antibiotics can include smallpox, filaria and diphtheria.
(d) Antibiotics are not effective against cold and flu.

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Q7. The supplement angle of 70° is:

(a) 110°
(b) 100°
(c) 250°
(d) 120°

Q8. Which of the following statements is NOT correct about Nilgiri Hills?

(a) It is located in Western Ghats of India.
(b) It is a mountainous region of Karnataka.
(c) Doddabetta is the highest peak of these hills.
(d) Tea and Coffee are grown extensively on these hills.

Q9. Select the option in which the words share the same relationship as that shared by the given pair of words.

Memory = RAM

(a) Keyboard = Alphabets
(b) CPU = Monitor
(c) Printer = LaserJet
(d) Hard Disk = USB

Q10. Select the number that can replace the question mark (?) in the following series.

7, 21, 13, 22, 19, ?

(a) 25
(b) 31
(c) 20
(d) 23

Q11. Which of the following servers convert IP addresses to domain names?

(a) DNS
(b) Email
(c) Cloud Services
(d) P2P

Q12. Which of the following statements is NOT correct about mangrove forests?

(a) Mangrove forests stabilise the coastline, reducing erosion.
(b) Mangroves are salt tolerant herbs.
(c) Mangrove trees grow in areas with oxygen-rich soil.
(d) They cannot withstand freezing temperatures.

Q13. Five bells begin to toll together and toll at intervals of 4, 6, 7, 8 and 12 seconds, respectively. After how many seconds, will they toll together again?

(a) 172
(b) 170
(c) 166
(d) 168

Q14. A certain number of men can finish a task in 70 days. If 10 more men are added to the existing staff, then the task can be finished in 10 days less. How many men were there originally?

(a) 60
(b) 40
(c) 70
(d) 50

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Q15. When the price of a gun was increased by 25%, the number of guns sold decreased by 15%. What was the effect on the sales?

(a) 10% increase
(b) 6.25% increase
(c) 5.5% decrease
(d) 3.75% decrease

Q16. A cylinder and a cone have the same height and the same radius as that of their base. The ratio of the volume of the cone to the volume of the cylinder is:

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

Q17. A sum of Rs. 800 is invested for 3 years at simple interest rate. The rates of interest for the 3 years are 6%, 8% and 10% per annum. Find the total amount of interest earned at the end of 3 years.

(a) Rs. 195
(b) Rs. 192
(c) Rs. 185
(d) Rs. 188

Q18. X and Y together can finish a task in 20 days. Y alone can finish the same task in 25 days. In how many days can X alone finish the task?

(a) 75
(b) 125
(c) 50
(d) 100

Q19. If √x/144 = 27/12, then find the value of x

(a) 729
(b) 724
(c) 629
(d) 727

Q20. According to which article of the Constitution of India, it is the fundamental duty of every citizen to protect the natural environment?

(a) Article 51A
(b) Article 55
(c) Article 48A
(d) Article 52

Q21. Which of the following institutions supported Neeranchal National Watershed Project to improve watershed management program?

(a) World Bank
(b) ADB
(c) FAO of the UN
(d) WHO

Q22. Which of the following does NOT impact a computer's general performance?

(a) Hard Disc Speed
(b) RAM Size
(c) Size of the Graphics Card
(d) CPU Speed

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Q23. Constituent Assembly drafted the Constitution for Independent India. It was set up under:

(a) The Government of India Act of 1919
(b) The Government of India Act of 1909
(c) Cabinet Mission plan of 1946.
(d) Indian Independence Act of 1947

Q24. A man incurs a loss of 15% by selling a radio for Rs. 510. At what price should he sell it in order to make a profit of 15%?

(a) Rs. 660
(b) Rs. 670
(c) Rs. 690
(d) Rs. 680

Q25. The LCM of 3/2, 4/6, 5/8 and 6/10 is:

(a) 1/30
(b) 1/60
(c) 30
(d) 60

Q26. Select the option in which the words share the same relationship as that shared by the given pair of words.

Actor = Theatre

(a) Doctor = Medicine
(b) Swimmer = Swimming pool
(c) Teacher = Examination
(d) Writer = Book

Q27. Which of the following statements is CORRECT about El Nino?

(a) India is not affected by El Nino.
(b) It is unusual cooling of surface waters in the Pacific Ocean.
(c) It originates from the Mediterranean Sea.
(d) It is unusual warming of surface waters in the Pacific Ocean.

Q28. Select the option that is related to the third term in the same way as the second term is related to the first term.

Tea : Leaves :: Coffee : ?

(a) Leaves
(b) Powder
(c) Beans
(d) Plant

Q29. Seven friends S1, S2, S3, S4, S5, S6 and S7 are sitting in a row facing towards north (not necessarily in the same order). S4 does not sit at any of the extreme ends. Only three friends sit between S5 and S7. Only two friends sit between S3 and S5. Both S5 and S7 do not sit at any of the extreme ends. S2 sits in the middle of the row.

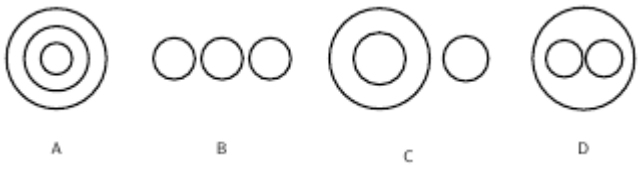
Who are the neighbours of S2?

(a) S7 and S3
(b) S1 and S3
(c) S4 and S5
(d) S4 and S3

Q30. Select the Venn diagram that best represents the relationship between the following classes.

Raipur, Chhattisgarh, Bihar

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

Q31. Who is the author of the book titled "Dreams from My Father"?
(a) Donald Trump
(b) Nelson Mandela
(c) Barack Obama
(d) Tony Blair

Q32. Which among the following states has the longest mainland coastline in India?
(a) Odisha
(b) Tamil Nadu
(c) Gujarat
(d) Maharashtra

Q33. Which of the following is NOT correctly matched?
(a) Typhoid : Bacteria
(b) Measles : Bacteria
(c) Malaria : Protozoa
(d) Tetanus : Bacteria

Q34. As per DPIIT, which of the following sectors of Indian economy received the highest inflows of foreign direct investment (FDI) in 2019-2020?
(a) Service Sector
(b) Computer Services
(c) Financial Services
(d) Construction Sector

Q35. $\cos^2 31 + \cos^2 59$ is equal to:
(a) 1
(b) $2\cos^2 31$
(c) $2\sin^2 31$
(d) 0

Q36. If a man crosses a street, 700 m long, in 7 min, then his speed is:
(a) 8 km/h
(b) 9 km/h
(c) 7 km/h
(d) 6 km/h

Q37. Simple interest on a sum of money, at 5% per annum for 2 years, is Rs. 50. The compound interest on the same sum for the same period at the same interest rate is:
(a) Rs. 51.30
(b) Rs. 51.25
(c) Rs. 51.40
(d) Rs. 51.35

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Q38. Which airport of India won the Airport Service Quality (ASQ) Award for 2019 in the Category of Best Customer service by size (25-40 million passengers) in Asia-Pacific region?

(a) Biju Patnaik International Airport Bhubaneswar
(b) Kempegowda International Airport Bangalore
(c) Delhi Airport
(d) Chennai International Airport

Q39. In HTTP, P stands for:

(a) Protocol
(b) Policy
(c) Pattern
(d) Program

Q40. Which of the following statements is NOT correct about Ayushman Bharat Scheme (ABS)?

(a) Senior Citizen Health Insurance Scheme (SCHIS) is not covered under the scheme.
(b) The scheme will have a defined benefit cover of Rs. 5 lakh per family per year.
(c) Ayushman Bharat is a National Health Protection Scheme.
(d) Rashtriya Swasthya Bima Yojana (RSBY) has been subsumed under Ayushman Bharat Scheme (ABS).

Q41. Chlorophyll contains which of the following elements?

(a) Magnesium
(b) Iron
(c) Calcium
(d) Aluminium

Q42. The sum of the first six prime numbers is:

(a) 26
(b) 41
(c) 29
(d) 28

Q43. What percent of 25 is the number 0.06?

(a) 0.24%
(b) 0.22%
(c) 0.18%
(d) 0.20%

Q44. Which number is 30% less than 70?

(a) 49
(b) 43
(c) 47
(d) 45

Q45. Among the following, which state of India does not recognize Jews as a religious minority?

(a) Maharashtra
(b) Kerala
(c) West Bengal
(d) Gujarat

Q46. If x^4 + 1/(x^4) = 322 and x > 1, then what is the value of $x^3 - 1/(x^3)$?

(a) 72
(b) 74
(c) 76
(d) 78

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Q47. Five friends A, B, C, D and E work as a doctor, lawyer, Businessman, Engineer and Cook and live in Delhi, Mumbai, Goa, Panji and Punjab (not necessarily in the same order). The profession of no two friends is same and no two friends live at the same place. A works as a Cook but does not live in Goa and Panji. B and D live in Delhi and Mumbai respectively. C works as a lawyer. Doctor lives in Goa.

Which of the following combination is definitely TRUE?

(a) C - Panji - lawyer
(b) D - Mumbai - Engineer
(c) A - Panji - Cook
(d) B - Delhi - Businessman

Q48. The UN system is based on six principal organs. Which of the following organs does NOT come under it?

(a) Food and Agriculture Organization of the United Nations
(b) The Economic and Social Council
(c) The UN Secretariat
(d) The International Court of Justice

Q49. The length and breadth of a square are increased by 30% and 20% respectively. The area of the resulting rectangle exceeds the area of the square by:

(a) 50%
(b) 56%
(c) 40%
(d) 25%

Q50. Which of the following is NOT a navigation satellite system?

(a) BDS
(b) GAILILEO
(c) NavIC
(d) MEO

Q51. What is the least number which when increased by 7 is divisible by 16, 18, 24 and 28?

(a) 1006
(b) 1008
(c) 9999
(d) 1001

Q52. Identify the number from the given options that does NOT belong to the following series.

3, 7, 17, 31, 59

(a) 7
(b) 31
(c) 59
(d) 17

Q53. Find the sum of the face values of 8 and 5 in the number 817354.

(a) 40
(b) 17
(c) 13
(d) 800050

Q54. Find the face value of 7 in 765419.

(a) 7
(b) 7 × 10^6
(c) 7 × 105
(d) 7 × 104

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Q55. At a firing range, three shooters are firing at their respective targets. The first, the second and the third shooter hit their target once every 4 seconds, 5 seconds, and 6 seconds, respectively. If all of them hit their targets together at 10:00 am, then at what time will they hit their targets together again?

(a) 10:03 am
(b) 10:01 am
(c) 10:02 am
(d) 10:04 am

Q56. If the mean of the following data is k, then find the value of k.

Value	3	2	k	4	5
Frequency	k	2k	3k	4k	5k

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

Q57. If one angle of a parallelogram is 18° less than twice the smallest angle of the same parallelogram, then the largest angle of the parallelogram is:

(a) 108°
(b) 104°
(c) 120°
(d) 114°

Q58. Finland was ranked the happiest country in the world, as of March 2020. World Happiness Report is published annually by:

(a) World Economic Forum (WEF)
(b) United Nations Sustainable Development Solutions Network (UNSDSN)
(c) Institute for Economics and Peace (IEP)
(d) World Bank

Q59. If ORANGE is coded as QOCKIB, how will FELLOW be coded as?

(a) HNIBTQ
(b) HNBIQT
(c) HBNIQT
(d) HBINTQ

Q60. Which mobile app won the National e-Governance Award 2019?

(a) JAN DHAN
(b) IRCTC Rail Connect
(c) UPI
(d) BHIM

Q61. Non-clotting of blood occurs because of the deficiency of:

(a) Vitamin B
(b) Vitamin A
(c) Vitamin K
(d) Vitamin D

Q62. If Apple = Brspj, and Mango = Ncqkt, then Grapes will be equal to:

(a) Gsbqdu
(b) Htdtjy
(c) Hytchk
(d) Hscsjy

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Q63. Karachi session of Indian National Congress was held in 1931. It was presided over by:

(a) Jawaharlal Nehru
(b) Sardar Patel
(c) Dr. BR Ambedkar
(d) Mahatma Gandhi

Q64. Name the centre in India which is used for launching satellites.

(a) Barren Island
(b) North Eastern Space Applications Centre (NESAC)
(c) ISTRAC ground station
(d) Wheeler Island

Q65. Which option will replace the question mark in the below series?

A25 : Y1 :: L14 : ?

(a) H13
(b) 13H
(c) M12
(d) N12

Q66. Name the country which is NOT a member of The South Asian Free Trade Area (SAFTA).

(a) Maldives
(b) Pakistan
(c) Singapore
(d) Afghanistan

Q67. What is the remainder when 7^(29) + 4 is divided by 6?

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

Q68. There are six students A, B, C, D, E and F in a class. Their height is compared. D is shorter than B but taller than A. B is shorter than C. A is taller than E and F. How many students are shorter than D?

(a) Three
(b) Four
(c) Two
(d) Five

Q69. What is the name of the Company which is responsible for Bhopal tragedy in 1984 that happened due to accidental leakage of Methyl Isocyanate?

(a) Central Board of Petrochemicals
(b) National Polymer
(c) Union Carbide
(d) Bhopal Hydrocarbons

Q70. Which of the following movements began with the Dandi March?

(a) Champaran Movement
(b) Quit India Movement
(c) Non Co-operation Movement
(d) Civil Disobedience Movement

Q71. Indian classical dance form Kuchipudi developed in the state of _____.

(a) Karnataka
(b) Kerala
(c) Andhra Pradesh

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(d) Odisha

Q72. If $\sin\theta + \text{cosec}\,\theta = \sqrt{5}$, then the value of $\sin^3\theta + \text{cosec}^3\theta$ is:

(a) $3\sqrt{5}$
(b) 0
(c) $2\sqrt{5}$
(d) $1/\sqrt{5}$

Q73. When we travel across the countryside, we see red soils in many regions. What is the reason for its colour?

(a) Presence of nitrogen
(b) Abundance of humus
(c) Abundance of ferric oxides
(d) Presence of magnesium

Q74. Find the value of $7 - [3 - \{7 - (5 - (4 - 3))\}]$

(a) 0
(b) 7
(c) 9
(d) 8

Q75. As of November 2020, which country has topped the FIFA World Football Rankings 2020?

(a) Belgium
(b) France
(c) Brazil
(d) Germany

Q76. By selling 200 pens, a shopkeeper gains the selling price of 40 pens. Find the gain percentage.

(a) 25%
(b) 20%
(c) 30%
(d) 35%

Q77. Which of the following statements is NOT correct about Raja Ram Mohan Roy?

(a) He wrote a book 'A gift to monotheists'.
(b) He is considered as the pioneer of modern Indian Renaissance.
(c) He believed in social equality of all human beings.
(d) He founded Arya Samaj.

Q78. Which of the following statements is NOT correct about the Pacific ring of Fire?

(a) Its length is approximately 40,000 km.
(b) It is a belt of active volcanoes.
(c) 75% of Earth's volcanoes are located along the Ring of Fire.
(d) The Pacific Rim covers the eastern shores of North America and South America.

Q79. Name the country that does NOT possess nuclear weapons.

(a) Japan
(b) France
(c) China
(d) Russia

Q80. Which of the following is NOT listed in UNESCO World Heritage Sites in India?

(a) Fatehpur Sikri
(b) Sun Temple, Konark
(c) Group of Monuments at Mandu, Madhya Pradesh
(d) Agra Fort

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Q81. Which of the following is considered as the first Vernacular newspaper of India?

(a) Samachar Darpan
(b) Madras Courier
(c) Bengal Gazette
(d) Amar Ujala

Q82. Name the gas which is filled in wick-type lighters.

(a) Butane
(b) Helium
(c) Nitrogen
(d) Methane

Q83. If the total surface area of a cube is 864 m^2, then its volume is:

(a) 1727 m^3
(b) 1728 m^3
(c) 1726 m^3
(d) 1729 m^3

Q84. If $x + y = 75$ and $\sin x : \sin y = 1/\sqrt{2} : 1/2$, then $x : y$ is:

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

Q85. Read the given statements and conclusions carefully and decide which of the conclusions logically follow(s) from the statements.

Statements:

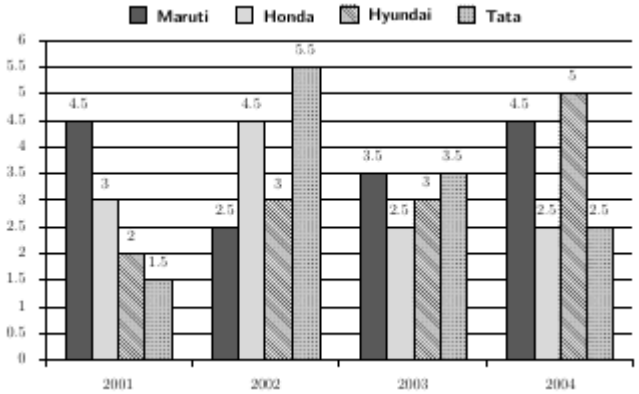
1. All mouses are keyboards.
2. Some keyboards are keyless.

Conclusions:

1. Some keyless are mouses.
2. All keyless are keyboards.

(a) Only conclusion 1 follows
(b) Only conclusion 2 follows
(c) Neither conclusion 1 or 2 follows
(d) Both conclusions 1 and 2 follow

Q86.



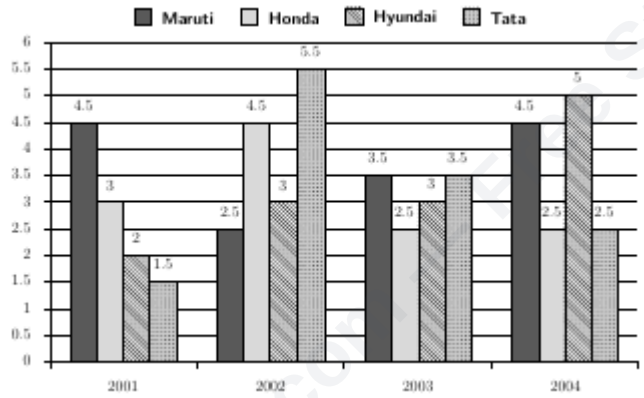
The given bar chart shows production of cars by different manufacturers from year 2001 to 2004. All values are in thousands.

What was the total production of cars in thousands from 2001 to 2004?

(a) 53500

(b) 52000
(c) 52500
(d) 51000

Q87.



The given bar chart shows production of cars by different manufacturers from year 2001 to 2004. All values are in thousands.

Which year has the maximum production of cars?

(a) 2002
(b) 2004
(c) 2003
(d) 2001

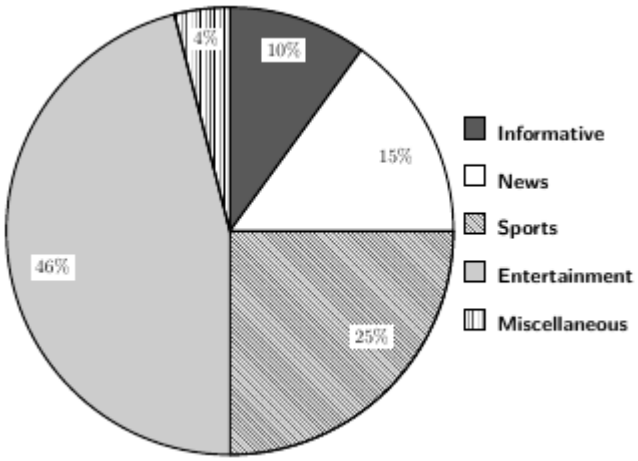
Q88. The following table shows the number of misprints in various pages of a book.

Number of misprints (per page)	0	1	2	3	4	5
Number of pages	154	95	36	7	6	2

What is the total number of pages in the book and approximately what percentage of them are erroneous?

(a) 146, 95%
(b) 154, 95%
(c) 300, 51%
(d) 300, 49%

Q89. The given pie chart shows the viewers watching different types of channels on TV.



Assuming that the TV watching population is 10,000 people. by what percentage would Sports Channels have to grow their viewership in order to equal the current viewership of the Entertainment channels?

(a) 84%

(b) 21%
(c) 119%
(d) 100%

Q90. Read the given statements and conclusions carefully and decide which of the conclusions logically follow(s) from the statements.

Statements:

1. All songs are old.
2. Some old are sweet.

Conclusions:

1. Some songs are sweet.
2. All songs are sweet.
3. Some sweets are old.
4. No old is a song.

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

Q91. Four friends U, V, W and X work in a garage. W knows more than V. U knows more than W, but less than X. Who is the most knowledgeable person amongst all?

(a) U
(b) W
(c) X
(d) V

Q92. Read the given statements and conclusions carefully and decide which of the conclusions logically follow(s) from the statements.

Statements:

1. Lack of education is responsible for lower income of a state.
2. Bihar ranks very low in per capita income.

Conclusions:

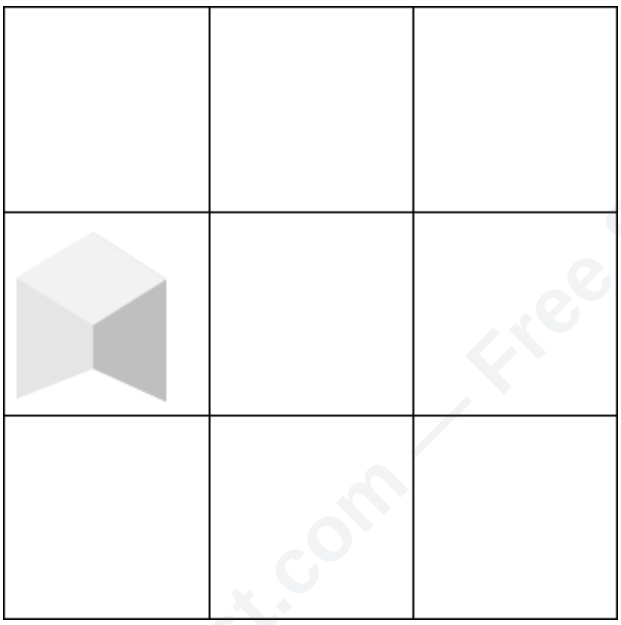
I. Bihar has a lower rate of education,

II. Bihar is a very historic state.

(a) Only conclusion II follows.
(b) Both conclusions follow.
(c) Neither of the conclusions follows.
(d) Only conclusion I follows.

Q93. Find the number of squares in the given figure.

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(a) 14
(b) 10
(c) 12
(d) 9

Q94. There are 5 friends A, B, C, D and E and each of them likes only one fruit out of guava, pineapple, banana, mango and litchi and eat it once a week. They eat their favorite fiuit on week days, between Monday and Friday. A likes litchi and he does not eat it on Monday and Tuesday. E does not like mango and pineapple and he eats his fruit on the day before the last day of the week. B likes mango and eats it on the day just before C who likes Banana. D eats on Monday.

Who among the following likes pineapple?

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

Q95. Consider the given statement and decide which of the given assumptions is/are implicit in the statement.

Statement:

It is required to have a bachelor's degree for getting a job for the post of officer.

Assumptions:

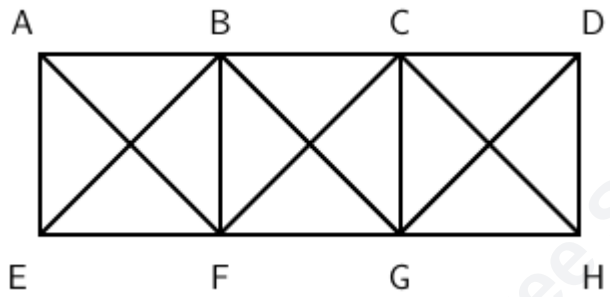
I. No one can get a job without a bachelor's degree.

II. No officer has a higher degree.

(a) Only assumption I is implicit.
(b) Both assumptions are implicit.
(c) Only assumption II is implicit.
(d) Neither I nor II is implicit.

Q96. Find the number of triangles in the given figure.

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(a) 28
(b) 24
(c) 29
(d) 26

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

Jaggery : Sugar :: Pepper : ?

(a) Green
(b) Chilli
(c) Salt
(d) White

Q98. A man has five stones A, B, C, D and E and each stone having a different weight. E's weight is less than A but more than C. A is heavier than D and B. B is heavier than D. If weight of B and E is 120 g and 155 g respectively, then which of the given options could be the possible weight of C?

(a) 162 g
(b) 156 g
(c) 152 g
(d) 159 g

Q99. Select the option that can replace the question mark (?) in the following series.

D3K, E5J, F7I, G11H, ?

(a) H13G
(b) I13J
(c) H15G
(d) G17H

Q100. In a certain language, Bottle is written as Cqwunh. How will Liquid be written as in that language?

(a) Mkthgb
(b) Mktzmj
(c) Mktvkg
(d) Mktvgk

ANSWER KEY

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

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81	a	82	a	83	b	84	c	85	c	86	a	87	a	88	d	89	a	90	b
91	c	92	d	93	a	94	a	95	d	96	a	97	b	98	c	99	a	100	c

SOLUTIONS

Q1. Answer: (a) Kumaragupta I

The correct answer is kumargupta I

Key Points

• Kumargupta I was an emperor of the Gupta Empire of Ancient India.

• He was the Gupta emperor Chandragupta II and queen Dhruvadevi

• he appears to have kept control of the land he inherited which extended from gujarat in the west to the bengal region in the east

• The Nalanda monastery university was founded by kumargupta I, according to numeristic evidence uncovered at Nalanda.

• Nalanda was an acclaimed Mahavihara, a large Buddhist monastery in the ancient kingdom of Magadha (modern-day Bihar) in India.

• from the fifth century CE to 1200 CE the location which lies 95 kilometers southeast of patna close to the town of bihar sharif, served as a centre of learning.

• It is a UNESCO World Heritage Site.

Additional Information

• Ashoka was an Indian emperor of the Maurya empire son of bindusara

• He was remembered as a model king who governed a huge and diverse mauryan kingdom with dharma at the core of this worldview.

• Chandragupta was the founder of the Mauryan dynasty and the first emperor to unify most of India under one administration.

• He is regarded with rescuing the nation from poor leadership and liberating it from foreign hegemony.

• Harshavardhana was an Indian emperor who ruled northern India

• He belonged to the Pushyabhuti also called the Vardhana dynasty.

• He was a Hindu who later embraced Mahayana Buddhism.

Q2. Answer: (a) Proper rainfall

The correct answer is Proper Rainfall.

Key Points

• Global warming

• The phenomenon of a slow rise in temperature close to the earth's surface is known as global warming.

• It was largely linked to the greenhouse effect brought on by rising carbon dioxide, CFC, and other pollution levels.

• Carbon dioxide (CO2); Water vapour (H2O), methane (CH4), nitrous oxide (N2O), and ozone (O3) are the main greenhouse gases in the atmosphere of the Earth.

• Causes of global warming:

• Erratic weather pattern, the weather pattern doesn't proceed in a predictable manner; instead, it occurs at unexpected moments or does so irregularly due to increase temperature.

• Melting of glaciers and ice sheets, rapid snowmelt, and severe droughts will result in greater water shortages and a higher danger of wildfires in the American West.

• Sea level rise, coastal flooding will result from rising sea levels along the Eastern Seaboard, particularly in Florida and adjacent regions like the Gulf of Mexico.

• Global warming can also be caused by an imbalance in the ecosystem brought on by the destruction of forests.

• It is not caused by proper rainfall, because proper rainfall occurs when the temperature is normal.

Additional Information

• Effects of Global Warming:

• The temperature of the world has risen by 1 degrees since 1880.

• Since glaciers are melting more frequently as a result of this, the sea level is rising.

• The consequences for coastal regions will be devastating.

• It has impacted the coral reefs, which may result in the extinction of plants and animals.

• Several plants and animals lose their habitats due to a change in the temperature on a worldwide scale.

• In this scenario, the creatures must leave their native habitat, and many of them even go extinct.

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• The following elements cause global warming: Carbon dioxide, Methane, Hydro Fluorocarbon (HFCs), and Nitrous Oxide.

Q3. Answer: (d) Public Health and Sanitation

The correct answer is Public health and sanitation.

Key Points

• The Indian Constitution is a detailed document that addresses every aspect of national governance.

• The constitution also outlines how the state and central governments' respective roles and responsibilities are to be divided.

• The most significant section of the constitution in this regard is the Seventh Schedule.

• Three lists—the Union List, State List, and Concurrent List—are used to specify the roles and duties.

• State List

• The state list is a list of 61 subjects over which state legislatures have authority.

• This list includes important regional and local issues that call for state-specific responses as well as issues that allow for a range of interest.

• It outlines areas of jurisdiction, including those for public order, prisons, the production, manufacture, transport, purchase, and sale of alcoholic beverages, public health and sanitation, agricultural education and research, fisheries, state public services, etc.

Additional Information

• Union List

• The Union List is a list of 100 topics over which the Union or Center government has exclusive authority.

• It is a list of issues of national significance about which only the central government has the authority to make judgments.

• It includes subjects of National Importance such as banking, atomic energy, rail transportation, post, and foreign affairs.

• Concurrent List

• There are 47 topics on the concurrent list that are under the jurisdiction of both the Union and the State legislatures.

• The Indian Constitution adds topics like population control, family planning, industrial and labour conflicts, forests, criminal law, criminal process, preventive detention, trade unions, and preservation of wild animals and birds to the concurrent list.

Q4. Answer: (d) P

Explanation:

According to the English alphabet and its positional values:

The pattern followed in the given series is:

Alphabets are increased by 1 positional values from the previous alphabet.

Hence the correct answer is option 4.

Q5. Answer: (b) VR

Explanation:-

According to the English alphabet and its positional values:

The pattern followed in the given series is:

• First alphabets is increased to -2 positional value of the previous difference.

• Second alphabets is increased to +2 positional value of the previous difference.

Hence the correct answer is option 2.

Q6. Answer: (c) Side effects of antibiotics can include smallpox, filaria and diphtheria.

The correct answer is Side effects of antibiotics can include smallpox, filaria and diphtheria.

Key Points

• Side effects of antibiotics can include smallpox, filaria and diphtheria is the wrong statement.

• Antibiotics are medicines common to prevent and treat bacterial infections.

• Antibiotic resistance happens when bacteria change in reaction to the use of these medicines.

• Bacteria, not humans or animals, become antibiotic-resistant.

Additional Information

• Viruses are unlike to bacteria; they have a dissimilar structure and a unlike way of surviving, so antibiotics are not effective against viruses.

• Antibiotics kill bacteria or stop them from reproducing and spreading, so antibiotics are effective against bacterial diseases.

• Antibiotics at most fight bacteria, and not viruses, they're generally ineffective against colds.

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Q7. Answer: (a) 110°

Given:

Angle = 70°

Formula:

Supplementary angles sum = 180°

Calculation:

=> Supplement angle of 70°= 180° - 70° = 110°

The supplement of 70° is 110°.

Q8. Answer: (b) It is a mountainous region of Karnataka.

The correct answer is It is a mountainous region of karnataka.

Key Points

• Nilgiri Hills

• Southern India's Nilgiri Hills is a region of mountains, forests, and tea and coffee plantations that is shared by the states of Tamil Nadu, Kerala, and Karnataka.

• The purple-blue Neelakurunji flowers that grow in the Shola forests of the Nilgiri hills are the origin of the name for these mountains.

• They join the Western and Eastern Ghats at the trijuction of the three states of Karnataka, Kerela, and Tamil Nadu.

• It is the part of the Western Ghats of India.

• There are at least 24 peaks in the Nilgiri Mountains that are higher than 2,000 metres (6,600 feet), with Doddabetta being the highest peak at 2,637 metres (8,652 ft).

• It is not the mountainous region of Karnataka, it is the mountainous region of Tamil Nadu.

Additional Information

• Several odd tribal groups, including the Toda, Kota, Badaga, and Kurumba, are found in the Nilgiri Hills.

• The Nilgiri Hills are a protected bio-reserve in India and are a part of the Nilgiri Biosphere Reserve, which is a part of the UNESCO World Network of Biosphere Reserves.

• The Moyar River separates the Nilgiri Hills from the Karnataka Plateau to the north.

• Kolakambai Fall, the highest waterfall, is located north of Kolakambai Hill and drops 400 feet without interruption (120 m).

• With the second-highest annual rainfall in India, the Nilgiri Hills receive almost 14 feet of rain annually.

Q9. Answer: (c) Printer = LaserJet

Explanation:-

The relation between the given pair is:

Memory = RAM: RAM is categorized as a type of memory.

From the given options:

Option 1) Keyboard = Alphabets -- Keyboard consists of alphabets.

Option 2) CPU = Monitor -- CPU and monitor are two different parts of a computer system.

Option 3) Printer = LaserJet -- LaserJet is categorized as a type of printer.

Option 4) Hard Disk = USB -- Hard disk and USB are types of storage devices.

Hence the correct answer is option 3.

Q10. Answer: (d) 23

Explanation:-

The pattern followed in the given series is:

• Numbers placed at odd places have a difference of +6.

• Numbers placed at even places have a difference of +1.

Hence the correct answer is option 4.

Q11. Answer: (a) DNS

The correct answer is DNS.

Key Points

• DNS serves to manage which server a user will access when they enter a domain name into their web browser by converting requests for names into IP addresses.

• In order for browsers to load internet resources, DNS converts domain names into IP addresses.

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• DNS changes the domain names to IP addresses so that browsers can load internet resources.

Additional Information

• Email is a technique for sending electronic mail or messages between individuals.

• A worldwide e-mail network allows people to exchange e-mail messages very quickly.

• E-mail is the electronic equivalent of a letter, but with advantages in timeliness and flexibility.

• A variety of services are referred to as "cloud services" and are made available to businesses and consumers online on demand.

• these services are created to offer quick, inexpensive access to resources and applications without the need for internal hardware or infrastructure

• P2P is a type of computer network often used for the distribution of digital media files.

Q12. Answer: (c) Mangrove trees grow in areas with oxygen-rich soil.

The correct answer is Mangrove trees grow in area with oxygen rich soil.

Key Points

• Mangrove Forest

• Mangrove forests are fertile wetlands that grow in coastal intertidal zones.

• They are also known as mangrove swamps, mangrove thickets, or mangals.

• By stabilising the coastline, mangrove forests help to prevent erosion brought on by storm surges, currents, waves, and tides.

• Mangroves are salt tolerant herbs.

• Mangrove trees come in roughly 80 different species. All of these trees thrive in low-oxygen soil environments with slowly moving rivers that allow fine sediments to build up.

• Because mangrove trees cannot tolerate freezing temperatures, mangrove forests only occur at tropical and subtropical latitudes.

Additional Information

• Many mangrove forests can be identified by the tangled mass of prop roots that give the trees the appearance of being elevated above the water.

• The majority of mangroves experience flooding at least twice daily because of the trees' ability to cope with the daily rise and fall of the tides due to their complex web of roots.

• Fish and other species seeking food and safety from predators find these woods to be attractive because of the intricate root systems of mangroves.

• Mangrove forests serve as centers for the movement of matter and energy between these systems because they are situated where the land, ocean, and atmosphere converge.

• These mangrove ecosystems' most important components are marine microorganisms.

Q13. Answer: (d) 168

Given:

Five bells begin to toll together and toll at intervals of 4, 6, 7, 8 and 12 seconds, respectively.

Concept used:

Lowest common multiple

Calculation:

The three bells will toll together again when the time is equal to the LCM of 4, 6, 7, 8 and 12.

The LCM of 4, 6, 7, 8 and 12 is 168.

Therefore The three bells will toll together again in 168 seconds.

Q14. Answer: (a) 60

Given:

A certain number of men can finish a task in 70 days. If 10 more men are added to the existing staff, then the task can be finished in 10 days less.

Concept used:

If x men take y days to finish a work, then one man alone can finish 1/xy in 1 day.

Calculation:

Let the initial number of men be x.

Then, a man alone can complete 1/70x part of the task in 1 day.

If 'x+10' can finish the task at the same rate in 60 days, then (x+10)×1/70x× 60=1

Solving for x,

x=600/10=60

Therefore The initial number of men were 60.

Q15. Answer: (b) 6.25% increase

Given:

When the price of a gun was increased by 25%, the number of guns sold decreased by 15%.

Formula used:

Percentage change = (new value - old value)/(old price)×100

Calculation:

Let the old price of a gun be Rs. 100 and the number of guns be 100.

Old turnover = 100 × 100 = 10000

When the price of a gun is increased by 25%, the new price is Rs. 125. The number of guns sold is 85.

New turnover = 125 × 85 = 10625

Percentage change = (new value - old value)/(old price)×100

Therefore The sales increased by 6.25%.

Q16. Answer: (d) 1 : 3

Shortcut Trick

For a cylinder and a cone having the same radius (r) and same height (h):

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

Volume of Cone = $(1/3) \times \pi r^2 h$

Ratio = Volume of Cone : Volume of Cylinder = (1/3) : 1 = 1 : 3

Therefore The correct answer is 1 : 3.

Alternate Method

Given:

=> Radius of cylinder = Radius of cone = r

=> Height of cylinder = Height of cone = h

Formula Used:

=> Volume of a Cylinder = $\pi r^2 h$

=> Volume of a Cone = $(1/3) \times \pi r^2 h$

Calculations:

=> Required Ratio = (Volume of Cone) / (Volume of Cylinder)

=> Ratio = $[(1/3) \times \pi \times r^2 \times h] / [\pi \times r^2 \times h]$

=> Ratio = (1/3) / 1

=> Ratio = 1 : 3

Therefore The correct answer is 1 : 3.

Additional Information

Curved Surface Area (CSA)

CSA of Cylinder = $2 \times \pi \times r \times h$ | CSA of Cone = $\pi \times r \times l$ (where l is slant height).

Slant Height of Cone

The relation between slant height (l), radius (r), and vertical height (h) is $l = \sqrt{(r^2 + h^2)}$.

Total Surface Area (TSA)

TSA of Cylinder = $2\pi r(r + h)$ | TSA of Cone = $\pi r(r + l)$.

Q17. Answer: (b) Rs. 192

Given:

P = Rs. 800

R1 = 6%, R2 = 8% and R3 = 10% per annum.

t = 3 years = (1 + 1 + 1) years

Formula used:

Simplie interest = (P× r× t)/100, where P is the principle amount, r is the interest rate and t is time in years.

Calculation:

Interest after first year = 800×6×1/100=48

Interest after second year = 800×8×1/100=64

Interest after third year = 800×10×1/100=80

Total interest earned in 3 years = 48 + 64 + 80 = Rs. 192

Therefore The total amount of interest earned at the end of 3 years is Rs. 192.

Q18. Answer: (d) 100

Given:

X + Y = 20 days

Y alone = 25 days

Calculation:

1/(X+Y) + 1/Y = 1/X

1/(X + Y) = 1/20

1/X = 1/20 - 1/25

=> 1/X = (25 - 20) / (20×25)

=> 1/X = 5 / 500

=> 1/X = 1 / 100

=> X = 100 days

Q19. Answer: (a) 729

Given:

√x/144 = 27/12

Concpet used:

Sqauring both sides of a equation

Calculation:

Sqauring both sides of the given equation,

$x/144 = (27^2)/(12^2)=729/144$

Solving for x,

x = 729

Therefore The value of x is 729.

Q20. Answer: (a) Article 51A

The correct is Article 51A.

Key Points

• Article 51A

• Some of the Fundamental Duties under article 51-A which should be followed by every Indian citizen are mentioned below:

• to abide by the Constitution, its principles, and institutions, as well as the flag and national anthem;

• to respect and support the noble principles that motivated our nation's struggle for freedom;

• to safeguard and defend India's sovereignty, unity, and integrity;

• to be compassionate toward all living things and to protect and improve the natural environment, including forests, lakes, rivers, and wildlife;

• to respect and protect the rich cultural history of our diverse culture;

Additional Information

• Article 55 states that Every elected member of a State's Legislative Assembly is entitled to as many votes as there are multiples of 1,000 in the ratio created by dividing the State's population by the total number of elected Assembly members.

• Article 48A states that The State shall make efforts to protect the country's economic forests and wildlife while also attempting to keep and improve the environment.

• Article 52 states that There shall be a President of India.

Q21. Answer: (a) World Bank

The correct answer is World Bank.

Key Points

• Neeranchal National Watershed Project

• Neeranchal is a national watershed management project that receives funding from the World Bank.

• This project is established to improve watershed management program.

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• Neeranchal is intended to further strengthen and offer technical support to the Pradhan Mantri Krishi Sinchayi Yojana (PMKSY) Watershed Component in particular and to all of its components in general to increase its delivery capacity.

• There are nine participating states that are putting the initiative into action: Andhra Pradesh,Madhya Pradesh, Maharashtra, Odisha, Chattisgarh, Gujarat, Jharkhand, Rajasthan, and Telangana.

• It is also done to to ensure that every farm has access to irrigation (Har Khet Ko Pani) and that water is used effectively (Per Drop More Crop).

Additional Information

• Neeranchal was created primarily to address the following issues:

• bring about institutional improvements in watershed and rainfed agricultural management techniques in India.

• build structures that ensure watershed programmes and rainfed irrigation management techniques are more targeted, coordinated, and have measurable results.

• build plans for the long-term maintenance of the upgraded watershed.

• management procedures in programme regions, even after project support has been cut off.

• support improved equity, livelihoods, and incomes through forward linkages using the watershed plus strategy, on a foundation of inclusivity and local involvement.

Q22. Answer: (c) Size of the Graphics Card

The correct answer is Size of the Graphics Card.

Key Points

• The speed of the CPU and the ability of the CPU to run multiple processes.

• The speed of the CPU is a direct measurement of how many instructions it can complete per second.

• Processor performance can be affected by clock speed, cache size, and the number of cores the processor has.

• Increasing processor speed is the most, it will definitely improve computer's performance as this is where computer performance depends.

• The memory capacity of most modern graphics cards ranges from 2 GB to 24 GB.

Additional Information

• 7 Ways to Improve Your Computer Performance

• Uninstall unnecessary software.

• Limit the programs at the startup.

• Add more RAM to your PC.

• Check for spyware and viruses.

• Use Disk Cleanup and defragmentation.

• Consider a startup SSD.

• Take a look at your web browser.

• Factors that affect performance in the operating system

• NUMBER OF CORES (PROCESSORS)

• MULTIPLE APPLICATIONS AFFECTING COMPUTER SPEED.

• GRAPHICS CARD TYPE.

• DATA BUS WIDTH.

• MEMORY CACHE.

• Hard Disc Speed

• HDDs can copy 30 to 150 MB per second (MB/s), while standard SSDs perform the same action at speeds of 500 MB/s.

• RAM Size

• RAM comes shaped in physical strips. Each strip has a set amount of memory storage space ranging from 2GB to 32GB.

• CPU Speed

• A good processor speed is between 3.50 to 4.2 GHz, but it is more important to have a single-thread performance.

Q23. Answer: (c) Cabinet Mission plan of 1946.

The correct answer is Cabinet Mission plan of 1946.

Key Points

• The Constituent Assembly of India was chosen for outline the Constitution of India.

• The Constitution of India was drafted by the Constituent Assembly, and it was carried out under the Cabinet Mission Plan on 16 May 1946.

• The individuals from the Constituent Assembly were chosen by the common congregations by a solitary, adaptable vote arrangement of corresponding portrayal.

• The thought for a Constituent Assembly was proposed in 1934 by M.N.Roy.

Additional Information

• The Government of India Act of 1919

• The Government of India Act of 1919, made an arrangement for the grouping of the focal and commonplace subjects.

• The Government of India Act of 1909

• Indian Council Act of 1909 is otherwise called Morley-Minto Reform.

• It was founded to assuage the Moderates (Congress) and present separate electorates based on religion.

• Indian Independence Act of 1947

• The 1947 Indian Independence Act is an Act of the Parliament of the United Kingdom that divided British India into the two new free territories of India and Pakistan.

• Bureau Mission plan of 1946.

• A Cabinet Mission came to India in 1946 to examine the exchange of force from the British government to the Indian political authority, determined to save India's solidarity and conceding its freedom.

Q24. Answer: (c) Rs. 690

Given:

A man incurs a loss of 15% by selling a radio for Rs. 510

Formula used:

Selling price = (100 + profit)/100× cost price

Calculation:

Let the cost price be x.

Then,

510 = (100-15)/100 × x

Solving for x,

x = (510× 100)/85 = 600

To make a profit of 15%,

Selling price = (100 + 15)/100× 600 = Rs. 690

Therefore To make a profit of 15%, the man has to sell the radio at Rs. 690.

Q25. Answer: (c) 30

Shortcut Trick

First, simplify the given fractions to their lowest terms: 3/2, 2/3, 5/8, and 3/5.

Formula: LCM of Fractions = LCM of Numerators ÷ HCF of Denominators

Numerators (3, 2, 5, 3) → LCM = 30

Denominators (2, 3, 8, 5) → HCF = 1

LCM of fractions = 30 ÷ 1 = 30.

Therefore The correct answer is 30.

Alternate Method

Given:

Fractions: 3/2, 4/6, 5/8, 6/10

Formula Used:

LCM of fractions = LCM of Numerators ÷ HCF of Denominators

Note: Always simplify fractions to their lowest terms before applying the formula.

Calculation:

=> Simplifying the fractions to their lowest terms:

=> 3/2 is already in its lowest terms.

=> 4/6 = 2/3

=> 5/8 is already in its lowest terms.

=> 6/10 = 3/5

=> The simplified fractions are: 3/2, 2/3, 5/8, 3/5

=> Now, extract the numerators and denominators.

=> Numerators: 3, 2, 5, 3

=> Denominators: 2, 3, 8, 5

=> Find the LCM of the numerators:

=> LCM(3, 2, 5, 3) = 3 × 2 × 5 = 30

=> Find the HCF of the denominators:

=> Since 2, 3, and 5 are prime numbers and have no common factor with 8 other than 1, HCF(2, 3, 8, 5) = 1

=> LCM of the given fractions = 30 ÷ 1 = 30

Therefore The correct answer is 30.

Additional Information

HCF of Fractions

The HCF (Highest Common Factor) of given fractions can be found using the formula: HCF of Numerators ÷ LCM of Denominators.

Simplifying Before Calculation

It is a mandatory mathematical rule to reduce all fractions to their lowest terms before applying the LCM or HCF formulas, otherwise, the calculated value will not represent the true minimum multiple or maximum factor.

Relation Between LCM and HCF

For any two specific numbers 'a' and 'b', the product of the numbers is equal to the product of their LCM and HCF: a × b = LCM(a, b) × HCF(a, b).

Q26. Answer: (b) Swimmer = Swimming pool

Explanation:-

The relation in the given pair is:

Actor = Theatre : Occupation = Place to practice the work.

Let's consider the options:

Option 1) Doctor = Medicine -- A doctor prescribes medicine.

Option 2) Swimmer = Swimming pool -- A swimmer swims in a swimming pool.

Option 3) Teacher = Examination -- A teacher invigilates in examination.

Option 4) Writer = Book -- A writer writes a book.

Hence the correct answer is option 2.

Q27. Answer: (d) It is unusual warming of surface waters in the Pacific Ocean.

The correct answer is It is unusual warming of surface waters in the Pacific Ocean.

Key Points

• El Nino is a surroundings layout that depicts the odd warming of surface waters in the Japanese tropical Pacific Ocean.

• El Nino is a weather circumstance that happens in the Pacific Ocean.

• An El Nino condition happens when floor water in the tropical Pacific becomes hotter than ordinary and east breezes blow greater susceptible than usual

• El Nino is the "heat stage" of a larger peculiarity referred to as the El Nino-Southern Oscillation (ENSO).

Additional Information

• El Nino unfavorably affects the Indian storms and therefore, horticulture in India.

• Rainstorms in India in many cases greater fragile for the duration of El Nino.

• Los Angeles Nina is a surroundings layout that depicts the cooling of floor sea waters along the tropical west shore of South the united states.

• The Mediterranean Sea envelops endless islands, a number of them being volcanic starting. The two by using a huge margin biggest islands are Sicily and Sardinia.

Q28. Answer: (c) Beans

Explanation:-

The relation in the given series is:

Tea : Leaves -- Tea is obtained from tea leaves.

Similarly,

Coffee : ? -- Coffee is obtained from coffee beans.

Hence the correct answer is option 3.

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Q29. Answer: (d) S4 and S3

From the given information:

Step 1: S2 sits in the middle of the row.

We place S2 at fourth place because it is the middle from both the directions.

Step 2: Only three friends sit between S5 and S7.

Step 3: Only two friends sit between S3 and S5.

Here we place S5 and S7 such that there are 3 spaces between them and we place S5 such that 2 spaces between S5 & S3.

Step 4: S4 does not sit at any of the extreme ends.

There are 3 spots left and S4 does not sit at extreme end so we place S4 next to S5.

From the diagram, we have sufficient information about the neighbors of S2 i.e., S3 and S4.

Hence the correct answer is option 4)

Q30. Answer: (a) C

Explanation:-

From the given classes:

Raipur, Chhattisgarh, Bihar

We know that Raipur is in Chattisgarh and Bihar is a different state. So the Venn diagram will be:

This diagram is similar to figure C.

Hence the correct answer is option 1.

Q31. Answer: (c) Barack Obama

The correct answer is Barack Obama.

Key Points

• Dreams from My Father: A Story of Race and Inheritance (1995) is a memoir by Barack Obama that explores the events of his early years in Honolulu and Chicago until his entry into Harvard Law School in 1988.

• Obama originally published his memoir in 1995.

• Obama won the U.S. Senate Democratic primary victory in Illinois in 2004.

• He gave the keynote address at the 2004 Democratic National Convention (DNC) and won the US Senate seat in the fall. the book was re-published that year.

Additional Information

• Donald Trump

• The Art of the Deal is a 1987 book credited to Donald J. Trump and journalist Tony Schwartz. Part memoir and part business advice book.

• Nelson Mandela

• Long Walk to Freedom is an autobiography credited to South African President Nelson Mandela.

• Tony Blair

• A Journey is a memoir by Tony Blair of his tenure as Prime Minister of the United Kingdom.

• Published in the UK on 1 September 2010.

• Barack Obama

• Obama was born in Honolulu, Hawaii.

• He married Michelle Robinson in 1992. They have two daughters.

• Obama was inaugurated in January 2009 as the first African American mixed-race president.

Q32. Answer: (c) Gujarat

The correct answer is Gujarat.

Key Points

• Gujarat has the longest mainland coastline in India.

• The total length of India's coastline is 7516.6 kilometers.

• The Arabian Sea gives the state of Gujarat its extensive coastline.

• Andhra Pradesh has the second longest mainland coastline with a total length of 974 kilometers.

Additional Information

• Goa being the smallest state in India has a coastline of only 160 km long.

• Indiana has the smallest coastline, at a mere 45 mi (72 km) among the 30 states that have a coastline

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• Puducherry(Union Territory) has the shortest coastline. Puducherry was earlier called and is spread over 479 square kilometers with a population of 12.44,464.
• The Indian States With the Longest Coastline of Sea
• Odisha – 485 km (Utkal Plains)
• Tamil Nadu – 940 Km (Coromandel Coast)
• Maharashtra – 720 Km (Konkan Coast)
• Gujarat – 1,600 km

Q33. Answer: (b) Measles : Bacteria

The correct answer is Measles : Bacteria.

Key Points

• Measles is a childhood infection caused by a virus.
• The measles virus is a single-stranded RNA virus of the genus Morbillivirus and the family Paramyxoviridae.
• Humans are the only natural hosts of the measles virus.
• Rubeola (measles) is an infection caused by a virus that grows in the cells lining the throat and lungs.

Additional Information

• Typhoid fever is a bacterial infection that can spread throughout the body, affecting many organs.
• Malaria is caused by protozoa of the genus Plasmodium.
• Tetanus is an infection caused by bacteria called Clostridium tetani.
• Measles is a contagious viral illness that causes a skin rash and fever.

Q34. Answer: (a) Service Sector

The correct answer is Service Sector.

Key Points

• The laptop software programs and hardware will become the pinnacle recipient quarter of FDI fairness inflow with a percentage of around 25%.
• Among states, Maharashtra garnered the best proportion of FDI at 30% with investments clocking at $7.26 billion. Karnataka and Delhi observed 18% and 17% percentage, respectively.
• The service quarter, additionally called the tertiary quarter, is the 1/3 tier in the 3-region financial system.
• Foreign direct investment (FDI) in the service industries has increased significantly in recent many years.

Additional Information

• Financial offerings are the monetary services provided by the finance enterprise.
• Production is a widespread time period that means the artwork and technological know-how to form objects, structures, or companies.
• Laptop services consist of hardware, software program, and statistics processing services.

Q35. Answer: (a) 1

Given:

cos231 + cos259

Formula used:

sinx = cos(90-x)

$\sin^2x + \cos^2x = 1$

Calculation:

cos(59) = sin(90 - 59) = sin(31)

Then, cos231 + cos259 = cos231 + $\sin^2 31$ = 1

Therefore cos231 + cos259 is equal to 1.

Q36. Answer: (d) 6 km/h

Given:

A man crosses a street, 700 m long in 7 min.

Formula used:

Speed = distance/time

Calculation:

700 m = 700/1000=0.7km

7 min = 7/60=0.116h

Speed = 0.7/0.116=6km/h

Therefore The speed of the man is 6 km/h.

Q37. Answer: (b) Rs. 51.25

Given:

Simple Interest (SI) = Rs. 50

Rate (R) = 5% per annum

Time (T) = 2 years

Formula Used:

SI = P × R × T / 100

Substituting the given values:

50 = P × 5 × 2 / 100

=> 50 = P × 10 / 100

=> P = 50 × 100 / 10

=> P = 500

Now, we have the principal amount (P) = Rs. 500.

The formula for Compound Interest (CI):

CI = P(1 + R/100)^T - P

Substituting the given values:

CI = 500(1 + 5/100)² - 500

=> CI = 500(1 + 0.05)² - 500

=> CI = 500(1.05)² - 500

=> CI = 500 × 1.1025 - 500

=> CI = 551.25 - 500

=> CI = 51.25

Therefore, the compound interest on the same sum for the same period at the same interest rate is Rs. 51.25.

Q38. Answer: (a) Biju Patnaik International Airport Bhubaneswar

The correct answer is Barack Obama.

Key Points

• Dreams from My Father: A Story of Race and Inheritance (1995) is a memoir by Barack Obama that explores the events of his early years in Honolulu and Chicago until his entry into Harvard Law School in 1988.

• Obama originally published his memoir in 1995.

• Obama won the U.S. Senate Democratic primary victory in Illinois in 2004.

• He gave the keynote address at the 2004 Democratic National Convention (DNC) and won the US Senate seat in the fall. the book was re-published that year.

Additional Information

• Donald Trump

• The Art of the Deal is a 1987 book credited to Donald J. Trump and journalist Tony Schwartz. Part memoir and part business advice book.

• Nelson Mandela

• Long Walk to Freedom is an autobiography credited to South African President Nelson Mandela.

• Tony Blair

• A Journey is a memoir by Tony Blair of his tenure as Prime Minister of the United Kingdom.

• Published in the UK on 1 September 2010.

• Barack Obama

• Obama was born in Honolulu, Hawaii.

• He married Michelle Robinson in 1992. They have two daughters.

• Obama was inaugurated in January 2009 as the first African American mixed-race president.

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Q39. Answer: (a) Protocol

The correct answer is Barack Obama.

Key Points

• Dreams from My Father: A Story of Race and Inheritance (1995) is a memoir by Barack Obama that explores the events of his early years in Honolulu and Chicago until his entry into Harvard Law School in 1988.

• Obama originally published his memoir in 1995.

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• Barack Obama

• Obama was born in Honolulu, Hawaii.

• He married Michelle Robinson in 1992. They have two daughters.

• Obama was inaugurated in January 2009 as the first African American mixed-race president.

Q40. Answer: (a) Senior Citizen Health Insurance Scheme (SCHIS) is not covered under the scheme.

The correct answer is Senior Citizen Health Insurance Scheme (SCHIS) is not covered under the scheme.

Key Points

• National Health Insurance Company offers a Varishtha Mediclaim policy that offers medical insurance coverage to senior citizens between the age group of years and 80 years.

• A senior citizen's medical insurance coverage is designed for human beings above the age of 60 years.

• The policy is available for sums insured of Rs 1 lakh, Rs 2 lakh, Rs 3 lakh, Rs 4 lakh, and Rs 5 lakh.

Additional Information

• Ayushman Bharat Yojana scheme offers health insurance coverage to beneficiaries without any premium cost or treatment costs during and after the hospitalization.

• Ayushman Bharat scheme covers each pre and publish-hospitalization charge further to the in-patient costs.

• Ayushman Bharat scheme was launched by the Prime Minister, Sh. Narendra Modi on September 23rd, 2018 as a progressive step towards achieving UHC in India.

• Families with no individuals aged between 16 and 59 years.

Q41. Answer: (a) Magnesium

The correct answer is: Magnesium

Key Points

• Introduction to Chlorophyll:

• Chlorophyll is the green pigment present in plants, algae, and some bacteria that enables them to carry out photosynthesis.

• It absorbs light energy (mainly from the blue and red spectrum) and converts it into chemical energy.

• Structurally, chlorophyll is a porphyrin ring with a central atom — just like hemoglobin has iron, chlorophyll has magnesium.

• Magnesium in Chlorophyll — Correct Element:

• At the core of the chlorophyll molecule is a porphyrin ring that binds a central Magnesium (Mg^(2+)) ion.

• This magnesium plays a crucial role in capturing light energy during photosynthesis.

• Without magnesium, chlorophyll cannot function effectively, and plants would not be able to synthesize food through photosynthesis.

• This is why magnesium deficiency in plants leads to chlorosis (yellowing of leaves due to lack of chlorophyll).

• Why the other options are incorrect:

• Iron: Present in hemoglobin (central atom in heme group), but not in chlorophyll. Iron is important for plant enzymes but not a part of chlorophyll structure.

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• Calcium: Plays a structural role in plant cell walls and signaling, but is not part of chlorophyll.
• Aluminium: Not required for chlorophyll formation or photosynthesis, and in fact, high levels can be toxic to plants.
Additional Information
• Types of Chlorophyll:
• Chlorophyll-a: The primary pigment involved in photosynthesis; absorbs blue-violet and red light.
• Chlorophyll-b: Accessory pigment that broadens the spectrum of light absorption.
• Other types include chlorophyll-c, d, and f, found in algae and cyanobacteria.
• Role in Photosynthesis:
• Chlorophyll molecules are embedded in the thylakoid membranes of chloroplasts.
• They absorb light energy and excite electrons, which begin the light-dependent reactions of photosynthesis.
• This leads to the production of ATP and NADPH, which are later used in the Calvin cycle to form glucose.
• Final Takeaway:
• Chlorophyll is essential for photosynthesis, and its central atom is Magnesium.
• Magnesium deficiency directly affects chlorophyll formation, resulting in poor plant growth and yellowing leaves.

Q42. Answer: (b) 41

Given:
First six prime numbers.
Concept used:
Prime numbers
Calculation:
The first six prime numbers are 2, 3, 5, 7, 11, 13.
The sum of these six numbers are 2 + 3 + 5 + 7 + 11 + 13 = 41
Therefore The sum of the first six prime numbers is 41.

Q43. Answer: (a) 0.24%

Given:
25 and 0.06
Formula used:
Percent = x/y×100
Calculation:
Percent = 0.06/25×100=0.24%
Therefore 0.06 is 0.24% of 25.

Q44. Answer: (a) 49

Given:
Number is 30% less than 70?
Formula used:
x% of y = x/100× y
Calculation:
Let the number be x.
Then, x=(100-30)/100× 70 = 49
Therefore The number is 49 which is 30% less than 70.

Q45. Answer: (b) Kerala

The correct answer is Kerala.
Key Points
• States of India grants Religious Minority to Jews
• The Jewish community in India is one of many communities that have migrated from outside the nation's current territorial boundaries and settled in India.
• The local non-Jewish majority has rarely shown anti-Semitic behaviour toward the small religious minority of Indian Jews.
• Jews have been a part of Indian society for more than 2,300 years.
• The first state to grant Jews a minority status in Maharashtra.

• A decade-long demand by one of India's smallest communities was finally met in June 2016 at a state cabinet meeting presided over by the former Chief Minister of Maharashtra, Devendra Fadnavis.

• The other two states that have given their Jewish communities minority status are West Bengal and Gujarat.

• Kerala does not recognize Jews as a religious minority.

Additional Information

• The Union Government of India has designated six religious groups as minority communities across the country that are: Muslims, Christians, Sikhs, Buddhists, Zoroastrians (Parsis), and Jains.

• Judaism

• More than 3500 years ago, in the Middle East, Judaism first emerged.

• Although Jews can trace their origins to Abraham, Moses is credited with founding Judaism.

• Jews hold to the notion that there is just one God with whom they are in covenant.

• Jewish people follow God's instructions and strive to make purity a part of every element of their lives in return for all the good things God has done for them.

• The Torah is the central and most significant religious literature in Judaism despite having a long and rich history of religious texts.

• Synagogues are places of prayer for Jews.

Q46. Answer: (c) 76

Given:

x^4 + 1/x^4 = 322

Formula used:

x^4 + 1/x^4 = $(x^2 + 1/x^2)^2$ - 2

x3 - 1/x3 = (x - 1/x)3 + 3 * x * 1/x (x - 1/x)

Calculation:

x^4 + 1/x^4 = 322

=> $x^2 + 1/x^2 = \sqrt{(322 + 2)} = \sqrt{324} = 18$

=> $(x - 1/x) = \sqrt{(18 - 2)} = \sqrt{16} = 4$

=> $x^3 - 1/x^3 = (x - 1/x)^3 + 3 * x * 1/x (x - 1/x)$

=> $x^3 - 1/x^3 = 4^3 + 3 \times 4 = 64 + 12 = 76$

Therefore The value of $x^3 - 1/x^3$ is 76.

Q47. Answer: (a) C - Panji - lawyer

Explanation:-

From the data we find that,

• A does not live in Goa and Panji, also Delhi and Mumbai are assigned to B and D. Therefore only city left for A is Punjab.

• Now we have doctor in Goa and rest other cities are assigned except for Panji and only person left is E who is a lawyer.

• Only E is not assigned any city or profession, so E is left with doctor and Goa.

Name	Profession	City
A	Cook	Punjab
B	•	Delhi
D	•	Mumbai
E	Doctor	Goa
C	Lawyer	Panji

Now we compare the options with the table drawn:

Option 1) C - Panji - lawyer -- It is true.

Option 2) D - Mumbai - Engineer -- There is no information of D being an Engineer.

Option 3) A - Panji - Cook -- A lives in Punjab. This option is false.

Option 4) B - Delhi - Businessman -- There is no information of B being an Businessman.

Hence the correct answer is option 1.

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Q48. Answer: (a) Food and Agriculture Organization of the United Nations

The correct answer is Food and Agriculture Organization of the United Nations.

Key Points

• Six Principal Organs of the UN System

• The General Assembly

• The UN's primary organ for deliberation, formulating policy, and representation is the General Assembly.

• The General Assembly is the only UN body having representation from all 193 of its member states.

• The Security Council

• According to the UN Charter, the Security Council is in charge of maintaining global peace and security.

• It has 15 members (5 permanent and 10 non-permanent members).

• The Economic and Social Council

• Responsible for fostering interstate cooperation in economic and social concerns.

• It coordinates cooperation among the several specialised agencies of the UN.

• It has 54 members that are elected by the General Assembly for staggered three-year terms.

• The UN Secretariat

• It provides administrative support to the other UN bodies.

• The UN's chief representative is the UN Secretary-General, who is chosen by the General Assembly for a five-year term.

• The International Court of Justice

• Issues legal advice.

• Renders judgment by a relative majority.

• Decides conflicts between governments that acknowledge its jurisdiction.

• For nine-year terms, the UN General Assembly elects its fifteen judges.

• The Trusteeship Council

• It was originally created to oversee colonial lands that had already been League of Nations mandates.

Additional Information

• United Nations (UN) System

• The UN System is made up of subsidiary organisations such as independently managed funds and programs, research and training centers, and other subsidiary agencies.

• Some of these groups were left over from the League of Nations disintegration and existed before the United Nations was established in 1945.

• The World Trade Organization, which is not officially a part of the United Nations System, and some executive heads of United Nations System organisations have seats on the United Nations System Chief Executives Board for Coordination (CEB).

• This group, presided over by the UN Secretary-General, meets twice a year to coordinate the efforts of the UN System's entities.

Q49. Answer: (b) 56%

Given:

The length and breadth of a square are increased by 30% and 20% respectively.

Formula used:

Area of rectangle = length × breadth

Calculation:

Let the length of each side of the square be 10 m.

Then, the area of the square = 10 × 10 = 100 m^2

Now, the length and the breadth of the rectangle are 13 m and 12 m, respectively.

Then, the area of the rectangle = 13 × 12 = 156 m2

Percentage change = (156-100)/100×100=56

Therefore The area of the rectangle exceeds the area of the square by 56%.

Q50. Answer: (d) MEO

The correct answer is MEO.

Key Points

• Navigation Satellite System

• A satellite navigation system, sometimes known as a satnav, employs satellites to provide geospatial positioning on its own.

• It enables satellite navigation devices to locate themselves with great accuracy (within a few centimetres to meters) utilising time

signals transmitted along a line of sight by radio from satellites.

• Additionally, the signals enable time synchronisation by enabling the electronic receiver to calculate the current local time with great accuracy.

• Positioning, Navigation, and Timing are the names for these applications collectively (PNT).

• The term "global navigation satellite system" (GNSS) refers to a satellite navigation system with worldwide coverage.

• As of September 2020, the Global Positioning System (GPS), the Global Navigation Satellite System (GLONASS), the BeiDou Navigation Satellite System, the European Union's Galileo, and the United States Global Positioning System (GPS) are all fully operating GNSS.

• The Government of India owns and runs the regional GNSS known as IRNSS or NavIC.

Additional Information

• BDS

• Chinese navigation system BeiDou or BDS was initially introduced in October 2000 and contains two distinct constellations.

• Currently, there are 35 satellites in total.

• GALILEO

• The European Union launched the GALILEO GPS system through the European Space Agency in 2016.

• It is run by the European GNSS (Global Navigation Satellite System) agency, which has its headquarters in Prague, Czech Republic.

• NavIC

• IRNSS is an autonomous system created to cover the Indian subcontinent and 1500 kilometres beyond by the ISRO (Indian Space research Organization).

• Seven satellites make up the system.

• IRNSS was renamed to the Navigation Indian Constellation(NavIC) by India in 2016.

Q51. Answer: (d) 1001

Given:

Numbers= 16, 18, 24, 28

Formula used:

Least number = (LCM of given numbers) - 7 = LCM(16, 18, 24, 28) - 7

Calculation:

Let, the required number = m

Factors(16) = 2 x 2 x 2 x 2 = 24

Factors(18) = 2 x 3 x 3 = $2^1 \times 3^2$

Factors(24) = 2 x 2 x 2 x 3 = $2^3 \times 3^1$

Factors(28) = 2 x 2 x 7 = $2^2 \times 7^1$

Now, the LCM of (16, 18, 24, 28) = multiplication of each prime number having the highest power

= 2^4 x $3^2 \times 7^1$

= 16 x 9 x 7

= 1008

Now, m = LCM(16, 18, 24, 28) - 7

m = 1008 - 7

m = 1001

Hence, the least number that when increased by 7 is divisible by 16, 18, 24, and 28 is 1001.

Q52. Answer: (c) 59

Explanation:-

The pattern followed in the given series is:

Term = Sum of previous two terms + 7

Term 3:

3+7+7 = 17

17 = 17

Term 4:

7+17+7 = 31

31 = 31

Term 5:

17+31+7 ≠ 59

55 ≠ 59

Term 5 does not follow the pattern.

Hence the correct answer is option 3.

Q53. Answer: (c) 13

Explanation:-

The face value of any number is the number itself.

So, the sum of face values of 8 and 5 in 817354 will be,

= 8 + 5 = 13

Hence the correct answer is option 3.

Q54. Answer: (a) 7

Given:

Number = 765419

Formula used:

The face value of the digital remains the same irrespective of its positioning and is equal to the value of that digit itself.

Calculation:

In the given number, the face value of 7 is 7.

Q55. Answer: (b) 10:01 am

Given:

Time = (4, 5, 6) seconds

Initial time = 10:00 am

Formula used:

Together hit their target = Initial time + LCM(4, 5, 6) seconds

Calculation:

LCM(4, 5, 6) = 60 seconds = 1 minute

Hence, they will hit the target again at 10:00 am + 1 minute = 10:01 am.

Q56. Answer: (d) 4

Given:

Value	3	2	k	4	5
Frequency	k	2k	3k	4k	5k

Formula used:

Mean = (Σ (Value_i × Frequency_i))/(Σ Frequency_i) = k

Calculation:

Now, let's put the values given in the table, in our formula to find the value of k,

(Σ (Value_i × Frequency_i))/(Σ Frequency_i) = k; ([(3× k) + (2× 2k)+(k× 3k)+(4× 4k)+(5× 5k)])/(k + 2k + 3k + 4k + 5k) = k; ([3k + 4k+3k² + 16k + 25k])/15k = k; (48k + 3k²)/15k = k;

48k + 3k² = 15k2

48k = 12k2

48 = 12k

k = 4

Hence, the value of k is 4.

Q57. Answer: (d) 114°

Given:

L = 2S -18°

Formula used:

L + S = 180°

Here,

L - Largest Angle

S = Smallest Angle

Solution:

Now,

S = 180° - L

Now, let's put the value of S in the given equation.

L = 2 x(180-L) - 18

L = 360 - 2L - 18

3L = 342

L = 114°

Hence, the largest angle of the parallelogram is 114°.

Q58. Answer: (b) United Nations Sustainable Development Solutions Network (UNSDSN)

The correct answer is United Nations Sustainable Development Solutions Network (UNSDSN).

Key Points

• World Happiness Report

• According to how happy their residents think they are, 156 nations are ranked in the World Happiness Report.

• The rankings are based on polling (Gallup World Poll), which considers six factors: GDP per capita, social support, healthy life expectancy, freedom, generosity, and lack of corruption.

• For the first time, the 2020 Report evaluated subjective well-being in cities around the world and examined how social, urban, and environmental factors interact to influence happiness.

• In 2012, the UN General Assembly declared March 20 to be "World Happiness Day."

• World Happiness Report is published annually by the United Nations Sustainable Development Solutions Network (UNSDSN).

• Finland was ranked the happiest country in the world, as of March 2020.

Additional Information

• Sustainable Development Solutions Network (SDSN)

• Ban Ki-moon, the UN Secretary-General, established the Sustainable Development Solutions Network (SDSN) in 2012.

• It was developed to draw upon the world's scientific and technological resources to advance pragmatic problem-solving for sustainable development and carry out the Sustainable Development Goals (SDGs).

• Following their adoption, SDSN has made a commitment to assisting with the SDGs' implementation on a global and national scale.

• The SDSN collaborates closely with organisations affiliated with the UN, organisations that provide multilateral financing, businesses, and civil society.

• In addition to assuring efficient systems for decision-making and accountability, SDSN's structure and governance allow leaders from all areas to take part in the network's development.

Q59. Answer: (c) HBNIQT

Explanation:-

According to the English alphabets and their positional values:

The pattern followed in the given codes is:

• Alphabets at odd places are increased to 2 positional values.

• Alphabets at even places are decreased to 3 positional values.

Similarly,

Hence the correct answer is option 3.

Q60. Answer: (b) IRCTC Rail Connect

The correct answer is IRCTC Rail Connect.

Key Points

• National e-Governance Award 2019

• At a gathering hosted by the Ministry of Personnel, Public Grievances and Pensions Department of Administrative Reforms and Public Grievances (DARPG), Dr. Jitendra Singh presented the 2019 National e-Governance Awards.

• The Government of India annually presents National Awards on e-Governance with the goal of recognising and promoting Excellence in the implementation of e-Governance programs.

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• In order to acknowledge accomplishments in the field of e-Governance, 14 Awards were granted in 6 categories, with Gold and Silver Awards in each.

• IRCTC Rail Connect Mobile App also received a Special Jury Award in Category-I.

• The event also featured presentations on some of the honoured projects, including Hello Doctor 555, Punarvas, the MDDA ERP, the IRCTC Rail Connect Mobile App, and UMANG.

Additional Information

• National e-Governance Award

• The National e-Governance Award honours some of the outstanding government-to-government (G to G), government-to-citizen (G to C), and government-to-business (G to B) efforts undertaken by government departments.

• It also honors endeavors in start-ups, academic research institutions, and the use of cutting-edge technologies.

• The focus is on Citizen Centric Services and the use of technology to promote development.

• IRCTC Rail Connect is a free app that is only accessible on Android, falls under the "Travel & Navigation" category, and was created by IRCTC Official.

Q61. Answer: (c) Vitamin K

The correct answer is Vitamin K.

Key Points

• Vitamin K

• Vitamin K exists in two forms:

• Phylloquinone, often known as vitamin K1, is found in leafy green plants like spinach and kale. Vitamin K also exists in two other forms.

• Menaquinone, often known as vitamin K2, is found in fermented foods like kefir as well as animal-based foods like butter and egg yolks. Some of this vitamin is also produced in the intestine.

• Proteins that aid in blood clotting are created by vitamins K1 and K2, respectively.

• Internal and external excessive bleeding is prevented by blood coagulation.

• A person's body cannot create enough of these proteins if they are vitamin K deficient, which raises their risk of excessive bleeding and leads to non-coagulation/clotting of blood.

Additional Information

• Adults rarely lack vitamin K since K1 is present in sufficient amounts in a variety of foods they consume and because K2 is produced naturally by the body.

• Additionally, the body is adept at recycling its stored vitamin K.

• However, several medical disorders and medications can affect how vitamin K is produced and absorbed, which can lead to deficiency.

• Infants are substantially more prone to vitamin K insufficiency.

• VKDB, or vitamin K deficiency bleeding, is the term used to describe the illness in babies.

Q62. Answer: (b) Htdtjy

Explanation:-

According to the English alphabets and their positional values:

The pattern followed in the given codes is:

Place of the alphabet = Number of positional value increased

Similarly,

Hence the correct answer is option 2.

Q63. Answer: (b) Sardar Patel

The correct answer is Sardar Patel.

Key Points

• Karachi session of Indian National Congress

• Sardar Vallabhbhai Patel presided over the Karachi Congress Session, which took place from March 26 to 31, 1931.

• The fundamental rights resolution and economic program were written by Pandit Jawahar Lal Nehru.

• At a particularly special meeting of the Indian National Congress, Mahatma Gandhi was chosen to represent the organisation at the Second Round Table Conference, which would take place in London.

• The Gandhi-Irwin Pact, sometimes known as the Delhi Pact, was also discussed during the meeting.

• Bhagat Singh, Rajguru, and Sukhdev were hanged six days before this meeting.

Additional Information

• Sardar Vallabhbhai Patel

• From 1947 to 1950, Sardar, also known as Vallabhbhai Jhaverbhai Patel, was India's first Deputy Prime Minister and Home Minister.

• He was also a prominent political figure, lawyer, and politician.

• He is referred to as India's Iron Man.

• The title "Sardar" was given to Vallabhbhai Patel by the women of Bardoli, with Gandhi playing a role in propagating it.

• Because of his significant contribution to India's unification, he is often referred to as the Bismark of India.

• At a cost of USD 420 million, the Indian government built the Statue of Unity, the tallest statue in the world, which was dedicated to him on October 31, 2018. Its height is roughly 182 meters (597 feet).

Q64. Answer: (d) Wheeler Island

The correct answer is Wheeler Island.

Key Points

• Wheeler Island

• Dr. Abdul Kalam Island, originally Wheeler Island, is an island off the coast of Odisha, India, about 150 km (93 mi) east of the state's capital Bhubaneswar.

• Hugh Wheeler, an English commandant, was honoured with the island's first name.

• The island was given a new name on September 4 in memory of the late Indian president, Dr A. P. J. Abdul Kalam.

• The majority of India's missiles and satellites, including the Akash, Agni, Astra, BrahMos, Nirbhay, Prahaar, Prithvi, Shaurya, Advanced Air Defence, Prithvi Air Defence, and ASAT missiles, are tested at the island's Integrated Test Range facility.

• Abdul Kalam Island is one of a group of five islands in the Bay of Bengal, about 10 kilometres (6.2 mi) off the eastern coast of India and about 70 kilometres (43 mi) south of Chandipur in the Balasore district of Odisha.

• The island is about 2 kilometres (1.2 miles) long and 390 acres (1.6 km2) in size.

Additional Information

• Barren Island

• In the Andaman Sea, there is a small island called Barren Island.

• It is the only known active volcano on the Indian subcontinent and the only one in a chain of volcanoes that stretches from Sumatra to Myanmar.

• North Eastern Space Applications Centre (NESAC)

• The Department of Space (DOS) and the North Eastern Council (NEC) collaborated to create the North Eastern Space Applications Centre (NESAC) in September 2000, which is a society recognised by the Meghalaya Societies Registration Act of 1983.

• The Centre has dedicatedly served the eight states of India's North Eastern Region (NER) for more than 20 years with the aid of space science and technology.

• ISTRAC ground station

• Over the years, the Indian Space Research Organisation (ISRO) has built up a vast global network of ground stations to assist satellite and launch vehicle operations with telemetry, tracking, and command (TTC).

• The ISRO Telemetry, Tracking, and Command Network (ISTRAC), which has its headquarters in Bangalore, India, is the administrative body for these facilities.

Q65. Answer: (d) N12

Explanation:-

According to the English alphabets and their positional values:

The pattern followed in the given codes is:

• Alphabets are decreased to -2 positional values.

• Numbers of the alphabets are interchanged.

Similarly,

Hence the correct answer is option 4.

Q66. Answer: (c) Singapore

Concept:

Regional Trade Blocs:

• Regional Trade Blocs have come up in order to encourage trade between countries with geographical proximity, similarity and

complementarities in trading items and to curb restrictions on the trade in the developing world.

• Today, 120 regional trade blocs generate 52 per cent of the world trade.

• These trading blocs developed as a response to the failure of the global organisations to speed up intra-regional trade.

• Though, these regional blocs remove trade tariffs within the member nations and encourage free trade, in the future it could get increasingly difficult for free trade to take place between different trading blocs.

• Examples of some major regional trade blocks are ASEAN (Association of South-East Asian Nations), CIS (Commonwealth of Independent States), SAFTA (South Asian Free Trade Agreement) etc.

Explanation:

The South Asian Free Trade Area (SAFTA):

• SAARC members signed the South Asian Free Trade (SAFTA) agreement which promised the formation of a free trade zone for the whole of South Asia.

• A new chapter of peace and cooperation might evolve in South Asia if all the countries in the region allow free trade across the borders.

• This is the spirit behind the idea of SAFTA.

• The Agreement was signed in 2004 and came into effect on 1 January 2006.

• The member nation of SAFTA is Bangladesh, Maldives, Bhutan, Nepal, India, Pakistan and Sri Lanka.

• SAFTA aims at lowering trade tariffs on interregional trade.

Thus, Singapore is NOT a member of The South Asian Free Trade Area (SAFTA).

Additional InformationASEAN (Association of South-East Asian Nations):

• This originated in Aug 1967.

• The headquarter of ASEAN is present in Jakarta, Indonesia.

• The member nation of ASEAN is Brunei Darussalam, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam.

• The commodities under ASEAN are agro products, rubber, palm oil, rice, copra, coffee, minerals – copper, coal, nickel and tungsten and energy – petroleum and natural gas and software products.

• Other Areas of Cooperation under ASEAN are accelerated economic growth, cultural development, peace and regional stability.

Q67. Answer: (a) 5

Given:

Dividend = 7^(29) + 4

Divisor = 6

Formula used:

Calculate the powers of & till the unit digit starts repeating

Divide the power by 7 to get the remainder to proceed further

Solution:

$7^1 = 7$

$7^2 = 49$

$7^3 = 343$

7^4 = 2401

7^5 = 16807

Now, as we can see above, the digital place is repeating after the first four unique ones.

Now, let's divide the power by 4

29 modulus 4 will give the remainder 1

Now,

$7^1 = 7$

Now, 7 + 4 = 11

When 11/6 = 5(remainder)

Hence, the remainder when 729 + 4 is divided by 6 is 5.

Q68. Answer: (a) Three

Explanation:-

From the given information:

Step 1: D is shorter than B but taller than A.

B > D > A

Step 2: B is shorter than C.

C > B > D > A

Step 3: A is taller than E and F.

C > B > D > A > E > F

We can clearly see that there are three students shorter than D.

Hence the correct answer is option 1.

Q69. Answer: (c) Union Carbide

The correct answer is Union Carbide.

Key Points

• Bhopal Gas Tragedy

• The Union Carbide India Limited (UCIL) pesticide plant in Bhopal, Madhya Pradesh, India, experienced a chemical accident on the night of December 2-3, 1984, which is also known as the "Bhopal disaster" or "Bhopal gas tragedy."

• The industrial disaster is regarded as the worst in human history.

• Methyl isocyanate (MIC) gas was inhaled by more than 500,000 persons.

• The little settlements close to the facility were affected by the very hazardous chemical that had spread there.

• There were 2,259 confirmed immediate deaths.

• The family members of the 5,743,666 injured victims and the 3,787 victims killed in the gas spill received compensation from the Madhya Pradesh government in 2008.

Additional Information

• According to a federal affidavit in 2006, there were 558,125 injuries as a result of the leak, including 38,478 temporary partial impairments and roughly 3,900 seriously and permanently disabling injuries.

• Others claim that 8,000 people perished within two weeks, and another 8,000 or more have since passed away from illnesses linked to gas.

• Union Carbide Corporation (UCC) held a majority of ownership in UCIL, the company that owned the factory, while Indian Government-controlled banks and the Indian public each held a 49.1 per cent stake.

• UCC settled legal claims arising from the disaster in 1989 by paying $470 million (equivalent to $871 million in 2020).

• Warren Anderson, the CEO of UCC at the time of the tragedy, was the target of numerous civil and criminal actions brought in the United States against him between 1986 and 2012.

Q70. Answer: (d) Civil Disobedience Movement

The correct answer is Civil Disobedience Movement.

Key Points

• Civil Disobedience Movement

• On March 12, 1930, M. K. Gandhi left the Sabarmati Ashram with 78 other persons and arrived in the coastal Gujarat town of Dandi on April 6.

• He announced the start of the Civil Disobedience Movement while breaking the salt ban by taking some salt from Dandi.

• All past movements had been localised to metropolitan areas prior to this one, which was a nationwide movement.

• There was an opportunity for participants in remote areas to register as well. Women made up a substantial portion of the audience.

• Popular women who spearheaded the satyagraha campaign were Hansaben Mehta, Avantikabai Gokhale, Lilavati Munshi, Kasturba Gandhi, and Kamladevi Chattopadhyay.

• Its guiding principle was nonviolence.

• This movement did not halt in the face of constant British suppression.

Additional Information

• Champaran Movement

• The Champaran Satyagraha of 1917, which was Mahatma Gandhi's first satyagraha movement in British India, is regarded as a pivotal uprising in the history of the Indian independence movement.

• Its goal was to mobilise the peasants against the European plantation owners.

• Quit India Movement

• It was also referred to as August Kranti or the India August Movement.

• The Indian National Congress (INC), under the direction of Mahatma Gandhi, officially launched it on August 9, 1942.

• "Quit India" or "Bharat Chodo" was the movement's slogan. "Do or die," was Gandhi's tagline for the populace.

• Non-Co-operation Movement

• The leading proponent of the non-cooperation movement was Mahatma Gandhi.

• He published a manifesto in March 1920 outlining the movement's non-violent non-cooperation doctrine.

• In 1921, Gandhiji travelled the country to spread the movement's principles.

Q71. Answer: (c) Andhra Pradesh

The correct answer is Andhra Pradesh.

Key Points

• Kuchipudi

• Kuchipudi is among one of India's six classical dance forms.

• This dance form is a native of the Andhra Pradesh state and is distinct from the other five classical dance forms by incorporating singing.

• It first appeared in the 17th century with Sidhyendra Yogi's creation of the dance-drama Bhama Kalapam, which told the tale of Satyabhama, the alluring but envious wife of the Hindu god Krishna.

• Holy water is sprinkled and incense is burned before the dance performance starts.

• The characters are introduced, the goddesses of knowledge, wealth, and energy are invoked, and songs about each character's role in the play are played.

Additional Information

• The entire male troupe performed the traditional Kuchipudi.

• Agnivastra, also known as Bagalbandi, calls for a male dancer to dress in a dhoti (a single pleated piece of cloth hanging down from the waist).

• Saris and minimal makeup would be worn by a dancer playing a female role.

• The dance-drama performance known as Kuchipudi has its origins in the Natya Shastra, an old Hindu text written in Sanskrit.

• In Thanjavur, Kuchipudi is referred to as the Bhagavata Mela and is primarily a Krishna-focused Vaishnavism tradition.

Q72. Answer: (c) 2√5

Given:

$\sin\theta + \text{cosec}\theta = \sqrt{5}$

Formula used:

$\sin3\theta + \text{cosec}3\theta = (\sin\theta + \text{cosec}\theta)(\sin^2\theta - \sin\theta\text{cosec}\theta + \text{cosec}^2\theta)$

$\sin2\theta + \text{cosec}2\theta = (\sin\theta + \text{cosec}\theta)(\sin\theta + \text{cosec}\theta) - (2\sin\theta\text{cosec}\theta)$

$\sin\theta . \text{cosec}\,\theta = 1$

Solution:

Now, let's put the given values in the above equation,

$\sin3\theta + \text{cosec}3\theta = (\sin\theta + \text{cosec}\theta)(\sin2\theta - \sin\theta\text{cosec}\theta + \text{cosec}2\theta)$

$\sin3\theta + \text{cosec}3\theta = (\sqrt{5})(\sin2\theta - 1 + \text{cosec}2\theta)$

$\sin3\theta + \text{cosec}3\theta = (\sqrt{5})((\sin\theta + \text{cosec}\theta)^2 - 1 - 2\sin\theta . \text{cosec}\theta)$

$\sin3\theta + \text{cosec}3\theta = (\sqrt{5})((\sqrt{5})2 - 1 - 2(1))$

$\sin3\theta + \text{cosec}3\theta = 2\sqrt{5}$

Hence, the value of $\sin3\theta + \text{cosec}3\theta$ is $2\sqrt{5}$.

Q73. Answer: (c) Abundance of ferric oxides

The correct answer is Abundance of ferric oxides.

Key Points

• Red Soil

• The color of red soil can range from red to brown, yellow, grey, and even black in some circumstances.

• Red soil has a relatively high percentage of iron (Ferric ion) in it, which is the reason for its color since ferric oxide is reddish-brown in color.

• Common nutrients like nitrogen, humus, phosphoric acid, lime, magnesium, etc. are deficient in red soil.

• However, the soil's pH ranges from neutral to acidic, and it is relatively rich in potash.

• It forms as a result of the weathering of older crystalline and metamorphic rocks, primarily acid granites, quartz rocks, gneiss, and felspathic rocks.

• When it comes to its chemical makeup, red soil is primarily siliceous and aluminous with some free quartz present as sand, but it is also highly potassium-rich.

• Red soil is mostly loamy, but it can also contain sand and clay.

Additional Information

• Red soil has two distinct layers: the lower part is dark in colour and rich in fertility, and the upper part is more sandy and porous.

• Therefore, high production of different crops, including cotton, millets, wheat, rice, oilseeds, pulses, tobacco, and fruits, can be achieved with the proper use of fertilizers and irrigation.

• Red soil is a very valuable soil resource with significant implications for the development of agriculture sustainably and the healthy expansion of the economy.

• The color of any soil can be attributed to the nutrients that are present in them.

• The composition of oxides with which the soil is made is one of the major factors that affect the color of the soil.

Q74. Answer: (b) 7

Given:

7 - [3 - {7 - (5 - (4 - 3))}]

Formula Used:

Inner brackets will be given first priority

Solution:

= 7 - [3 - {7 - (5 - (4 - 3))}]

= 7 - [3 - {7 - (5 - (1))}]

= 7 - [3 - {7 - (4)}]

= 7 - [3 - {3}]

= 7 - 0

= 7

Therefore Required value of expression is 7.

Q75. Answer: (a) Belgium

The correct answer is Belgium.

Key Points

• FIFA World Football Rankings

• The national teams of association football are ranked according to the FIFA World Ranking.

• FIFA, football's world governing body, ranks the teams of its member nations according to how well they performed in their games.

• The teams with the best records are placed at the top of the list.

• Since the rankings' inception in December 1992, eight teams - Argentina, Belgium, Brazil, France, Germany, Italy, the Netherlands, and Spain—have occupied the top spot.

• The scoring for all full international matches that FIFA recognises is determined by a points system.

• As the top-ranked team on the planet, Belgium continues to dominate and remains at the top of the FIFA World Football Rankings, 2020.

Additional Information

• Numerous changes have been made to the ranking system in response to complaints that the previous methodology did not accurately reflect the relative strengths of the national teams.

• The Elo chess rating system has been incorporated into the current ranking system as of August 16, 2018.

• The FIFA/Coca-Cola World Ranking is another name for the ranking, which is currently sponsored by Coca-Cola.

• FIFA World Football Rankings 2020

• Brazil is ranked second, but they have closed the gap with Belgium.

• After resoundingly defeating Finland 2-0 and Kazakhstan 8-0 in their most recent World Cup qualifying matches, France has risen to third place.

• Germany ranked at 11 positions.

Q76. Answer: (a) 25%

Given:

Total pens sold = 200

Profit in number of pens = 40

Formula used:

Profit % = Profit/(Cost Price) × 100

Profit = Selling Price - Cost Price

Solution:

Let, m be the selling price of 1 pen.

Hence,

Selling Price = 200m

Profit = 40m

Cost Price = 200m- 40m = 160m

Now,

Profit % = Profit/(Cost Price) x 100

Profit % = (40m/160m) x 100

Profit % = (1/4) x 100

Profit % = 25%

Hence the Gain% is 25%.

Q77. Answer: (d) He founded Arya Samaj.

The correct answer is He founded Arya Samaj.

Key Points

• Raja Ram Mohan Roy

• An Indian social and religious reformer named Ram Mohan Roy was one of the founders of the Brahmo Sabha in 1828, which served as the forerunner to the Brahmo Samaj.

• The Mughal emperor Akbar II conferred the title of Raja on him.

• Politics, government, education, and religion were all areas where he had a noticeable impact.

• He was well-known for his work to end child marriage and sati.

• For many historians, Roy is regarded as the "Father of the Bengal Renaissance" and also the "pioneer of modern Indian Renaissance."

• He always believed in social equality for all human beings.

• He also wrote a famous book 'A gift to monotheists'.

Additional Information

• Roy was listed as the 10th greatest Bengali of all time by the BBC in 2004.

• He founded the Atmiya Sabha and the Unitarian Community to combat social injustices and promote social and educational change in India.

• He was the one who fought against strange ideas, a pioneer in Indian education, and a forerunner in Bengali literature and Indian journalism.

• Ram Mohan Roy worked for the East India Company during the early years of its rule and engaged in political agitation.

• On April 7, 1875, sannyasi Dayanand Saraswati, established the Arya Samaj.

• Proselytization in Hinduism was first introduced by Arya Samaj.

Q78. Answer: (d) The Pacific Rim covers the eastern shores of North America and South America.

The correct answer is The Pacific Rim covers the eastern shores of North America and South America.

Key Points

• Pacific Ring of Fire

• The Pacific ring of fire or the circum-Pacific belt is another name for the Ring of Fire.

• Volcanoes along that stretch of the Pacific Ocean are extremely active, and earthquakes happen frequently there.

• The majority of earthquakes and volcanic eruptions are recorded in and near the Ring of Fire.

• It is roughly 40,000 km long.

• 75% of Earth's volcanoes are located along the Ring of Fire.

• The significant tectonic plates that surround the area are responsible for the high frequency of earthquakes.

• At convergent boundaries known as subduction zones, plates cross each other.

• They are related to deep trenches.

Additional Information

• The Pacific, Juan de Fuca, Cocos, Indian-Australian, Nazca, North American, and Philippine Plates are just a few of the tectonic plates that it follows as it delineates boundaries between them.

• The Pacific Rim includes the western coasts of North and South America, as well as the coasts of Australia, eastern Asia, and

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the Pacific islands.

• The majority of the planet's earthquakes, including the most severe and dramatic seismic events, happen along its path.

• Two-thirds of all volcanoes in the world, or 850–1,000, are located in the Ring of Fire and have erupted recently.

Q79. Answer: (a) Japan

The correct answer is Japan.

Key Points

• Nuclear Weapon Free Zone

• The United Nations defines a nuclear-weapon-free zone (NWFZ) as a free agreement reached by a group of states through a treaty or convention.

• It forbids the development, production, control, possession, testing, stationing, or transportation of nuclear weapons in a specific area.

• The NWFZ must also have mechanisms for verification and control to ensure that its obligations are upheld, and it must be recognised as such by the General Assembly of the UN.

• Although most nations, including five nuclear-armed states, are parties to the Treaty on the Non-Proliferation of Nuclear Weapons, NWFZs serve a different purpose.

• South Korea and Japan are American allies that do not possess nuclear weapons.

Additional Information

• Another phrase, "nuclear-free zone," refers to a place where nuclear energy and nuclear weapons are prohibited, as well as occasionally nuclear waste and nuclear propulsion.

• Countries or smaller regions that have prohibited nuclear weapons purely through their own laws, such as Austria with the Atomsperrgesetz in 1999, are not included in the NWFZ definition.

• In a similar vein, the 2+4 Treaty, which brought about German reunification, prohibited nuclear weapons in the new states of Germany (Berlin and former East Germany).

• Pakistan and India are nuclear-armed states.

Q80. Answer: (c) Group of Monuments at Mandu, Madhya Pradesh

The correct answer is Group of Monuments at Mandu, Madhya Pradesh.

Key Points

• UNESCO World Heritage Sites in India

• India has the sixth-highest number of sites worldwide.

• The Ajanta Caves, Ellora Caves, Agra Fort, and Taj Mahal were among the first places to be added to the list; they were all inscribed during the 1983 World Heritage Committee session.

• Dholavira, which was listed most recently, was constructed in 2021.

• List of some famous UNESCO World Heritage Sites in India:

UNESCO World Heritage Sites in India	Location
Ajanta Caves	Maharashtra
Agra Fort	Uttar Pradesh
Fatehpur Sikri	Uttar Pradesh
Sun Temple, Konark	Odisha
Taj Mahal	Uttar Pradesh
Ellora Caves	Maharashtra
Group of Monuments at Mahabalipuram	Tamil Nadu

Additional Information

• UNESCO World Heritage Sites

• Nations that have ratified the 1972 UNESCO World Heritage Convention may nominate sites that have outstanding universal value to their cultural or natural heritage.

• They get designation as World Heritage Sites by the United Nations Educational, Scientific, and Cultural Organization (UNESCO).

• Monuments (such as architectural creations, monumental sculptures, or inscriptions), collections of buildings, and locations make up cultural heritage.

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• On November 14, 1977, India accepted the convention, making its sites eligible for listing.

• UNESCO is a specialized organisation of the United Nations established to advance world peace in education, science, and culture.

Q81. Answer: (a) Samachar Darpan

The correct answer is Samachar Darpan.

Key Points

• Samachar Darpan

• Baptist Missionary published the Samachar Darpan in Serampore's Mission Press.

• During Lord Hastings' administration (1813 to 1823), it was published.

• The first vernacular newspaper in India was Samachar Darpan, which was launched on May 31, 1818.

• It is regarded as the very first newspaper published in the Indian language.

• It included news primarily from English newspapers, but it also included news from other sources.

• The newspaper covered the following topics: births, deaths, and obituaries; government news; news of government officials; news of other European nations besides Britain.

Additional Information

• Madras Courier

• The Madras Courier was one of the first newspapers in India and the first to be published in Madras, Madras Presidency, and British India.

• Published on October 12, 1785, it was the top publication at the time and the one that the government officially designated for printing official notices.

• Bengal Gazette

• The English-language weekly newspaper Hicky's Bengal Gazette was published in Kolkata (then Calcutta), the nation's capital of British India.

• Between 1780 and 1782, it was the first newspaper printed in Asia and was in circulation for two years before the East India Company seized the newspaper's printing press and types.

• Amar Ujala

• Established in 1948, Amar Ujala is a daily newspaper in Hindi that is printed in India.

• There are 21 editions in six states, two union territories, and 180 districts.

• About two million copies of it have been distributed.

Q82. Answer: (a) Butane

The correct answer is Butane.

Key Points

• Wick-Type Lighters

• A spark wheel inside the Zippo is spun against flint to operate wick-type lighters.

• This generates a spark that lights wick fluid.

• As a fuel, it uses the liquefied petroleum gas butane.

• Other lighters, such as cigarette lighters, include a reservoir of lighter fluid, a valve, and an ignition device in addition to a liquefied flammable gas like propane or butane.

• Butane

• Butane is a hydrocarbon that can be easily liquefied and is a highly flammable, colourless, and odourless gas.

• It is frequently employed as a fuel for portable stoves and cigarette lighters, as a propellant in aerosols, as a heating fuel, as a refrigerant, and in the production of a wide variety of goods.

Additional Information

• Helium

• It is the first member of the noble gas group in the periodic table and is a colourless, odourless, tasteless, non-toxic, inert, and monatomic gas.

• Helium is used in a variety of applications, including cryogenic research, arc welding, refrigeration, aircraft gas, nuclear reactor coolant, and gas leak detection.

• Nitrogen

• Approximately 80% of the air we breathe is made up of nitrogen gas.

• In the chemical industry, nitrogen is crucial. In addition to nylon, nitric acid, dyes, and explosives, it is used to make fertilizers.

• It is also used to preserve food.

• Methane
• A flammable, colourless, and odourless gas is methane.
• It serves primarily as a fuel for producing heat and light.
• In landfills, marshes, septic tanks, and sewers, methane is a common byproduct of the decomposition of organic materials.

Q83. Answer: (b) 1728 m³

Given:
Total Surface Area of Cube = 864m²
Formula used:
Total Surface Area(Cube)= 6 x Side²
Volume(Cube) = Side³
Solution:
Now,
Let's find the value of the side using the given value and the above formula,
6 x Side² = 864
Side² = 144
Side = 12m
Therefore Volume of Cube = 12 × 12 × 12
Now, The volume = 12 x 12 x 12 = 1728m³.

Q84. Answer: (c) 3 : 2

Given:
(sin x)/(sin y) = (1/(√2))/(1/2)
Formula used:
sin 45 = 1/√2
sin 30 = 1/2
Solution:
Now, since we know the above two formulas,
we get the same answer by putting them in the ratio.
In addition, on summing up the values of x & y we get, 45 + 30= 75.
Hence, the value of x = 45
y = 30
Now, x : y = 45 : 30 = 3 : 2.

Q85. Answer: (c) Neither conclusion 1 or 2 follows

Explanation:-
From the given statements, the Venn diagram is:
1. All mouses are keyboards.
2. Some keyboards are keyless.
1. Some key-less are mouses: From the statements, we have some keyboards are key-less but not all keyboards are mouses therefore it cannot be said that some key-less are mouses. The conclusion does not follow.
2. All key-less are keyboards: We have 'some keyboards are key-less' which can be said as some key-less are keyboards. Thus it will be wrong to say that all key-less are keyboards. The conclusion does not follow.
Both the conclusion does not follows.
Hence the correct answer is option 3.

Q86. Answer: (a) 53500

Given:
The individual car's production in four years
Formula used:
Add all the given production
Solution:
Production(2001) = 4.5 + 3 + 2 +1.5 =11

Production(2002) = 2.5 + 4.5+ 3 + 5.5 = 15.5
Production(2003) = 3.5 + 2.5 + 3 + 3.5 = 12.5
Production(2004) = 4.5 + 2.5 + 5 + 2.5 = 14.5
Now, Production from 2001-2004 = 11 + 15.5 + 12.5 + 14.5 =53.5
since, the values are in thousands,
Total Production = 53.5 x 1000 = 53500.

Q87. Answer: (a) 2002

Given:
The individual car's production in four years
Formula used:
Add the production of the car for each year
Solution:
Production(2001) = 4.5 + 3 + 2 +1.5 =11
Production(2002) = 2.5 + 4.5+ 3 + 5.5 = 15.5
Production(2003) = 3.5 + 2.5 + 3 + 3.5 = 12.5
Production(2004) = 4.5 + 2.5 + 5 + 2.5 = 14.5
Maximum Production = 15.5 × 1000 = 15500
From the above, we can say that the production was maximum in 2002.

Q88. Answer: (d) 300, 49%

Given:
Number of pages in each book and misprints in it
Formula used:
Total number of pages = sum of all the number of pages given in the table
Percent(Error) = Ratio of Error pages to the total number of pages
Solution:
Total number of pages = sum of all the number of pages given in the table
Total number of pages = 154 + 95 + 36 + 7 + 6 + 2
Total number of pages = 300
Now, the erroneous percent = (300 - 154)/300 x 100
Total pages having error = Total pages - pages having no error
Hence, the erroneous percent = 49%

Q89. Answer: (a) 84%

Given:
Total people = 10,000
Sports = 25%
Entertainment = 46%
Formula used:
Percent value = percent × 10000 over 100
Solution:
Population(sports) = (25 × 10000)/100 = 2500
Population(Entertainment) = (46 × 10000)/100 = 4600
Now, to equal the current viewership, sports need to add 4600 - 2500 = 2100 more population.
Percentage = 2100/2500 x 100 = 84%
Hence, it will need to grow by 84%.

Q90. Answer: (b) 3

Explanation:-
From the given statements, the Venn diagram is:
1. All songs are old.
2. Some old are sweet.

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1. Some songs are sweet: Only some old are sweet and not all old are songs so it will be wrong to say that some songs are sweet. Thus the conclusion does not follow.

2. All songs are sweet: From the above conclusion we can say that no songs are related to sweet so it is safe to say that no song is sweet and this sentence deny this conclusion. Therefore the conclusion does not follow.

3. Some sweets are old: From the statements we have, 'some old are sweet' which can also be stated as some sweets are old. Thus the conclusion follows.

4. No old is a song: According to ' all songs are old' we cannot say that no old is song because there is a direct relation shared between song and old. So the conclusion does not follow.

Only conclusion 3 follows.

Hence the correct answer is option 2.

Q91. Answer: (c) X

Explanation:-

From the given information:

Step 1: W knows more than V.

W > V

Step 2: U knows more than W, but less than X.

X > U > W > V

From the relation we can see that most knowledgeable is X.

Hence the correct answer is option 3.

Q92. Answer: (d) Only conclusion I follows.

Explanation:-

From the statements given:

1. Lack of education is responsible for lower income of a state.

2. Bihar ranks very low in per capita income.

We check whether the conclusions follow or not,

I. Bihar has a lower rate of education: From the statements we get that Bihar ranks very low in per capita income and it is because of lack of education so it is safe to say that Bihar has a low rate of education. Thus the conclusion follows.

II. Bihar is a very historic state: We have no information about the history of Bihar therefore we don't have any evidence supporting this conclusion. Therefore the conclusion does not follow.

So only conclusion I follow.

Hence the correct answer is option 4.

Q93. Answer: (a) 14

Explanation:-

Let's count the squares in the given figure:

There are 9 squares as numbered in the figure.

There are 4 more squares as shown in the figures,

And

So there are total 14 squares in the given figure.

Hence the correct answer is option 1.

Q94. Answer: (a) D

Explanation:-

From the given information we can see that:

After each fruit was assigned to a person only guava and pineapple are left and the two persons are D & E. Since E does not like pineapple, D will be assigned pineapple and E will be assigned Guava.

Name	Liked Fruit
A	Litchi
B	Mango
C	Banana
D	Pineapple

E	Guava

So we can see that D likes pineapple.

Hence the correct answer is option 1.

Q95. Answer: (d) Neither I nor II is implicit.

Explanation:-

From the statement given:

It is required to have a bachelor's degree for getting a job for the post of officer.

We check whether the assumptions are implicit or not,

I. No one can get a job without a bachelor's degree: We get the information about getting a job in a particular post i.e. officer but there is a possibility of getting another job without a bachelor's degree. So the assumption is not implicit.

II. No officer has a higher degree: We cannot assume if any officer has a higher degree or not because the statement does not inform us anything about higher degree. So the assumption is not implicit.

So both assumptions are not implicit.

Hence the correct answer is option 4.

Q96. Answer: (a) 28

Explanation:-

In the given figure, we name each center point O such that:

Now we count in first square:

AOB, BOF, FOE, AOE, ABF, BFE, FEA, EAB -- There are 8 triangles

We have 3 such squares so,

$8 \times 3 = 24$

Now, we have

AFC, BGD, EBG, FCH -- 4 more triangles.

Total triangles = 24 + 4 = 28

Hence the correct answer is option 1.

Q97. Answer: (b) Chilli

Explanation:-

The pattern followed in the given series is:

Jaggery : Sugar -- Both of them are used as sweetners.

Similarly,

Pepper : ? -- Pepper is used for spicy flavor

the ? will be replaced by something that denotes spicy.

Option 1) Green -- It is a color.

Option 2) Chili -- It is used to add spicy flavor.

Option 3) Salt -- It is used to add salty or bitter flavor.

Option 4) White -- It is a color.

Hence the correct answer is option 2.

Q98. Answer: (c) 152 g

Explanation:-

From the given information:

Step 1: E's weight is less than A but more than C.

A > E > C

Step 2: A is heavier than D and B. B is heavier than D.

A > B > D > E > C

Now if weight of B and E is 120 g and 155 g respectively then, weight of C will be less than 155 g because E > C.

So possible weight of C will be 152 g.

Hence the correct answer is option 3.

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Q99. Answer: (a) H13G

Explanation:-

According to the English alphabets and their positional values:

The pattern followed in the given codes is:

• First alphabet is increased to 1 positional values.

• Numbers are prime number series, starting by 3

• Last alphabet is decreased by 1 positional values.

Hence the correct answer is option 1.

Q100. Answer: (c) Mktvkg

Explanation:-

According to the English alphabets and their positional values:

The pattern followed in the given codes is:

• Alphabet is increased to +1, +2, +3, positional values as shown in figure

Similarly,

Hence the correct answer is option 3.

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