RRB NTPC CBT-I Official Paper (Held On: 15 Feb 2021 Shift 2) (Previous Year Paper)

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

Take this paper as a timed mock test

Practise under exam conditions, then review your answers after you submit.

yourmocktest.com/pyq/rrb-ntpc/rrb-ntpc-cbt-i-official-paper-held-on-15-feb-2021-shift-2-previou…

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

Q1. The Jammu and Kashmir Reorganization Bill, 2019 was introduced in Rajya Sabha by the Minister of Home Affairs, Mr. Amit Shah. When did this act of Parliament receive the assent of the President?

(a) August 05, 2019
(b) August 08, 2019
(c) August 06, 2019
(d) August 09, 2019

Q2. Oil India Limited, a Central Public Sector Enterprise (CPSE), is a _____ company.

(a) Miniratna Category-II
(b) Maharatna
(c) Miniratna Category-I
(d) Navratna

Q3. Select the option that is related to the third term in the same way as the second term is related to the first term.

Pen : Writing :: EVM : ?

(a) Voter
(b) VVPAT
(c) Voting
(d) Politician

Q4. Find the Highest Common Factor(H.C.F) of 108, 288 and 360.

(a) 24
(b) 34
(c) 36
(d) 26

Q5. In a rhombus ABCD, if angle ACB = 40º, then angle ADB = ?

(a) 45º
(b) 70º
(c) 60º
(d) 50º

Q6. Find the value of r such that the mean of the first r odd natural numbers is r²over16.

(a) 16
(b) 9
(c) 18
(d) 27

Q7. Which country has played every FIFA Football World Cup since it began?

(a) Germany
(b) England
(c) Brazil

(d) Spain

Q8. A statement is given, followed by two conclusions numbered I and II. You have to assume everything in the statement to be true, then consider the two conclusions together and decide which of them logically follows beyond a reasonable doubt from the information given in the statement.

Statement:

Most of the people like old songs.

Conclusions:

(I) old songs are less costly as compared to new songs.

(II) old songs touch listener's feelings better compared to new songs.

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

Q9. What is the difference between the biggest and the smallest fraction among 2/3, 3/4, 4/5 and 5/6 ?

(a) 1/30
(b) 1/20
(c) 1/6
(d) 1/12

Q10. Which one of the following is a non-metallic mineral?

(a) Sulphur
(b) Iron
(c) Silver
(d) Platinum

Q11. What does GAGAN, a satellite based navigation system, stand for?

(a) Geographical Advanced Geo Augmented Navigation
(b) Geological Advanced Geo Augmented Navigation
(c) GPS Aided Geo Augmented Navigation
(d) Graphic Aided Geo Augmented Navigation

Q12. What is the capital of the state, where the city that has been awarded the cleanest city for the third time from 2017 to 2019, is located?

(a) Raipur
(b) New Delhi
(c) Lucknow
(d) Bhopal

Q13. Which of the following rivers flows into the Arabian Sea?

(a) Sabarmati
(b) Godavari
(c) Luni
(d) Krishna

Q14. If the sum of five consecutive multiples of 2 is 660, then find the largest number.

(a) 136
(b) 125
(c) 162
(d) 130

YourMockTest.com — Free Study Material

Q15. Which country became the 164^(th) member of World Trade Organization on 29 July 2016?

(a) Afghanistan
(b) Seychelles
(c) Kazakhstan
(d) Liberia

Q16. 8 boys and 12 girls together can finish a project work in 5 days. If it takes 50 days for one boy alone to finish the same project, how many days are required for one girl alone to complete the same project work?

(a) 275
(b) 150
(c) 300
(d) 200

Q17. Find the least number which when divided by 5 leaves no remainder, when divided by 4 leaves a remainder of 1, but when divided by 6 or 7, leaves a remainder of 5.

(a) 450
(b) 430
(c) 425
(d) 400

Q18. As per the Constitution of India. Which of the following is NOT an eligibility criteria for the appointment of a state Governor?

(a) He or she must not hold any other office of profit.
(b) He or she must be a citizen of India.
(c) He or she must have qualified for elections as a member of the Rajya Sabha.
(d) He or she must have completed 35 years of age.

Q19. A salesman offers 20% additional discount, after offering an initial discount of 25% on the labelled rate of a laptop. If the final sale price of the laptop is Rs. 18,000, then what was its labelled rate?

(a) Rs. 40,000
(b) Rs. 35,000
(c) Rs. 30,000
(d) Rs. 28,000

Q20. Calculate the least perfect square, which is exactly divisible by each of 2, 5, 7, 8 and 10.

(a) 19600
(b) 19200
(c) 19000
(d) 18600

Q21. Lactose intolerance is:

(a) Characterised by adverse reactions to gluten
(b) a condition in which the small intestines are unable to break down the sugars found in dairy products
(c) a condition where small intestines are unable to break down gluten
(d) a condition where fructose isn't efficiently absorbed into the blood

Q22. The first India International Science Festival (IISF) was held in December 2015 at:

(a) CSIR-National Physical Laboratory, New Delhi
(b) Indira Gandhi Pratishthan, Lucknow
(c) IIT Guwahati
(d) IIT Delhi

YourMockTest.com — Free Study Material

Q23. Which of the following natural resources is an inexhaustible resource?

(a) Petroleum
(b) Natural Gas
(c) Sunlight
(d) Forests

Q24. The Botanical Survey of India is located at:

(a) Mysore
(b) Mumbai
(c) Kolkata
(d) New Delhi

Q25. Calculate the greatest possible length which can be used to measure exactly the lengths 220 cm, 260 cm, and 300 cm.

(a) 10 cm
(b) 20 cm
(c) 25 cm
(d) 15 cm

Q26. 2 October 2019 marks the_____ birth anniversary of Mahatma Gandhi.

(a) 151^(th)
(b) 150^(tn)
(c) 149^(th)
(d) 152^(th)

Q27. Which of the following web browsers is NOT a proprietary software?

(a) Safari
(b) Internet Explorer
(c) opera
(d) Mozilla Firefox

Q28. Which of the following is the indigenously developed Beyond-Visual-Range Air- to-Air Missile (BVRAAM), successfully test-fired by the Indian Air Force in September 2018?

(a) BrahMos
(b) Astra
(c) Prahaar
(d) Dhanush

Q29. What is the full form of 'PARIVESH', a single window integrated system for environment, forest, wildlife and CRZ clearances launched in August 2018?

(a) Pradhanmantri Advanced and Responsive facilitation by Interactive, Virtuous and Environmental single-window Hub
(b) Programmable Active and Responsive facilitation by Interactive, Virtuous and Environmental single-window Hub
(c) Performance based Active and Responsive facilitation by Interactive, virtuous and Environmental single-window Hub
(d) Pro-Active and Responsive facilitation by Interactive, Virtuous and Environmental single-window Hub

Q30. If $x^2 - 1$ is a factor of $ax^4 + bx^3 + cx^2 + dx + e$, then which of the following is a possible relation between the coefficients of power of x

(a) b + c + d = a + e
(b) a + c + e = b + d
(c) a + b + e = c + d
(d) a + b + c = d + e

YourMockTest.com — Free Study Material

Q31. The least value of $2\sin^2\theta + 3\cos^2\theta$ is:

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

Q32. Who was the author of the literary work 'Ratnavali'?

(a) Harshavardhana
(b) Chanakya
(c) Shudraka
(d) Kalidasa

Q33. The Speed of a microprocessor is known as:

(a) Bit Rate
(b) Clock Speed
(c) Mega Speed
(d) Cycle Speed

Q34. In a certain code language, DOOR is written as FRSW. How will FAN be written as in that language?

(a) HBP
(b) GBO
(c) HDR
(d) NAF

Q35. Calculate the positive number which when added by 15 is equal to 100 times the reciprocal of the number.

(a) 10
(b) 20
(c) 5
(d) 15

Q36. The 'India Lounge', set up by the IBEF was inspired by the 'Make in India' programme. What does IBEF stand for?

(a) India Brand Equity Foundation
(b) India Brand Equality Foundation
(c) India Branch Equity Foundation
(d) India Brand Equal Foundation

Q37. A statement is given, followed by two assumptions numbered I and II. You have to consider the statement and the following assumptions and decide which of the assumptions is implicit in the statement.

Statement:

Nowadays, Indian cricket team plays very well.

Assumptions:

(I) The teams of other countries are not interested towards cricket.

(II) It is happening by chance.

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

Q38. Shadows are formed when _____ objects come in the path of light.

(a) Luminous
(b) transparent
(c) translucent
(d) opaque

YourMockTest.com — Free Study Material

Q39. P is the mid-point of side BC of a parallelogram ABCD such that angle BAP = angle DAP. If AD = 10 cm, then CD = ?

(a) 10 cm
(b) 8 cm
(c) 6 cm
(d) 5 cm

Q40. Select the option that will fill in the blank and complete the given series.

E, G, J, N, _____

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

Q41. I have four cans of paint--pink, blue, green and tan, manufactured by Garden, Hartley, Finesse and Indiana, not necessarily in the same order. One is an automobile paint, one is for marine application, the third is for doors and interiors and the fourth for exteriors. The green, which is not for interiors, is from Hartley. Indiana makes the blue paint and the pink is for automobiles. The exterior paint is produced by Finesse. Which company manufactures the tan paint?

(a) Hartley
(b) Garden
(c) Finesse
(d) Indiana

Q42. Pick the odd one out.

(a) Knife
(b) Fork
(c) Pan
(d) Spoon

Q43. Which of the following is NOT a classification of Public Sector Undertakings (PSUs)?

(a) State Private Sector Enterprises (SPSEs)
(b) Public Sector Banks (PSBs)
(c) Central Public Sector Enterprises (CPSEs)
(d) Public Sector Enterprises (PSEs)

Q44. As per the 2011 Census of India, approximately what percentage of the Indian population lives in urban areas?

(a) 28.15%
(b) 30.15%
(c) 29.15%
(d) 31.15%

Q45. Find the two-digit number such that the sum of its digits is 8 and the digits of the number get reversed when 36 is added to it.

(a) 35
(b) 62
(c) 71
(d) 26

Q46. Find the value of 0.5×0.5+0.09-0.15over0.125+0.027

(a) 5over6
(b) 3over4
(c) 4over5
(d) 5over4

YourMockTest.com — Free Study Material

Q47. The headquarters of the UNEP is located at_____.

(a) Frankfurt, Germany
(b) Mandaluyong, Philippines
(c) Johannesburg, South Africa
(d) Nairobi, Kenya

Q48. From a structural point of view, all ecosystems consist of abiotic and biotic factors. Which of the following is a biotic factor of an ecosystem?

(a) Temperature
(b) Carbon dioxide
(c) Green plants
(d) Atmospheric humidity

Q49. Which city is Known as 'Venice of the East' Where the City Palace is located?

(a) Mumbai
(b) Udaipur
(c) Mysore
(d) Manali

Q50. In a certain code language, PEN is written as 16514. How will INK be written as in that language?

(a) 101411
(b) 91310
(c) 91411
(d) 91311

Q51. Al-Biruni wrote his book 'Kitab-ul-Hind' in which language?

(a) Persian
(b) Arabic
(c) Sanskrit
(d) Syriac

Q52. A revised version of the 'India-Bangladesh Land Boundary Agreement' was adopted by the two countries under which amendment to the Construction of India?

(a) 101^(st) Constitutional Amendment Bill, 2016
(b) 98^(th) Constitutional Amendment Bill, 2012
(c) 99th Constitutional Amendment Bill, 2014
(d) 100^(th) Constitutional Amendment Bill, 2015

Q53. If X > 1, and X+{1/X} = √(29), what is the value of X-{1/X}?

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

Q54. The Gandhi Peace Prize awards for social, economic and political transformation through non-violence were instituted in the year:

(a) 1995
(b) 2001
(c) 1985
(d) 1990

Q55. Calculate the total surface area of a cone if its radius is r/4 and slant Height is 4l.

(a) 2πrl
(b) 2πr (l + r)
(c) π r(l + r/16)

YourMockTest.com — Free Study Material

(d) πr (l + r)

Q56. In an examination, 45% of the student qualified and 79750 are not qualified. How many students appeared for the examination?

(a) 145000
(b) 140000
(c) 145250
(d) 154000

Q57. Who is appointed as CEO of Air India Express in November 2020?

(a) Aloke Singh
(b) Rajeev Kumar
(c) sunil Lamba
(d) V Muraleedharan

Q58. Four cricketers, David, Rashid, Vijay and Kamal of the national team represent Kerala, Punjab, Maharashtra and West Bengal thought not necessarily in that order. We have the following information about them:

(1) Two of them are bowlers and two are batsmen.

(2) David is from Kerala and Rashid is not from Punjab but he is a bowler.

(3) One of the batsmen is a Maharashtrian but Vijay is neither.

(4) The Kerala player is not a bowler.

Which of the following is a batsmen-bowler pair?

(a) David-Vijay
(b) Vijay-Rashid
(c) Vijay-David
(d) Rashid-Kamal

Q59. You are given the following two statements:

1. All rhinos are pigs.

2. Some flies are pigs.

Which of the following conclusions is/are true?

A. No fly is a rhino.

B. Some flies are rhinos.

(a) Both A and B
(b) Neither A nor B
(c) Only B
(d) Either A or B

Q60. If a lit candle is covered with a glass tumbler, the flame gets extinguished after some time. What is the reason for this?

(a) Due to limited oxygen the covered candle got extinguished after some time.
(b) Due to limited carbon dioxide the covered candle got extinguished after some time.
(c) Due to limited sulphur the covered candle got extinguished after some time.
(d) Due to limited nitrogen the covered candle got extinguished after some time.

Q61. Select the option that is related to the third term in the same way as the second number is related to the first term.

SHOES : 19815519 :: SHIRT : ?

(a) 19891819
(b) 20189819
(c) 19891820
(d) 19891821

YourMockTest.com — Free Study Material

Q62. Arrange the following historical events in their chronological order.

A. Nadir Shah invades Indian and attacks Delhi.

B. The Diwani of Bengal is transferred to the East India Company.

C. Humayun regains lost territories.

D. Ahmad Shah Abdali defeats the Marathas in the third battle of Panipat.

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

Q63. Find the value of sin 78° + cos 132°

(a) sin 18°
(b) sin 42°
(c) cos 42°
(d) cos 18°

Q64. Gold and silver are melted together in the ratio 8 : 12. If 30 Kg of gold is consumed then find the weight of the melted mixture.

(a) 75 Kg
(b) 60 Kg
(c) 70 Kg
(d) 58 Kg

Q65. The sum of the first 20 terms of the series 1/5×6+1/6×7+1/7×8+..... is:

(a) 1.6
(b) 0.016
(c) 16
(d) 0.16

Q66. Suresh can finish a job in 10 days and Ramesh can finish it in 12 days. Calculate the fraction of the job that is remaining after they work on it together for 4 days.

(a) 7/15
(b) 1/10
(c) 4/15
(d) 8/15

Q67. A student goes to his college from his hostel at the speed of 4 Km/h and returns at the speed of 3 Km/h. If he takes 7 h in going and coming, the distance between his college and hostel is:

(a) 16 Km
(b) 15 Km
(c) 13 Km
(d) 12 Km

Q68. Select the INCORRECT pair.

(a) Car-Mechanic
(b) Bus-Driver
(c) Airplane-Pilot
(d) TV-Remote

Q69. Select the letter that will come next in the following series.

D, F, H, J, L ?

(a) N
(b) M
(c) O

YourMockTest.com — Free Study Material

(d) L

Q70. Calculate the value of √(80)+4√5 if 2√5+√(125)=7X

(a) 6 X
(b) 8 X
(c) 9 X
(d) 7.5 X

Q71. A sum of money increases to Rs. 7,500 after 5 years and Rs. 9,200 after 7 years respectively at the same rate of simple interest. Find the approximate rate of interest per annum.

(a) 25.3%
(b) 28.3%
(c) 26.2%
(d) 27.4%

Q72. The movement responsible for drifting of the continents was caused by the polar-fleeing force and tidal force. The polar-fleeing force is related to:

(a) tides
(b) gravitational attraction of the moon and sun
(c) gravitation
(d) rotation of the earth

Q73. Who among the following has been the longest-serving chief minister of an Indian state?

(a) Mulayam Singh Yadav
(b) Narendra Modi
(c) Shivraj Singh Chouhan
(d) Pawan Kumar Chamling

Q74. A high level source program must be translated first into a form that the machine can understand. This is done using a software called the:

(a) debugger
(b) assembler
(c) controller
(d) compiler

Q75. If 31 C 19 D 57 = 93 and 52 C 13 D 5 = 20, then 98 C 14 D 11 = ?

(a) 77
(b) 79
(c) 73
(d) 75

Q76. Out of 500 students in a college, 350 play cricket, 125 play kabaddi, 75 neither play cricket nor kabaddi. Find the percentage of the number of the students who play both kabaddi and cricket.

(a) 15%
(b) 12%
(c) 20%
(d) 10%

Q77. A man buys a cycle for Rs. 1600 and sells it at a loss of 20%. What is the selling price of the cycle?

(a) Rs. 1280
(b) Rs. 1330
(c) Rs. 1120
(d) Rs. 1060

YourMockTest.com — Free Study Material

Q78. which of the following is NOT a Himalayan Mountain Pass connecting Uttarakhand with Tibet?

(a) Shipki La
(b) Niti Pass
(c) Mana Pass
(d) Mangsha Dhura

Q79. The rate of change of momentum of an object is proportional to the applied unbalanced force in the direction of the force. This rule is known as:

(a) Newton's Third Law of Motion
(b) Newton's Fourth Law of Motion
(c) Newton's Second Law of Motion
(d) Newton's First Law of Motion

Q80. Who was awarded the Bal Shakti Puraskar-2019 for excellence in the field of innovation-a breakthrough technology for diagnosing pre-symptomatic protein energy malnutrition non-invasively by using paper?

(a) Arunima Sen
(b) Mohammed Suhail Chinya Salimpasha
(c) Naisargik Lenka
(d) Aryamaan Lakhotia

Q81. Three couples are sitting at a round table facing the center. No more than two men (or two women) are sitting next to each other. No man is sitting next to his wife. B is sitting to the immediate left of C whose wife is sitting exactly opposite the letter. A and his wife are sitting on either side of the wife of C. who are sitting to the immediate left and the immediate right of A?

(a) The wives of B and C
(b) The wives of C and B
(c) C and the wife of B
(d) B and the wife of C

Q82. 'Startup India' is a flagship initiative of the Government of India, intended to catalyse startup culture and build a strong and inclusive ecosystem for innovation and entrepreneurship in India. This flagship initiative was launched on:

(a) 26^(th)January 2016
(b) 16^(th)January 2016
(c) 16th January 2015
(d) 26th January 2015

Q83. First ever Khelo India Zanskar Winter Sports festival was inaugurated in January 2021 at_____.

(a) Manali
(b) Kargil
(c) Gulmarg
(d) Srinagar

Q84. In triangle ABC, if $\sin A \cos B = 1/4$ and $3 \tan A = \tan B$, then $\cot^2 A$ is equal to:

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

Q85. If a sum on compound interest becomes 4 times in 3 years, then with the same interest rate, the sum will become 64 times in:

(a) 15 years
(b) 12 years
(c) 8 years
(d) 9 years

YourMockTest.com — Free Study Material

Q86. Ravi goes to a movie on the first Wednesday of every month. Last month he went for the movie on 6^(th) August. Today he is going for the movie. what is today's date?

(a) 4^(th) September
(b) 1^(st)September
(c) 3^(rd)September
(d) 2^(nd)September

Q87. Read the information carefully and answer the question that follows.

A is older than M. G is older than M but younger than A. K is younger than R and M. M is older than R. Who is youngest among all?

(a) M
(b) A
(c) R
(d) K

Q88. If M is N's sister, O is N's wife, Q is the father of N, and P is the daughter of Q, then what is the relation between M and P?

(a) Sister-Brother
(b) Sisters
(c) Mother-Daughter
(d) Mother-in-law-Daughter-in-law

Q89. Mona ranked is 9^(th)from the top and 36^(th) from the bottom in a class. How many students are there in the class?

(a) 44
(b) 47
(c) 46
(d) 45

Q90. A,B, C and D, members of a library, borrow books in Bengali, Gujarati, Tamil and Urdu, each of a different genre (biography, essay, novel and play). The essays and plays are in Bengali and Urdu respectively. A does not read Urdu or Tamil. B borrowed neither the Biography nor the Gujarati book. D who reads Tamil is not interested in plays. C and A borrowed Bengali book and a novel respectively. Which of the following language-genre combinations is correct with respect to the given information?

(a) Tamil-Essay
(b) Tamil-Biography
(c) Gujarati-Biography
(d) Gujarati-Play

Q91. If × means divide, + means multiplication, ÷ means addition and - means subtraction then find the value of

104 × 13 + 9 ÷ 3 - 25 = ?

(a) 1000
(b) 50
(c) 118
(d) 354

Q92. Select the option that is related to the fourth term in the same way as the first term is related to the second term.

Uttarakhand : Mussoorie :: ? : Shillong

(a) Assam
(b) Sikkim`
(c) Meghalaya
(d) Arunachal Pradesh

YourMockTest.com — Free Study Material

Q93. Select the option that is related to the third term in the same way as the second term is related to the first term.

Gujarat : Gandhinagar :: Haryana : ?

(a) Chandigarh
(b) Panipat
(c) Delhi
(d) Kurukshetra

Q94. Pick the odd one out.

(a) Garba
(b) Kalaripayattu
(c) Bhangra
(d) Jhumar

Q95. Pick the odd one out.

(a) Shampoo
(b) Soap
(c) Oil
(d) Comb

Q96. Select the option that will fill in the blank and complete the given series.

13, 16, 22, 31, 43, _____

(a) 58
(b) 53
(c) 49
(d) 63

Q97. Four girls A to D are going to dance classes wearing dresses of different colours (red, yellow, blue and white). Their areas are Chhau, Bharatanatyam, Manipuri and Kathak. The Kathak student is in yellow dress. D is in white dress. The Chhau dancer is wearing red dress. A is learning Manipuri. The girl learning Bharatanatyam is not in blue dress. The one in yellow dress is C. Which of the following combinations is correct with respect the given information?

(a) B- Red - Chhau
(b) A- Blue - Kathak
(c) D - White - Kathak
(d) C- Yellow - Bharatanatyam

Q98. Select the option that will fill in the blank and complete the given series.

13, 17, 25, 37, 53, _____

(a) 69
(b) 73
(c) 63
(d) 65

Q99. Select the option that will fill in the blank and complete the given series.

6, 8, 12, 28, _____

(a) 56
(b) 256
(c) 284
(d) 60

Q100. What is 8 percent of 20 percent of 40?

(a) 0.80
(b) 0.64
(c) 4.80
(d) 6.64

YourMockTest.com — Free Study Material

ANSWER KEY

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

SOLUTIONS

Q1. Answer: (d) August 09, 2019

The correct answer is August 09, 2019

Key Points

• The Jammu and Kashmir Reorganization Bill, 2019 received the assent of the President on August 09, 2019.

• This act of Parliament reorganized the state of Jammu and Kashmir into two Union Territories: Jammu and Kashmir, and Ladakh.

• The reorganization aimed to provide better governance and ensure the integration of the region with the rest of India.

• The bill was introduced in the Rajya Sabha by the Minister of Home Affairs, Mr. Amit Shah.

Additional Information

• The reorganization came into effect on October 31, 2019, the birth anniversary of Sardar Vallabhbhai Patel, who is remembered for his role in the integration of India.

• The Jammu and Kashmir Reorganization Act, 2019, also led to the abrogation of Article 370, which granted special autonomy to the region.

• This decision was met with various political reactions and has had significant implications for the region's governance and administration.

Q2. Answer: (d) Navratna

The correct answer is Navratna

Key Points

• Oil India Limited is a Central Public Sector Enterprise (CPSE).

• It is classified as a Navratna company.

• Navratna status is a recognition given by the Government of India to public sector enterprises that have comparative advantages and greater autonomy to compete in the global market.

• This status allows the company to invest up to a certain limit without seeking government approval.

• Oil India Limited is engaged in the business of exploration, development, and production of crude oil and natural gas, transportation of crude oil, and production of LPG.

Additional Information

• Oil India Limited was established in 1959 and is headquartered in Duliajan, Assam, India.

• It is the second-largest hydrocarbon exploration and production (E&P) company in India.

• In addition to India, Oil India Limited has operations in countries like Libya, Gabon, Nigeria, Sudan, Venezuela, Mozambique, Bangladesh, and the USA.

• The company has received several awards for its performance and contribution to the oil and gas sector.

• Oil India Limited plays a significant role in the energy security of India.

YourMockTest.com – Free Study Material

Q3. Answer: (c) Voting

The logic followed here is:

Logic: Tool and its Function.

Here,

Pen : Writing → Pen is a tool used for Writing.

Similarly,

EVM : Voting → EVM is a tool used for Voting.

Hence, the correct answer is "Option 3".

Q4. Answer: (c) 36

Given:

Numbers: 108, 288, 360

Formula Used:

To find the H.C.F of multiple numbers, we use the prime factorization method.

Calculation:

Prime factorization of 108:

$108 = 2^2 \times 3^3$

Prime factorization of 288:

288 = 2^5 × 3^2

Prime factorization of 360:

$360 = 2^3 \times 3^2 \times 5$

To find the H.C.F, we take the lowest power of all common prime factors:

Common prime factors: 2 and 3

Lowest power of 2: 2^2

Lowest power of 3: 3^2

=> $H.C.F = 2^2 \times 3^2$

=> H.C.F = 4 × 9

=> H.C.F = 36

The H.C.F of 108, 288, and 360 is 36.

Q5. Answer: (d) 50º

Shortcut Trick

In a rhombus, the diagonals are perpendicular to each other, so the angle at the intersection point is 90º (angle AOD = 90º).

Since opposite sides of a rhombus are parallel (AD || BC), the alternate interior angles are equal:

=> angle DAC = angle ACB = 40º

In the right-angled triangle AOD, the sum of acute angles is 90º:

=> angle ADB = 90º − angle DAC = 90º − 40º = 50º.

Therefore The correct answer is 50º.

Alternate Method

Given:

In a rhombus ABCD, the angle angle ACB = 40º.

Properties Used:

1. The diagonals of a rhombus bisect each other at right angles (90º).

2. Opposite sides of a rhombus are parallel (AD || BC).

Calculations:

Let the diagonals AC and BD intersect each other at point O.

=> angle AOD = 90º (Diagonals are perpendicular)

Since AD || BC and AC is a transversal line:

=> angle DAC = angle ACB (Alternate interior angles)

Given that angle ACB = 40º:

=> angle DAC = 40º

Now, in triangle AOD, the sum of all interior angles is 180º:

YourMockTest.com — Free Study Material

=> angle ADB + angle DAC + angle AOD = 180º

=> angle ADB + 40º + 90º = 180º

=> angle ADB + 130º = 180º

=> angle ADB = 180º − 130º

=> angle ADB = 50º

Therefore The correct answer is 50º.

Additional Information

Properties of Rhombus Diagonals

The diagonals of a rhombus bisect each other at right angles (90º) and also bisect the internal angles of the vertices they connect.

Area of a Rhombus

The area of a rhombus can be calculated using the lengths of its diagonals: Area = (1 ÷ 2) × d1 × d2, where d1 and d2 are the diagonals.

Relation between Sides and Diagonals

The sum of the squares of the diagonals is equal to four times the square of any side: $d1^2 + d2^2 = 4 \times a^2$, where a is the side length.

Q6. Answer: (a) 16

Given:

Mean of the first r odd natural numbers = r²over16

Formula used:

Mean of the first r odd natural numbers = Sum of the first r odd natural numbers / r

Sum of the first r odd natural numbers = r^2

Calculation:

Mean of the first r odd natural numbers:

=> $r^2/r = r$

Given:

=> $r = r^2/16$

Multiplying both sides by 16:

=> $16r = r^2$

=> $r^2 - 16r = 0$

=> $r(r - 16) = 0$

=> r = 16 (since r cannot be 0)

Therefore The value of r is 16.

Q7. Answer: (c) Brazil

The correct answer is Brazil

Key Points

• Brazil is the only country that has participated in every FIFA Football World Cup since its inception in 1930.

• The FIFA World Cup is an international football competition contested by the men's national teams of the member associations of FIFA.

• Brazil is known for its rich football history and has won the World Cup a record five times.

• The country has produced many legendary football players, including Pelé, Zico, Romário, Ronaldo, and Neymar.

Additional Information

• The first FIFA World Cup was held in 1930 in Uruguay, and it is held every four years.

• Brazil won its first World Cup in 1958, followed by victories in 1962, 1970, 1994, and 2002.

• The World Cup is one of the most widely viewed and followed sporting events in the world, with an estimated 3.5 billion people tuning in to watch the 2018 tournament.

• The tournament format involves a qualification phase, which takes place over the preceding three years, to determine which teams qualify for the tournament phase.

• The current format of the tournament involves 32 teams competing for the title at venues within the host nation(s) over a period of about a month.

YourMockTest.com — Free Study Material

Q8. Answer: (c) Only conclusion II follows.

Given,

Statement:

Most of the people like old songs.

Conclusions:

I. Old songs are less costly as compared to new songs - False (Because the statement does not provide any information regarding the cost of old songs compared to new songs).

II. Old songs touch listener's feelings better compared to new songs - True (Because the statement mentions that most people like old songs, which can imply that old songs resonate more with listeners' emotions).

So, Only conclusion II follows.

Hence, the correct answer is "Option 3".

Q9. Answer: (c) 1/6

Given:

We have to find the difference between the biggest and the smallest fraction among 2/3, 3/4, 4/5 and 5/6

Calculation:

The denominator of all fractions are 3, 4, 5 and 6

LCM of 3, 4, 5 and 6 is 60

Now equation all denominators with 60 get,

2 over 3 → 2 × 20 over 3 × 20 = 40 over 60

3 over 4 → 3 × 15 over 4 × 15 = 45 over 60

4 over 5 → 4 × 12 over 5 × 12 = 48 over 60

5 over 6 → 5 × 10 over 6 × 10 = 50 over 60

Now, 50 > 48 > 45 > 40

=> 50/60 > 48/60 > 45/60 > 40/60

=> 5/6 > 4/5 > 3/4 > 2/3

The biggest number is 5/6 and the smallest number is 2/3

The difference between the biggest and smallest number is (5/6) - (2/3) = 1/6

Q10. Answer: (a) Sulphur

The correct answer is Sulphur

Key Points

• Sulphur is a non-metallic mineral, distinguishing it from metals like iron, silver, and platinum.

• Non-metallic minerals are those minerals that do not contain metal elements in their inorganic chemical formula.

• They are typically used in a variety of industries including construction, agriculture, and chemical manufacturing.

• Sulphur is commonly used in the production of fertilizers, chemicals, and in the vulcanization of rubber.

Additional Information

• Iron, Silver, and Platinum are all metallic minerals, characterized by their ability to conduct electricity, heat, and their malleability.

• Metallic minerals are essential for various industrial applications including construction, electronics, and transportation.

• Non-metallic minerals, like sulphur, are typically more abundant and less expensive compared to metallic minerals.

• The distinction between metallic and non-metallic minerals is crucial for their respective applications and industries.

Q11. Answer: (c) GPS Aided Geo Augmented Navigation

The correct answer is GPS Aided Geo Augmented Navigation

Key Points

• GAGAN stands for GPS Aided Geo Augmented Navigation.

• It is a satellite-based augmentation system (SBAS) developed by the Indian Space Research Organisation (ISRO) and the Airports Authority of India (AAI).

• The primary objective of GAGAN is to provide accurate and reliable navigation services over the Indian airspace, which is crucial for civil aviation.

• GAGAN improves the accuracy, integrity, and availability of GPS signals to meet the stringent requirements for civil aviation and other applications.

• It is the first SBAS system in the world to serve the equatorial region.

Additional Information

YourMockTest.com — Free Study Material

• GAGAN is interoperable with other international SBAS systems such as the US Wide Area Augmentation System (WAAS), European Geostationary Navigation Overlay Service (EGNOS), and Japan's Multi-functional Satellite Augmentation System (MSAS).

• The system enhances the accuracy of GPS to within 1.5 meters, compared to the 20-meter accuracy provided by unaugmented GPS.

• GAGAN is also intended to support a range of other applications including surveying, marine navigation, and disaster management.

• The system covers the entire Indian Flight Information Region (FIR) and extends beyond into neighboring regions.

Q12. Answer: (d) Bhopal

The correct answer is Bhopal

Key Points

• Indore has been awarded the cleanest city in India for the third consecutive time from 2017 to 2019.

• Indore is located in the state of Madhya Pradesh.

• The capital of Madhya Pradesh is Bhopal.

• Bhopal is known for its historical significance and beautiful lakes, earning it the nickname "City of Lakes".

Additional Information

• Swachh Survekshan is an annual survey of cleanliness, hygiene, and sanitation in cities and towns across India.

• It was launched as part of the Swachh Bharat Abhiyan, a campaign by the Government of India to clean the streets, roads, and infrastructure of the country's cities and rural areas.

• Indore has consistently ranked at the top due to its effective waste management systems and public engagement in cleanliness initiatives.

• Madhya Pradesh, with its capital at Bhopal, has several other cities like Gwalior and Jabalpur that also participate actively in the Swachh Bharat Abhiyan.

Q13. Answer: (a) Sabarmati

The correct answer is Sabarmati

Key Points

• Sabarmati is one of the rivers that flows into the Arabian Sea.

• The Sabarmati River originates in the Aravalli Range of the Udaipur District of Rajasthan and flows through the state of Gujarat before emptying into the Arabian Sea.

• Other major rivers that flow into the Arabian Sea include the Narmada and the Tapi.

• The Arabian Sea is part of the northern Indian Ocean and is situated between the Indian subcontinent and the Arabian Peninsula.

Additional Information

• The Godavari is the second-longest river in India but it flows into the Bay of Bengal.

• The Luni is an endorheic river, meaning it does not flow into any sea or ocean but ends in the Rann of Kutch.

• The Krishna River is one of the longest rivers in India, flowing into the Bay of Bengal.

• Rivers play a crucial role in the geography, economy, and culture of the regions they flow through, providing water for irrigation, drinking, and industrial purposes.

Q14. Answer: (a) 136

Given:

Sum of five consecutive multiples of 2 = 660

Formula Used:

Sum of an arithmetic sequence = n/2 × (first term + last term)

Calculation:

Let the five consecutive multiples of 2 be 2n, 2(n+1), 2(n+2), 2(n+3), and 2(n+4).

Sum = 2n + 2(n+1) + 2(n+2) + 2(n+3) + 2(n+4)

Sum = 2n + 2n + 2 + 2n + 4 + 2n + 6 + 2n + 8

Sum = 10n + 20

Given Sum = 660

=> 10n + 20 = 660

=> 10n = 660 - 20

=> 10n = 640

=> n = 64

The five consecutive multiples of 2 are 2×64, 2×65, 2×66, 2×67, 2×68

=> 128, 130, 132, 134, 136

The largest number is 136.

The correct answer is option 1.

Q15. Answer: (a) Afghanistan

The correct answer is Afghanistan

Key Points

• Afghanistan became the 164th member of the World Trade Organization (WTO) on 29 July 2016.

• The WTO is an international organization that regulates trade between nations with the aim of ensuring that trade flows as smoothly, predictably, and freely as possible.

• As a member, Afghanistan is expected to benefit from the global trading system which includes access to international markets and the ability to participate in the formulation of global trade rules.

• Afghanistan's accession to the WTO was seen as a significant step towards integrating the country into the global economy and promoting economic growth and development.

Additional Information

• The World Trade Organization (WTO) was established on 1 January 1995 and is the successor to the General Agreement on Tariffs and Trade (GATT).

• The WTO provides a framework for negotiating trade agreements and a dispute resolution process aimed at enforcing participants' adherence to WTO agreements.

• As of now, the WTO has 164 member countries and is headquartered in Geneva, Switzerland.

• Membership in the WTO is seen as a sign of a country's commitment to the principles of open trade and economic reform.

Q16. Answer: (c) 300

Given:

8 boys and 12 girls together can finish a project work in 5 days.

It takes 50 days for one boy alone to finish the same project.

Formula Used:

Work Rate of one boy = 1 / Days taken by one boy

Work Rate of one girl = 1 / Days taken by one girl

Combined Work Rate = Sum of individual work rates

Work Rate × Time = Total Work

Calculation:

Work Rate of one boy = 1 / 50

Let the number of days required for one girl alone to complete the project be x.

Work Rate of one girl = 1 / x

Combined Work Rate of 8 boys and 12 girls = 8 × (1/50) + 12 × (1/x)

Combined Work Rate of 8 boys and 12 girls = (8/50) + (12/x)

Total Work = 1 (since one complete project is considered as 1 unit of work)

Work Rate × Time = Total Work

[(8/50) + (12/x)] × 5 = 1

=> (8/50) + (12/x) = 1/5

=> 8/50 + 12/x = 1/5

=> 8x + 600 = 10x

=> 600 = 2x

=> x = 600 /2

=> x = 300

One girl alone can complete the project in 300 days.

Q17. Answer: (c) 425

Given:

The number leaves no remainder when divided by 5.

The number leaves a remainder of 1 when divided by 4.
The number leaves a remainder of 5 when divided by 6 or 7.
Formula Used:
Let the number be x.
From the given conditions:
x ≡ 0 pmod 5
x ≡ 1 pmod 4
x ≡ 5 pmod 6
x ≡ 5 pmod 7
Calculation:
Start by considering the smallest number that satisfies x ≡ 0 pmod 5 :
Let x = 5k.
Since x ≡ 1 pmod 4 :
5k ≡ 1 pmod 4
=> m
=> k ≡ 1 pmod 4
Let n.
Therefore, x = 5(4n + 1) = 20n + 5.
Now, x ≡ 5 pmod 7.
So, 20n + 5 ≡ 5 pmod 7.
These are always true for all integers n.
We need to find the smallest n = 0 :
=> x = 20(0) + 5 = 5 (This does not satisfy all conditions)
Check for n = 1 :
=> x = 20(1) + 5 = 25 (This does not satisfy all conditions)
Check for n = 2 :
=> x = 20(2) + 5 = 45 (This does not satisfy all conditions)
Check for n = 3 :
=> x = 20(3) + 5 = 65 (This does not satisfy all conditions)
Continue this process until we find the correct x.
Check for n = 20 :
=> x = 20(20) + 5 = 405 (This does not satisfy all conditions)
Check for n = 21 :
=> x = 20(21) + 5 = 425 (This satisfies all conditions)
The least number is 425.

Q18. Answer: (c) He or she must have qualified for elections as a member of the Rajya Sabha.

The correct answer is He or she must have qualified for elections as a member of the Rajya Sabha
Key Points
• According to the Constitution of India, the eligibility criteria for the appointment of a state Governor include:
• He or she must not hold any other office of profit.
• He or she must be a citizen of India.
• He or she must have completed 35 years of age.
• The criteria that is NOT required is that the individual must have qualified for elections as a member of the Rajya Sabha.
Additional Information
• The Constitution of India does not specify that a Governor must have qualified for elections as a member of the Rajya Sabha.
• The Governor is appointed by the President of India and holds office at the President's pleasure.
• The role of the Governor includes being the constitutional head of the state and acting on the advice of the state's Council of Ministers.
• The Governor also has certain discretionary powers that can be exercised in specific situations.

YourMockTest.com — Free Study Material

Q19. Answer: (c) Rs. 30,000

Given:

Final sale price of the laptop = Rs. 18,000

Initial discount = 25%

Additional discount = 20%

Formula Used:

Final Sale Price = Labelled Rate × (1 - Initial Discount) × (1 - Additional Discount)

Calculation:

Let the labelled rate be Rs. L.

Initial Discount = 25% = 0.25

Additional Discount = 20% = 0.20

Final Sale Price = Labelled Rate × (1 - 0.25) × (1 - 0.20)

Rs. 18,000 = Rs. L × 0.75 × 0.80

Rs. 18,000 = Rs. L × 0.60

=> Rs. L = Rs. 18,000 / 0.60

=> Rs. L = Rs. 30,000

The labelled rate of the laptop was Rs. 30,000.

Q20. Answer: (a) 19600

Given:

We need to find the least perfect square that is exactly divisible by each of 2, 5, 7, 8, and 10.

Formula Used:

To find the least perfect square divisible by given numbers, we need to find the Least Common Multiple (LCM) of those numbers and then make sure the result is a perfect square.

Calculation:

Prime factorization of the given numbers:

$2 = 2^1$

$5 = 5^1$

$7 = 7^1$

$8 = 2^3$

$10 = 2^1 \times 5^1$

LCM is found by taking the highest powers of all prime numbers:

$LCM = 2^3 \times 5^1 \times 7^1$

$LCM = 8 \times 5 \times 7$

LCM = 280

To make 280 a perfect square, we need to balance the powers of all primes:

$280 = 2^3 \times 5^1 \times 7^1$

We need even powers for a perfect square:

2^3 needs one more 2 to become 2^4

5^1 needs one more 5 to become 5^2

7^1 needs one more 7 to become 7^2

So, we multiply LCM by $2^1 \times 5^1 \times 7^1 = 70$

=> Least perfect square = 280 × 70

=> Least perfect square = 19600

The least perfect square, which is exactly divisible by each of 2, 5, 7, 8, and 10 is 19600.

Q21. Answer: (b) a condition in which the small intestines are unable to break down the sugars found in dairy products

The correct answer is a condition in which the small intestines are unable to break down the sugars found in dairy products

Key Points

• Lactose intolerance is a condition where the small intestines cannot effectively break down lactose, the sugar found in dairy products.

• This occurs due to a deficiency of lactase, the enzyme responsible for digesting lactose.

• Symptoms of lactose intolerance include bloating, diarrhea, and abdominal pain after consuming dairy products.

YourMockTest.com — Free Study Material

• It is different from a milk allergy, which involves the immune system reacting to proteins in milk.

• Management of lactose intolerance often involves dietary adjustments, such as reducing or eliminating dairy intake or using lactose-free products.

Additional Information

• Lactase persistence is the continued activity of the lactase enzyme into adulthood, which is genetically determined and varies among populations.

• Populations with historically high dairy consumption, such as those in Northern Europe, have higher rates of lactase persistence.

• Non-dairy calcium sources include leafy green vegetables, fortified plant-based milks, and supplements.

• Some individuals with lactose intolerance can tolerate small amounts of dairy or certain dairy products like hard cheeses and yogurt.

• Consulting with a healthcare provider or a dietitian can help in managing lactose intolerance effectively.

Q22. Answer: (d) IIT Delhi

The correct answer is IIT Delhi

Key Points

• The first India International Science Festival (IISF) was held in December 2015 at IIT Delhi.

• The IISF is a celebration to promote science and technology and demonstrate how science could lead India towards a developed nation.

• It aims to engage the public with science, celebrate the joy of science and show how science, technology, engineering, and mathematics (STEM) provide solutions to improve lives.

• The festival includes various events such as lectures, workshops, exhibitions, and competitions to foster scientific temper among people.

Additional Information

• The India International Science Festival is organized annually by the Ministry of Science and Technology and Earth Sciences in association with Vijnana Bharati (VIBHA).

• The festival aims to highlight India's contributions in the field of science and technology over the years.

• It provides a platform for young scientists to showcase their work and interact with eminent scientists from across the globe.

• The IISF also aims to bridge the gap between science and society by bringing scientific advancements closer to the public.

• Each year, the festival is hosted in different cities across India to reach a wider audience.

Q23. Answer: (c) Sunlight

The correct answer is Sunlight

Key Points

• Sunlight is considered an inexhaustible resource because it is abundant and continuously available.

• In contrast, resources like Petroleum and Natural Gas are exhaustible as they are finite and can be depleted.

• Forests, although renewable, can be exhausted if not managed sustainably.

• Inexhaustible resources are crucial for sustainable development and long-term energy solutions.

Additional Information

• Solar energy harnessed from sunlight is one of the cleanest and most sustainable forms of energy.

• It plays a significant role in reducing the dependency on fossil fuels and mitigating climate change.

• Technological advancements have made solar power more accessible and cost-effective.

• Investments in solar energy infrastructure continue to grow globally as part of green energy initiatives.

Q24. Answer: (c) Kolkata

The correct answer is Kolkata

Key Points

• The Botanical Survey of India (BSI) is headquartered in Kolkata.

• BSI was founded on 13 February 1890, and it is an institution under the Ministry of Environment, Forest and Climate Change.

• The primary objectives of BSI are to explore plant resources of the country and to identify plant species with economic virtues.

• BSI also conducts research in taxonomy and provides a database of plants in India.

• The organization plays a crucial role in the conservation of plant diversity and the sustainable utilization of plant resources.

Additional Information

• The Botanical Survey of India has several regional centers across the country, including in Dehradun, Pune, Shillong, and Coimbatore.

• BSI publishes various research journals and books, such as the "Flora of India" series.

• The institution also collaborates with international botanical research organizations to enhance knowledge and conservation efforts.

• BSI's herbarium, the Central National Herbarium (CNH), is one of the largest herbaria in the world, housing over 2 million plant specimens.

• BSI is actively involved in the documentation and preservation of endangered plant species in India.

Q25. Answer: (b) 20 cm

Given:

Lengths to measure: 220 cm, 260 cm, and 300 cm.

Formula Used:

Greatest possible length = HCF (Highest Common Factor) of the given lengths

Calculation:

Find the HCF of 220, 260, and 300.

Prime factorization of 220: $2^2 \times 5 \times 11$

Prime factorization of 260: $2^2 \times 5 \times 13$

Prime factorization of 300: $2^2 \times 3 \times 5^2$

Common factors: 2^2 and 5

HCF = $2^2 \times 5$

HCF = 4×5

HCF = 20

The greatest possible length which can be used to measure exactly the lengths 220 cm, 260 cm, and 300 cm is 20 cm.

Q26. Answer: (b) 150^(tn)

The correct answer is 150th

Key Points

• 2 October 2019 marks the 150th birth anniversary of Mahatma Gandhi.

• Mahatma Gandhi, also known as the "Father of the Nation," was born on 2 October 1869.

• His birth anniversary is commemorated every year as Gandhi Jayanti, a national holiday in India.

• Gandhi's principles of non-violence and truth had a significant impact on India's independence movement and continue to inspire movements for civil rights and freedom across the world.

Additional Information

• In 2007, the United Nations General Assembly declared 2 October as the International Day of Non-Violence, acknowledging Gandhi's role in promoting peace and non-violence worldwide.

• Gandhi's philosophy and leadership played a crucial role in India's struggle for independence from British rule.

• He led nationwide campaigns for easing poverty, expanding women's rights, building religious and ethnic amity, ending untouchability, and achieving Swaraj or self-rule.

• His autobiography, "The Story of My Experiments with Truth," provides an insight into his life and principles.

Q27. Answer: (d) Mozilla Firefox

The correct answer is Mozilla Firefox

Key Points

• Mozilla Firefox is an open-source web browser, which means it is not proprietary software.

• Proprietary software refers to software that is owned by an individual or a company and its source code is usually not available to the public.

• Examples of proprietary web browsers include Safari, Internet Explorer, and Opera.

• Mozilla Firefox is developed by the Mozilla Foundation, a non-profit organization, and its source code is freely available for anyone to view, modify, and distribute.

• This open-source nature of Mozilla Firefox allows for greater transparency and community involvement in its development.

Additional Information

• Safari is a web browser developed by Apple Inc. and is proprietary software.

• Internet Explorer is a web browser developed by Microsoft and is proprietary software.

• Opera is a web browser developed by Opera Software and is proprietary software.

• Open-source software like Mozilla Firefox often benefits from contributions and improvements from a global community of

YourMockTest.com — Free Study Material

developers.

Q28. Answer: (b) Astra

The correct answer is Astra

Key Points

• The Astra missile is the indigenously developed Beyond-Visual-Range Air-to-Air Missile (BVRAAM) by India.

• It was successfully test-fired by the Indian Air Force in September 2018.

• The Astra missile is designed to engage and destroy highly maneuvering supersonic aircraft.

• It is capable of engaging targets at varying ranges and altitudes.

• The successful test-firing of Astra showcases India's prowess in developing advanced weaponry and strengthens the country's defense capabilities.

Additional Information

• BrahMos is a medium-range ramjet supersonic cruise missile that can be launched from submarines, ships, aircraft, or land.

• Prahaar is a short-range ballistic missile developed for quick strikes against tactical targets.

• Dhanush is a variant of the surface-to-surface or ship-to-ship Prithvi missile.

• The development and successful testing of indigenous missiles like Astra are crucial for India's strategic and defense autonomy.

Q29. Answer: (d) Pro-Active and Responsive facilitation by Interactive, Virtuous and Environmental single-window Hub

The correct answer is Pro-Active and Responsive facilitation by Interactive, Virtuous and Environmental single-window Hub

Key Points

• PARIVESH stands for Pro-Active and Responsive facilitation by Interactive, Virtuous and Environmental single-window Hub.

• It was launched in August 2018 as a single window integrated system for obtaining various environmental, forest, wildlife, and CRZ (Coastal Regulation Zone) clearances.

• The system aims to streamline the process of granting clearances to projects, ensuring efficiency and transparency.

• It integrates various stages of environmental clearance processes, making it easier for project proponents to track their applications.

• PARIVESH enhances the ease of doing business by providing a platform for single-window clearance.

Additional Information

• Environmental clearances are essential for ensuring that projects comply with environmental regulations and do not harm the ecosystem.

• The system is part of the government's efforts to promote ease of doing business and ensure sustainable development.

• PARIVESH is also integrated with the Geographic Information System (GIS) to provide spatial analysis and decision support.

• The initiative reflects the government's commitment to improving environmental governance and facilitating responsible project development.

• The system helps in reducing the time taken for granting clearances and enhances transparency and accountability.

Q30. Answer: (b) a + c + e = b + d

Given:

$x^2 - 1$ is a factor of $ax^4 + bx^3 + cx^2 + dx + e$

Formula used:

If $x^2 - 1$ is a factor, then $x^2 - 1 = (x - 1)(x + 1)$

The polynomial should be divisible by both x - 1 and x + 1

Calculations:

Substituting x = 1 in $ax^4 + bx^3 + cx^2 + dx + e$:

$\Rightarrow a(1)^4 + b(1)^3 + c(1)^2 + d(1) + e = a + b + c + d + e = 0$ .....(1)

Substituting x = -1 in $ax^4 + bx^3 + cx^2 + dx + e$:

$\Rightarrow a(-1)^4 + b(-1)^3 + c(-1)^2 + d(-1) + e = a - b + c - d + e = 0$ .....(2)

Adding both equations(1) &(2) :

$\Rightarrow 2(a + c + e) = 0 \Rightarrow a + c + e = 0$

Subtracting (2) equation from the (1):

$\Rightarrow 2(b + d) = 0 \Rightarrow b + d = 0$

Therefore The possible relations is a + c + e = b + d.

Q31. Answer: (d) 2

Given:

Expression: $2\sin^2\theta + 3\cos^2\theta$

Formula used:

We know that $\sin^2\theta + \cos^2\theta = 1$

Calculations:

Let $x = \sin^2\theta$. Then, $\cos^2\theta = 1 - x$.

Substituting in the given expression:

$\Rightarrow 2x + 3(1 - x) = 2x + 3 - 3x = 3 - x$

The expression is 3 - x, where the maximum value of x is 1 and the minimum value is 0.

For the minimum value of the expression, x = 1 :

$\Rightarrow 3 - 1 = 2$

Therefore The least value is 2.

Q32. Answer: (a) Harshavardhana

The correct answer is Harshavardhana

Key Points

• Harshavardhana was the author of the literary work 'Ratnavali'.

• Harshavardhana, also known as Harsha, was an Indian emperor who ruled North India from 606 to 647 CE.

• He was a patron of arts and literature, and his court was adorned with scholars such as Banabhatta and Mayura.

• Harsha himself wrote three Sanskrit plays: 'Nagananda', 'Ratnavali', and 'Priyadarsika'.

• 'Ratnavali' is a significant work in the realm of classical Sanskrit literature and reflects Harsha's literary prowess.

Additional Information

• Harshavardhana was a ruler from the Vardhana dynasty and was known for his administrative capabilities and military conquests.

• He shifted his capital from Thanesar to Kannauj and ruled over a vast territory including parts of present-day Punjab, Haryana, Uttar Pradesh, and Bihar.

• Harsha's reign is often considered a period of peace and prosperity, and he is remembered for his contributions to culture and religion.

• He was a devotee of Buddhism and organized the Kanauj Assembly and the Prayag Assembly to discuss religious matters.

• His biography, 'Harshacharita', was written by the court poet Banabhatta and provides a detailed account of his life and times.

Q33. Answer: (b) Clock Speed

The correct answer is Clock Speed.

Key Points

• Clock Speed is the speed at which a microprocessor executes instructions.

• It is measured in Hertz (Hz), typically in megahertz (MHz) or gigahertz (GHz).

• Higher clock speed indicates a faster processor, capable of performing more operations per second.

• Clock speed is a critical factor in determining the overall performance of a microprocessor.

Additional Information

• Microprocessors use a clock signal to synchronize operations.

• Other factors such as the number of cores, cache size, and architecture also impact a processor's performance.

• Modern processors often use techniques like overclocking to increase clock speed beyond the base rate for enhanced performance.

• Clock speed alone does not determine overall system performance; it should be considered alongside other specifications.

Q34. Answer: (c) HDR

The logic followed here is,

DOOR is written as FRSW,

Similarly, FAN can be written as,

Hence, the correct answer is "HDR".

YourMockTest.com — Free Study Material

Q35. Answer: (c) 5

Given:

Let the positive number be x.

According to the question,

$x + 15 = 100 \times (1/x)$

Formula used:

$x + 15 = 100/x$

Calculations:

Multiply both sides by x to eliminate the denominator:

$\Rightarrow x^2 + 15x = 100$

Rearrange the equation:

$\Rightarrow x^2 + 15x - 100 = 0$

Use the quadratic formula: $x = [-b \pm \sqrt{(b^2 - 4ac)}] / 2a$

Here, a = 1, b = 15, c = -100

$\Rightarrow x = [-15 \pm \sqrt{(15^2 - 4 \times 1 \times (-100))}] / 2$

$\Rightarrow x = [-15 \pm \sqrt{(225 + 400)}] / 2$

$\Rightarrow x = [-15 \pm \sqrt{625}] / 2$

$\Rightarrow x = [-15 \pm 25] / 2$

$\Rightarrow x = (25 - 15)/2 = 10/2 = 5$ (positive solution)

Therefore The positive number is 5.

Q36. Answer: (a) India Brand Equity Foundation

The correct answer is India Brand Equity Foundation

Key Points

• India Brand Equity Foundation (IBEF) is an initiative by the Ministry of Commerce and Industry, Government of India.

• IBEF aims to promote and create international awareness of the "Made in India" label in markets overseas and to facilitate the dissemination of knowledge of Indian products and services.

• The 'India Lounge' at international trade fairs and events showcases India's strengths in various sectors.

• The foundation plays a crucial role in communicating India's growth story and leveraging its economic potential globally.

Additional Information

• The 'Make in India' initiative was launched by Prime Minister Narendra Modi in September 2014 to encourage national and multinational companies to manufacture their products in India.

• The initiative is aimed at transforming India into a global design and manufacturing hub.

• IBEF supports this initiative by promoting Indian brands and products across the world.

• The foundation works closely with stakeholders, including industry associations, export promotion councils, and Indian missions abroad.

Q37. Answer: (c) Neither assumptions I nor II are implicit.

Given Statement: Nowadays, Indian cricket team plays very well.

Now,

Assumptions:

1. The teams of other countries are not interested towards cricket - Not Implicit (The statement only mentions the performance of the Indian cricket team and does not imply anything about the interest level of teams from other countries)

2. It is happening by chance - Not Implicit (The statement does not suggest that the Indian team's good performance is happening by chance. It simply states that they are playing well)

Here, Neither assumptions I nor II are implicit.

Hence, the correct answer is "Option 3".

Q38. Answer: (d) opaque

The correct answer is opaque

Key Points

• Opaque objects are those that do not allow light to pass through them.

• When light encounters an opaque object, it is either absorbed or reflected, but not transmitted.

• This interaction of light with opaque objects results in the formation of shadows.

• Shadows are areas where light is blocked by the opaque object, creating a dark shape on a surface opposite the light source.

Additional Information

• Luminous objects are those that emit their own light, such as the sun or a light bulb.

• Transparent objects allow light to pass through them completely, like clear glass or clean water.

• Translucent objects allow some light to pass through but scatter it, such as frosted glass or thin paper.

• The study of light and shadows is a fundamental aspect of physics, specifically in the branch of optics.

Q39. Answer: (d) 5 cm

Shortcut Trick

In a parallelogram, if the angle bisector of one angle meets the midpoint of the opposite side, the triangle formed is always isosceles.

Here, AP is the bisector of angle A and P is the midpoint of BC.

Since AD || BC, the alternate interior angle angle BPA = angle DAP.

Thus, in ΔABP, angle BAP = angle BPA, making AB = BP.

Since BP = BC/2 = AD/2, we get AB = 10/2 = 5 cm.

Opposite sides are equal: CD = AB = 5 cm.

Therefore The correct answer is 5 cm.

Alternate Method

Given: ABCD is a parallelogram, P is the midpoint of BC, angle BAP = angle DAP, and AD = 10 cm.

Formula Used: In a parallelogram, opposite sides are parallel and equal. Base angles of an isosceles triangle are equal.

=> In parallelogram ABCD, AD = BC = 10 cm (Opposite sides are equal).

=> P is the midpoint of BC, Therefore BP = PC = 10 ÷ 2 = 5 cm.

=> Since AD || BC and AP is a transversal, angle DAP = angle BPA (Alternate interior angles).

=> Given angle BAP = angle DAP, Therefore angle BAP = angle BPA.

=> In ΔABP, sides opposite to equal angles are equal, Therefore AB = BP.

=> AB = 5 cm.

=> In parallelogram ABCD, CD = AB (Opposite sides are equal).

=> CD = 5 cm.

Therefore The correct answer is 5 cm.

Additional Information

Properties of a Parallelogram

Opposite sides are parallel and equal (AB = CD, BC = AD). Adjacent angles are supplementary (sum = 180°).

Alternate Interior Angles

When two parallel lines are cut by a transversal, the pairs of angles on opposite sides of the transversal and between the parallel lines are equal.

Isosceles Triangle Property

If two angles of a triangle are equal, the sides opposite to those angles are also equal (Converse of Isosceles Triangle Theorem).

Q40. Answer: (c) S

The logic followed here is,

Hence, the correct answer is "S".

Q41. Answer: (c) Finesse

According to the given information,

1) Indiana makes the blue paint and the pink is for automobiles.

Paint Colour	Manufacturer	Type of paint
Pink		Automobile paint
Blue	Indiana	
Green		
Tan		

2) The green, which is not for interiors, is from Hartley.

Paint Colour	Manufacturer	Type of paint
Pink		Automobile paint
Blue	Indiana	
Green	Hartley	
Tan		

3) The exterior paint is produced by Finesse.

Paint Colour	Manufacturer	Type of paint
Pink	Garden	Automobile paint
Blue	Indiana	Interior Paint
Green	Hartley	Marine application
Tan	Finesse	Exterior paint

Here, we can see that Finesse company manufactures the tan paint.

Hence, the correct answer is "Finesse".

Q42. Answer: (c) Pan

The logic followed here is:

Knife	Used for eating
Fork	Used for eating
Pan	Used for cooking
Spoon	Used for eating

Knife, Fork, Spoon all are used for eating,

Whereas,

Pan is used for cooking.

Hence, the correct answer is "Pan".

Q43. Answer: (a) State Private Sector Enterprises (SPSEs)

The correct answer is State Private Sector Enterprises (SPSEs)

Key Points

• State Private Sector Enterprises (SPSEs) is not a classification of Public Sector Undertakings (PSUs).

• Public Sector Undertakings (PSUs) are government-owned corporations or state-owned enterprises created by the Government of India.

• The common classifications of PSUs include Public Sector Banks (PSBs), Central Public Sector Enterprises (CPSEs), and Public Sector Enterprises (PSEs).

• These classifications help in the management and operation of these entities, ensuring they serve the public interest effectively.

Additional Information

• Public Sector Banks (PSBs) are banks where the majority stake is held by the government.

• Central Public Sector Enterprises (CPSEs) are companies in which the direct holding of the Central Government or other CPSEs is 51% or more.

• Public Sector Enterprises (PSEs) refer to government-owned corporations that can be at both the central and state levels.

• The objective of PSUs is to accelerate economic growth and industrial development in the country.

• PSUs play a crucial role in the economic development of India by providing infrastructure, creating jobs, and contributing to the GDP.

Q44. Answer: (d) 31.15%

The correct answer is 31.15%

Key Points

• According to the 2011 Census of India, approximately 31.15% of the Indian population resides in urban areas.

• The Census of India is conducted every ten years and provides vital statistics on the demographic profile of the country.

YourMockTest.com — Free Study Material

• Urban areas are defined by the Census as places with a minimum population of 5,000, at least 75% of the male working population engaged in non-agricultural activities, and a population density of at least 400 persons per square kilometer.

• The increase in urban population indicates the rapid urbanization and migration trends within the country.

Additional Information

• The Census of India is conducted by the Office of the Registrar General and Census Commissioner, India, under the Ministry of Home Affairs, Government of India.

• The first complete census of India was conducted in 1881, and since then, it has been conducted every decade.

• Data collected from the census is crucial for planning and implementation of various governmental policies, schemes, and programs aimed at the development of the country.

• The census provides comprehensive data on various parameters such as population size, distribution, density, growth rate, and various socio-economic indicators.

• Urbanization trends observed in the census data help in understanding the changing demographic patterns and the needs of urban infrastructure and services.

Q45. Answer: (d) 26

Given:

Find the two-digit number such that:

• The sum of its digits is 8.

• The digits of the number get reversed when 36 is added to it.

Formula Used:

Let the number be 10x + y, where x and y are its digits.

Given:

x + y = 8

10x + y + 36 = 10y + x

Calculation:

From the given conditions:

x + y = 8 .....(1)

Now,

=> 10x + y + 36 = 10y + x

=> 10x - x + 36 = 10y - y

=> 9x + 36 = 9y

=> 9(x - y) = 36

=> x - y = 4 .....(2)

From equation (1) and (2) we get :

x = 6 & y = 2

Hence two digit number is 26.

Q46. Answer: (d) 5over4

Given :-

$0.5\times0.5+0.09-0.15over0.125+0.027$

Concept Used :-

$a^3+ b^3 = (a + b)(a^2+ b^2- ab)$

Calculation :-

$0.5\times0.5+0.09-0.15over0.125+0.027$

$=> 0.5\times0.5+0.3\times0.3-0.5\times0.3over0.5^3+0.3^3$

$=> 0.5^2+0.3^2-0.5\times0.3over(0.5 + 0.3)(0.5^2+0.3^2-0.5\times0.3)$

=> 1/(0.5 + 0.3)

=> 1/0.8

=> 10/8 = 5/4

Therefore The correct answer is option (4).

Q47. Answer: (d) Nairobi, Kenya

The correct answer is Nairobi, Kenya.

Key Points

• United Nations Environment Programme (UNEP)
• UNEP was established in 1972,
• Since 1972 it is dealing with critical environmental challenges.
• Its headquarters are located in Nairobi, Kenya.
• UNEP is one of the leading global voices on the environment.
• The United Nations Environment Programme (UNEP) is the global authority.
• It sets the environmental agenda and promotes the coherent implementation of the environmental dimension of sustainable development within the United Nations system.
• It serves as an authoritative advocate for the global environment.
• In March 2022, UNEP celebrated its 50th anniversary.
• Reports published by UNEP
• Emission Gap Report
• Adaptation Gap Report
• Global Environment Outlook
• Frontiers
Additional Information
• World Environment Day
• It is held annually on 5 June since 1974
• It was led by the United Nations Environment Programme (UNEP)
• World Environment Day is the largest global platform for environmental public outreach and is celebrated by millions of people across the world.

Q48. Answer: (c) Green plants

The correct answer is Green plants
Key Points
• Green plants are a biotic factor of an ecosystem.
• Biotic factors are living components of an ecosystem, which include plants, animals, and microorganisms.
• These factors interact with abiotic factors such as temperature, carbon dioxide, and atmospheric humidity to create a balanced ecosystem.
• Green plants play a crucial role in ecosystems by producing oxygen through photosynthesis and serving as a primary food source for herbivores.
Additional Information
• The United Nations Environment Programme (UNEP) was established in 1972 and has been addressing critical environmental challenges since then.
• UNEP's headquarters are located in Nairobi, Kenya.
• UNEP is a leading global voice on the environment and sets the environmental agenda within the United Nations system.
• In March 2022, UNEP celebrated its 50th anniversary.

Q49. Answer: (b) Udaipur

The correct answer is Udaipur
Key Points
• Udaipur is known as the 'Venice of the East'.
• The City Palace is located in Udaipur.
• Udaipur is famous for its lakes, palaces, and rich cultural heritage.
• The city is a popular tourist destination in the state of Rajasthan, India.
• It was founded by Maharana Udai Singh II in 1559.
• Udaipur is also known as the 'City of Lakes' due to its sophisticated lake system.
Additional Information
• The City Palace in Udaipur is a complex of palaces situated on the eastern banks of Lake Pichola.
• It was built over a period of nearly 400 years, with contributions from several rulers of the Mewar dynasty.
• The architecture of the City Palace is a fusion of Rajasthani and Mughal styles.
• Udaipur's Lake Palace, located on the Jag Niwas Island in Lake Pichola, is another iconic landmark of the city.
• The city hosts several cultural festivals, including the Mewar Festival, which showcases the region's cultural heritage.

• Udaipur is also an educational hub, with several universities and colleges offering a range of courses.

Q50. Answer: (c) 91411

The logic followed here is:

Logic: The letters are coded with their positional values.

PEN is written as 16514,

Similarly, 'INK' can be written as,

Hence, the correct answer is "91411".

Q51. Answer: (b) Arabic

The correct answer is Arabic

Key Points

• Al-Biruni wrote his famous book 'Kitab-ul-Hind' in the Arabic language.

• Al-Biruni was a Persian scholar and polymath who made significant contributions to various fields such as astronomy, mathematics, and history.

• 'Kitab-ul-Hind' is an in-depth study of Indian culture, philosophy, science, and religion during the early 11th century.

• The book provides a comprehensive account of Indian knowledge and practices, showcasing Al-Biruni's dedication to understanding and documenting different cultures.

Additional Information

• In addition to 'Kitab-ul-Hind', Al-Biruni wrote numerous other works on subjects ranging from astronomy to pharmacology.

• He traveled extensively and learned several languages, which helped him in his scholarly pursuits and in understanding various cultures.

• Al-Biruni's works are considered valuable resources for understanding the scientific and cultural history of the medieval Islamic world and beyond.

Q52. Answer: (d) 100^(th) Constitutional Amendment Bill, 2015

The correct answer is 100th Constitutional Amendment Bill, 2015

Key Points

• The 100th Constitutional Amendment Bill, 2015 facilitated the implementation of the India-Bangladesh Land Boundary Agreement (LBA).

• This amendment involved the exchange of enclaves and the demarcation of the boundary between India and Bangladesh, which had been pending since the agreement was signed in 1974.

• The amendment aimed to resolve long-standing border disputes and improve bilateral relations between the two countries.

• As part of the agreement, India and Bangladesh exchanged 162 enclaves, with 51 enclaves being transferred to Bangladesh and 111 to India.

Additional Information

• The Land Boundary Agreement was first signed in 1974 between the then Prime Minister of India, Indira Gandhi, and the Prime Minister of Bangladesh, Sheikh Mujibur Rahman.

• The agreement aimed to address the issue of enclaves and adverse possessions along the India-Bangladesh border.

• The 100th Amendment Bill was passed by the Indian Parliament in May 2015 and received the President's assent in the same month.

• This historic agreement was seen as a significant step towards enhancing the diplomatic and strategic relationship between India and Bangladesh.

Q53. Answer: (b) 5

Given:

$X > 1$

$X + 1/X = \sqrt{29}$

Formula used:

$(X + 1/X)^2 = X^2 + 2 + 1/X^2$

To find $X - 1/X$: $(X + 1/X)^2 - 4 = (X - 1/X)^2$

Calculations:

$(X + 1/X)^2 = (\sqrt{29})^2$

$\Rightarrow X^2 + 2 + 1/X^2 = 29$

$\Rightarrow (X - 1/X)^2 = 29 - 4 = 25$

=> X - 1/X = √25 = 5

Therefore The correct answer is 5.

Q54. Answer: (a) 1995

The correct answer is 1995

Key Points

• The Gandhi Peace Prize awards were instituted in 1995.

• The awards recognize individuals and institutions for their contributions to social, economic, and political transformation through non-violence and other Gandhian methods.

• The prize is an annual award named after Mahatma Gandhi, the leader of the Indian independence movement and an advocate of non-violence.

• Recipients of the award include notable figures and organizations who have made significant contributions to peace and harmony.

Additional Information

• The Gandhi Peace Prize includes a monetary award, a citation, and a plaque.

• It is open to all persons regardless of nationality, race, language, caste, creed, or gender.

• The award aims to perpetuate Mahatma Gandhi's legacy and inspire future generations to follow his path of peace and non-violence.

• Some of the notable recipients of the Gandhi Peace Prize include Nelson Mandela, Grameen Bank of Bangladesh, and Archbishop Desmond Tutu.

Q55. Answer: (c) π r(l + r/16)

Given:

radius is r/4 and slant height is 4l

Concept Used:

TSA of cone = π r(r + l)

Solution:

According to the question,

=> π (r/4)(r/4 + 4l)

=> π r(l + r/16)

Therefore The TSA of Cone is π r(l + r/16)

Q56. Answer: (a) 145000

Given:

45% of the students qualified.

Number of students not qualified = 79750.

Formula Used:

Total students appeared = Number of qualified students + Number of not qualified students

Number of qualified students = 45% of Total students appeared

Calculation:

Let the total number of students appeared be xxxxx

.

Number of qualified students = 0.45x

Number of not qualified students = 79750

Therefore,

x - 0.45x = 79750

=> 0.55x = 79750

=> x = 79750 / 0.55

=> x = 145000

The total number of students who appeared for the examination is 145000.

Q57. Answer: (a) Aloke Singh

The correct answer is Aloke Singh

Key Points

• Aloke Singh was appointed as the CEO of Air India Express in November 2020.

• He took over the position during a critical phase for the airline industry, which was heavily impacted by the COVID-19 pandemic.

• Aloke Singh has extensive experience in the aviation sector, having held various leadership roles in airlines and related businesses.

• His appointment is aimed at steering the low-cost carrier towards better operational efficiency and service quality.

Additional Information

• Air India Express is a wholly owned subsidiary of Air India, focusing on short-haul international flights, primarily to the Middle East and Southeast Asia.

• The airline was established in 2005 and operates a fleet of Boeing 737 aircraft.

• Air India Express is known for its low-cost structure while providing essential services to expatriates and tourists.

• In recent years, the airline has been expanding its network and enhancing its service offerings to compete more effectively in the low-cost carrier market.

Q58. Answer: (a) David-Vijay

According to the given information,

1) The Kerala player is not a bowler.

Cricketer	State	Bowler/Batsman
	Kerala	Batsman
	Punjab	
	Maharashtra	
	West Bengal	

2) David is from Kerala.

Cricketer	State	Bowler/Batsman
David	Kerala	Batsman
	Punjab	
	Maharashtra	
	West Bengal	

3) Two of them are bowlers and two are batsmen.

4) One of the batsmen is a Maharashtrian but Vijay is neither.

Cricketer	State	Bowler/Batsman
David	Kerala	Batsman
	Punjab	Bowler
	Maharashtra	Batsman
	West Bengal	Bowler

5) Rashid is not from Punjab, but he is a bowler.

Cricketer	State	Bowler/Batsman
David	Kerala	Batsman
Vijay	Punjab	Bowler
Kamal	Maharashtra	Batsman
Rashid	West Bengal	Bowler

Here, we can see that David-Vijay is a batsmen-bowler pair.

Hence, the correct answer is "David-Vijay".

Q59. Answer: (d) Either A or B

The least possible Venn diagram for the given statement is:

Conclusions:

A. No fly is a rhino - False (Because all rhinos are pigs and some flies are pigs. As no direct relation between rhino and fly is given so, it is possible but not definitely true.)

B. Some flies are rhinos - False (Because all rhinos are pigs and some flies are pigs. As no direct relation between rhino and fly is given so, it is possible but not definitely true.)

Both the conclusions are wrong but Conclusion A and B form a complementary pair.

So, "Either A or B" follows.

Hence, the correct answer is "Option 4".

Additional Information

Conditions of Either-or case:

1. The elements should be same in both statements.

2. Individually both the conclusions should be false.

3. One conclusion should be positive and one conclusion should be negative (Complementary pair).

The two complementary pairs are:

1) All + Some not

2) No + Some

Q60. Answer: (a) Due to limited oxygen the covered candle got extinguished after some time.

The correct answer is Due to limited oxygen the covered candle got extinguished after some time.

Key Points

• Oxygen is essential for combustion. When a lit candle is covered with a glass tumbler, the oxygen inside the tumbler is gradually consumed by the flame.

• As the oxygen level decreases, the flame's ability to sustain combustion diminishes.

• Eventually, the oxygen level drops below the required threshold to support the flame, causing the candle to extinguish.

• This process demonstrates the principle that a continuous supply of oxygen is necessary for maintaining combustion.

Additional Information

• Combustion is a chemical reaction that typically involves the rapid combination of a fuel with oxygen, producing heat and light.

• The flame of a candle is a result of the combustion of the wax, which is the fuel, in the presence of oxygen from the air.

• In an enclosed space, once the available oxygen is depleted, combustion cannot continue, leading to the extinguishment of the flame.

• This principle is also why fire safety protocols emphasize the importance of controlling oxygen availability to manage and extinguish fires.

Q61. Answer: (c) 19891820

The logic followed here is: Position value according to the English alphabetic series is written.

So,

• SHOES : 19815519

Similarly,

• SHIRT : ?

Hence, "Option - (3)" is the correct answer.

Q62. Answer: (c) C, A, D, B

The correct answer is 3 Only.

Key PointsChronology of Historical Events:

• Humayun regains lost territories (C): This event occurred in 1555 when Humayun, the Mughal Emperor, regained the territories he had lost to Sher Shah Suri.

• Nadir Shah invades India and attacks Delhi (A): This event took place in 1739 when Nadir Shah of Persia invaded India and sacked Delhi.

• Ahmad Shah Abdali defeats the Marathas in the third battle of Panipat (D): This event occurred in 1761 when Ahmad Shah Abdali (also known as Ahmad Shah Durrani) defeated the Marathas in the third battle of Panipat.

• The Diwani of Bengal is transferred to the East India Company (B): This event happened in 1765 when the Mughal Emperor granted the East India Company the right to collect revenue in Bengal, Bihar, and Orissa.

Therefore, the correct chronological order is: C, A, D, B

Q63. Answer: (a) sin 18°

Given:

sin 78° + cos 132°

Formula used:

Use the identity: cos(θ) = sin(90° - θ)

Calculation:

cos 132° = sin(90° - 132°) = sin(-42°)

sin(-42°) = -sin 42°

sin 78° + cos 132° = sin 78° - sin 42°

Using the identity: sin(A) - sin(B) = 2 cos[(A + B)/2] × sin[(A - B)/2]

=> sin 78° - sin 42° = 2 cos[(78° + 42°)/2] × sin[(78° - 42°)/2]

=> = 2 cos 60° × sin 18°

=> = 2 × (1/2) × sin 18°

=> = sin 18°

Therefore The value of sin 78° + cos 132° is sin 18°.

Q64. Answer: (a) 75 Kg

Shortcut Trick

Gold parts in the ratio = 8

Total parts in the mixture = 8 + 12 = 20

Weight of 8 parts = 30 Kg

Weight of 1 part = 30 ÷ 8 = 3.75 Kg

Weight of 20 parts = 20 × 3.75 = 75 Kg

Therefore The correct answer is 75 Kg.

Alternate Method

Given:

Ratio of Gold and Silver in the mixture = 8 : 12

Quantity of Gold consumed = 30 Kg

Gold: 8 parts

Silver: 12 parts

30 Kg

Total Mixture = 20 parts = ?

Calculation:

=> Let the quantity of Gold and Silver in the mixture be 8x and 12x respectively.

=> According to the given data, 8x = 30 Kg

=> x = 30 ÷ 8 = 3.75 Kg

=> Total weight of the mixture = Quantity of Gold + Quantity of Silver

=> Total weight = 8x + 12x = 20x

=> Total weight = 20 × 3.75

=> Total weight = 75 Kg

Therefore The correct answer is 75 Kg.

Additional Information

Ratio Definition

A ratio is the comparison of two homogeneous quantities. If quantities A and B are in the ratio x:y, then their actual values can be represented as kx and ky respectively.

Mixture Concepts

When elements are mixed in a specific ratio, the total weight or volume of the mixture is always the sum of the individual parts forming the whole mixture.

Unitary Method

In proportional relationships, determining the equivalent value of a single unit allows you to multiply and easily calculate the value for any larger group of units.

YourMockTest.com — Free Study Material

Q65. Answer: (d) 0.16

Given:

Series: 1/(5 × 6) + 1/(6 × 7) + 1/(7 × 8) + …

Number of terms (n) = 20

Formula used:

The general term of the series is 1/(r(r+1))

It can be simplified as:

1/(r(r+1)) = 1/r - 1/(r+1)

Calculations:

The sum of the first 20 terms:

∑_(r=5)^(24) (1/r - 1/(r+1))

=> (1/5 - 1/6) + (1/6 - 1/7) + … + (1/24 - 1/25)

All intermediate terms cancel out:

=> 1/5 - 1/25

=> (5 - 1)/(5 × 25) = 4/25 = 0.16

Therefore The sum of the first 20 terms is 0.16.

Q66. Answer: (c) 4/15

Shortcut Trick

Suresh's 1 day work = 1/10 and Ramesh's 1 day work = 1/12.

Combined 1 day work = 1/10 + 1/12 = 11/60.

Work done together in 4 days = 4 × (11/60) = 44/60 = 11/15.

Remaining work = 1 − 11/15 = 4/15.

Therefore The correct answer is 4/15.

Alternate Method

Given:

Time taken by Suresh to finish the job = 10 days

Time taken by Ramesh to finish the job = 12 days

Days they worked together = 4 days

Calculations:

We take Total Work as the LCM of 10 and 12.

Person	Days	Total Work	Efficiency
Suresh	10	60	6
Ramesh	12	5	

=> Total efficiency of Suresh and Ramesh = 6 + 5 = 11 units/day

=> Work completed in 4 days = 11 × 4 = 44 units

=> Remaining work = Total Work − Work Completed

=> Remaining work = 60 − 44 = 16 units

=> Fraction of work remaining = 16 ÷ 60 = 4/15

Therefore The correct answer is 4/15.

Additional Information

Combined Work Formula

If person A can do a piece of work in x days and person B can do it in y days, their combined 1 day work is (1/x + 1/y) and total time taken together is (x × y) / (x + y) days.

Work and Wages

Total wages are always distributed in proportion to the total work done by each person. If the time worked is identical for all, wages are distributed directly in the ratio of their efficiencies.

Alternate Days Work

If two individuals work on alternate days, find the collective work done in a cycle of 2 days. Then multiply the cycle to get close to the total work and add the remaining sequence days manually.

YourMockTest.com — Free Study Material

Q67. Answer: (d) 12 Km

Given:

Speed from hostel to college = 4 Km/h

Speed from college to hostel = 3 Km/h

Total time taken = 7 h

Formula used:

Total time = Distance/Speed1 + Distance/Speed2

Calculations:

Let the distance between hostel and college be D.

=> D/4 + D/3 = 7

=> (3D + 4D)/12 = 7

=> 7D/12 = 7

=> D = 12 Km

Therefore The distance between the college and hostel is 12 Km.

Q68. Answer: (a) Car-Mechanic

The logic followed here is:

Car	Mechanic
Bus	Driver
Airplane	Pilot
TV	Remote

Bus, Airplane, TV all require a specific person (Driver, Pilot, Remote) to operate them,

Whereas,

Mechanic repairs the Car.

Hence, the correct answer is "Option 1".

Q69. Answer: (a) N

The logic followed here is: Position value according to the English alphabetic series is written.

So,

Hence, "N" is the correct answer.

Q70. Answer: (b) 8 X

Given:

√(80) + 4√5

2√5 + √(125) = 7X

Formula Used:

Simplify both sides and solve for X.

Calculation:

First, simplify the given expressions:

√(80) = √(16×5) = √16 × √5 = 4√5

So, √(80) + 4√5 = 4√5 + 4√5 = 8√5

Now, simplify the second equation:

√(125) = √(25×5) = √25 × √5 = 5√5

So, 2√5 + √(125) = 2√5 + 5√5 = 7√5

We have:

7√5 = 7X

=> X = √5

Now, substitute X in the simplified form of √(80) + 4√5:

8√5 = 8X

The correct answer is option 2.

YourMockTest.com — Free Study Material

Q71. Answer: (c) 26.2%

Shortcut Trick

SI for (7 − 5) = 2 years = Rs. 9,200 − Rs. 7,500 = Rs. 1,700.

SI for 1 year = 1700 ÷ 2 = Rs. 850.

Principal (P) = Amount after 5 years − SI for 5 years = 7500 − (850 × 5) = Rs. 3,250.

Rate % = (SI for 1 year ÷ P) × 100 = (850 ÷ 3250) × 100.

Rate % = 340 ÷ 13 ≈ 26.15% ≈ 26.2%.

Therefore The correct answer is 26.2%.

Alternate Method

0 Years

5 Years

7 Years

P = ?

Rs. 7,500

Rs. 9,200

SI for 5 yrs

SI = Rs. 1,700

Timeline of Amount Growth

Given:

Amount after 5 years (A5) = Rs. 7,500

Amount after 7 years (A7) = Rs. 9,200

Formula Used:

Simple Interest (SI) = (P × R × T) ÷ 100

Amount (A) = P + SI

Calculations:

=> SI for 2 years = A7 − A5 = 9200 − 7500 = Rs. 1,700

=> SI for 1 year = 1700 ÷ 2 = Rs. 850

=> SI for 5 years = 850 × 5 = Rs. 4,250

=> Principal (P) = A5 − SI for 5 years = 7500 − 4250 = Rs. 3,250

=> Rate of Interest (R) = (SI for 1 year × 100) ÷ P

=> R = (850 × 100) ÷ 3250

=> R = 85000 ÷ 3250 = 8500 ÷ 325 = 340 ÷ 13

=> R ≈ 26.1538% ≈ 26.2%

Therefore The correct answer is 26.2%.

Additional Information

Simple Interest Amount Formula

The total amount after T years at rate R is given by A = P[1 + (R × T) ÷ 100].

Difference Between CI and SI

For 2 years, the difference between Compound Interest and Simple Interest on the same principal is D = P(R ÷ 100)².

Principal from Direct Amount Formula

If Amount A is known for time T and rate R, the Principal P = (100 × A) ÷ (100 + R × T).

Q72. Answer: (d) rotation of the earth

The correct answer is rotation of the earth

Key Points

• The movement responsible for the drifting of the continents was caused by the polar-fleeing force and tidal force.

• The polar-fleeing force is related to the rotation of the earth.

• The rotation of the earth generates centrifugal force, which is referred to as the polar-fleeing force.

• This force acts outward from the axis of rotation, contributing to the movement of the continental plates.

Additional Information

• The concept of continental drift was first proposed by Alfred Wegener in 1912.

• Continental drift theory was later supported by the theory of plate tectonics, which explains the movement of Earth's lithospheric

YourMockTest.com — Free Study Material

plates.

• Other forces involved in plate tectonics include mantle convection, slab pull, and ridge push.

• The Earth's rotation also affects ocean currents and atmospheric circulation, further influencing geological and climatic processes.

Q73. Answer: (d) Pawan Kumar Chamling

The correct answer is Pawan Kumar Chamling

Key Points

• Pawan Kumar Chamling has been the longest-serving chief minister of an Indian state.

• He served as the Chief Minister of Sikkim from December 12, 1994, to May 27, 2019.

• His tenure lasted for more than 24 years, making him the longest-serving chief minister in the history of India.

• Chamling is the founder of the Sikkim Democratic Front (SDF) political party.

• Under his leadership, Sikkim saw significant progress in various sectors, including education, healthcare, and tourism.

Additional Information

• Mulayam Singh Yadav served as the Chief Minister of Uttar Pradesh for three non-consecutive terms but did not surpass Chamling's tenure.

• Narendra Modi served as the Chief Minister of Gujarat from 2001 to 2014 before becoming the Prime Minister of India.

• Shivraj Singh Chouhan has served multiple terms as the Chief Minister of Madhya Pradesh but his cumulative tenure is less than that of Chamling.

• Other chief ministers have had long tenures, but none have exceeded Chamling's record.

Q74. Answer: (d) compiler

The correct answer is compiler

Key Points

• A high level source program must be translated first into a form that the machine can understand.

• This translation is done using a software called the compiler.

• The compiler converts the entire program into machine code before execution.

• It performs syntax analysis, semantic analysis, and optimizations during the translation process.

Additional Information

• An assembler is used to convert assembly language code into machine code.

• A debugger is used to test and debug programs by allowing the programmer to step through the code and inspect variables.

• A controller is a generic term and is not specifically related to the translation of high-level source code.

Q75. Answer: (a) 77

The logic followed here is:

• Consider C as '÷'

• Consider D as '×'

Given,

• 31 C 19 D 57 = 93

=> 31 ÷ 19 × 57 = 93

=> 31/19 × 57 = 93

=> 31× 3 = 93

=> 93 = 93 (LHS = RHS)

And,

• 52 C 13 D 5 = 20

=> 52 ÷ 13 × 5= 20

=> 4 × 5 = 20

=> 20 = 20 (LHS = RHS)

Similarly,

• 98 C 14 D 11 = ?

=> 98 ÷ 14 × 11 = ?

=> 7 × 11 = ?

=> 77 = ?

Hence, the correct answer is "77".

Q76. Answer: (d) 10%

Total students in college = 500

Number of students who play cricket = 350

Number of students who play kabaddi = 125

Number of students who neither play cricket nor kabaddi = 75

Number of students who either play cricket or kabaddi = (Total students in college - Number of students who neither play cricket nor kabaddi)

=> 500 - 75

=> 425

Number of students who play both cricket and kabaddi = (Number of students who play cricket + Number of students who play kabaddi) - Number of students who either play cricket or kabaddi

=> 350 + 125 - 425

=> 50

Percentage of the number of students who play both cricket and kabaddi = (Number of students who play both cricket and kabaddi / Total students in college) × 100

=> 50/500 × 100

=> 10%

Therefore, there are 10% of students who neither play both cricket and kabaddi.

Hence, the correct answer is "10".

Q77. Answer: (a) Rs. 1280

Given:

Cost Price (CP) of the cycle = Rs. 1600

Loss Percentage = 20%

Formula Used:

Selling Price (SP) = CP × (1 - Loss Percentage/100)

Calculation:

Loss Percentage = 20%

=> SP = Rs. 1600 × (1 - 20/100)

=> SP = Rs. 1600 × (1 - 0.20)

=> SP = Rs. 1600 × 0.80

=> SP = Rs. 1280

The selling price of the cycle is Rs. 1280.

Q78. Answer: (a) Shipki La

The correct answer is Shipki La

Key Points

• Shipki La is not a Himalayan Mountain Pass connecting Uttarakhand with Tibet.

• It is located on the India-China border between Himachal Pradesh and Tibet.

• Shipki La is one of the major passes through which trade between India and Tibet takes place.

• The pass is known for its strategic importance and is located near the Sutlej river.

Additional Information

• Niti Pass, Mana Pass, and Mangsha Dhura are all mountain passes connecting Uttarakhand with Tibet.

• Niti Pass is located in the Chamoli district of Uttarakhand.

• Mana Pass is also located in the Chamoli district and is one of the highest vehicle-accessible passes in the world.

• Mangsha Dhura is lesser-known but also serves as a connection between Uttarakhand and Tibet.

• These passes have historical and strategic significance and are used for trade and pilgrimage.

Q79. Answer: (c) Newton's Second Law of Motion

The correct answer is Newton's Second Law of Motion

Key Points

• Newton's Second Law of Motion states that the rate of change of momentum of an object is proportional to the applied

unbalanced force in the direction of the force.

• This law can be mathematically represented as F = m.a, were F is the force applied, m is the mass of the object, and a is the acceleration.

• It implies that an object will accelerate in the direction of the applied force, and the magnitude of the acceleration is directly proportional to the force and inversely proportional to the mass of the object.

Additional Information

• Newton's First Law of Motion states that an object will remain at rest or in uniform motion in a straight line unless acted upon by an external force.

• Newton's Third Law of Motion states that for every action, there is an equal and opposite reaction.

• These laws of motion were formulated by Sir Isaac Newton and are fundamental to classical mechanics.

Q80. Answer: (b) Mohammed Suhail Chinya Salimpasha

The correct answer is Mohammed Suhail Chinya Salimpasha

Key Points

• Mohammed Suhail Chinya Salimpasha was awarded the Bal Shakti Puraskar-2019 for excellence in the field of innovation.

• He developed a breakthrough technology for diagnosing pre-symptomatic protein energy malnutrition non-invasively by using paper.

• The Bal Shakti Puraskar is a prestigious award given to children for outstanding achievements in various fields including innovation, social service, and sports.

• This award aims to recognize and encourage the talent and potential of young individuals in India.

Additional Information

• The Bal Shakti Puraskar is part of the Pradhan Mantri Rashtriya Bal Puraskar, which is awarded by the President of India.

• The award is given annually and includes a medal, a cash prize, and a certificate.

• It is aimed at recognizing exceptional achievements by children in the age group of 5-18 years.

• The award encourages children to strive for excellence and contribute positively to society.

Q81. Answer: (a) The wives of B and C

Given :

• Three couples are sitting at a round table facing the center.

• No more than two men (or two women) are sitting next to each other.

• No man is sitting next to his wife.

Explanation :

1) B is sitting to the immediate left of C whose wife is sitting exactly opposite the letter.

2) A and his wife are sitting on either side of the wife of C.

As no more than two men (or two women) are sitting next to each other, therefore A's wife is seated to the immediate right of C's wife.

After positioning A and A's wife only one position is left which will be occupied by the only person left i.e B's wife.

Thus, according to the final arrangement B's wife and C's wife are sitting to the immediate left and the immediate right of A respectively.

Hence, "Option - (1)" is the correct answer.

Q82. Answer: (b) 16^(th)January 2016

The correct answer is 16th January 2016

Key Points

• Startup India is a flagship initiative of the Government of India.

• It aims to catalyse startup culture and build a strong and inclusive ecosystem for innovation and entrepreneurship in India.

• This initiative was officially launched on 16th January 2016.

• It seeks to provide a conducive environment for startups by offering various benefits such as tax exemptions, easier compliance, and funding support.

• The initiative also includes the Startup India Hub, which is a one-stop platform for all stakeholders in the startup ecosystem.

Additional Information

• The Startup India Action Plan was unveiled by Prime Minister Narendra Modi.

• It includes measures for simplification and handholding, funding support and incentives, and industry-academia partnership and incubation.

YourMockTest.com – Free Study Material

• Under this initiative, the government has also established a Fund of Funds with a corpus of INR 10,000 crore to support the growth of startups.
• The initiative is managed by the Department for Promotion of Industry and Internal Trade (DPIIT).

Q83. Answer: (b) Kargil

The correct answer is Kargil

Key Points

• The first ever Khelo India Zanskar Winter Sports festival was inaugurated in January 2021 at Kargil.
• This festival is part of the Khelo India initiative, which aims to promote sports culture in India at the grassroots level.
• The event features a variety of winter sports such as ice climbing, ice hockey, and snow skiing, among others.
• The festival aims to attract tourists and highlight the potential of winter sports in the region.
• The initiative also seeks to engage the youth of the region in sports activities, promoting a healthy lifestyle.

Additional Information

• Kargil is a district in the Union Territory of Ladakh, known for its strategic significance and natural beauty.
• The Khelo India initiative was launched by the Government of India to revive the sports culture in India at the grassroots level by building a strong framework for all sports played in our country and establishing India as a great sporting nation.
• The Ministry of Youth Affairs and Sports is responsible for the implementation of the Khelo India program.
• The Khelo India Zanskar Winter Sports festival is expected to become an annual event, contributing to the region's tourism and economy.

Q84. Answer: (d) 3

Given:

$3 \tan A = \tan B$

$\sin A \cos B = 1/4$

Formula used:

$\sin(A+B) = \sin A \cos B + \cos A \sin B$

$\sin(\pi/2 - A) = \cos A$

Calculation:

Given $3 \tan A = \tan B$

$\sin A \cos B = 1/4$ and $\cos A \sin B = 3/4$

$\Rightarrow \sin (A + B) = \sin A \cos B + \cos A \sin B = 1/4 + 3/4 = 1$

$\Rightarrow \sin (A + B) = 1$

$\Rightarrow A + B = \pi/2$

$\Rightarrow B = \pi/2 - A$

Substitute in the equation:

$\Rightarrow 3 \tan A = \tan (\pi/2 - A)$

$\Rightarrow 3 \tan A = \cot A$

$\Rightarrow 3 = \cot^2 A$

Therefore The value of $\cot^2 A$ is 3.

Q85. Answer: (d) 9 years

Shortcut Trick

If a sum becomes x times in T years at CI, it becomes x^n times in $n \times T$ years.

Given: The sum becomes 4 times in 3 years.

We need the sum to become 64 times, which is 4^3.

Here, the required power n = 3.

Required time = $n \times T = 3 \times 3 = 9$ years.

Therefore The correct answer is 9 years.

Alternate Method

P

4P

16P

64P

×4
×4
×4
+3 years
+3 years
+3 years
Total Time = 3 + 3 + 3 = 9 years
Given:
=> Amount (A1) = 4P in T1 = 3 years
=> Target Amount (A2) = 64P
Formula Used:
=> A = P(1 + R/100)^T
Calculations:
=> $4P = P(1 + R/100)^3$
=> $(1 + R/100)^3 = 4$
For the sum to become 64 times in T years:
=> 64P = P(1 + R/100)^T
=> 64 = (1 + R/100)^T
Since $64 = 4^3$, we substitute the value of 4:
=> $((1 + R/100)^3)^3 = (1 + R/100)^T$
=> (1 + R/100)^9 = (1 + R/100)^T
=> Equating the powers on both sides, we get T = 9
Therefore The correct answer is 9 years.
Additional Information
Compound Interest Multiple Rule
If a sum becomes x times in T years at compound interest, it will become x^n times in n × T years at the same rate.
Simple Interest Multiple Rule
If a sum becomes x times in T years at simple interest, it will become y times in T × (y − 1) ÷ (x − 1) years.
Effective Rate of Compound Interest
The effective interest rate for 2 years at R% per annum is given by the successive percentage formula: $(R + R + R^2 \div 100)\%$.

Q86. Answer: (c) 3^(rd)September

Given :
• Ravi goes to a movie on the first Wednesday of every month.
• Last month he went for the movie on 6th August.
• Today he is going for the movie.
According to the question Ravi goes to a movie on the first Wednesday of every month and he went for the movie on 6th August therefore :
6th August is Wednesday
And, today's date will be in the following month i.e. September.
Now,
As mentioned "Today he is going for the movie" so, we have to find the 1st Wednesday after 31st August.

Month	Date	Weekday
August	6	Wednesday
August	(6 +7) = 13	Wednesday
August	(13 + 7) = 20	Wednesday
August	(20 + 7) = 27	Wednesday
August	(27 + 4) = 31	Sunday
September	1	Monday

September	2	Tuesday
September	3	Wednesday

Note:-

• '7' is added as there are 7 days in a week.

• '4' is added to end the month i.e. August is the month of 31 days.

Therefore, Today's date according to the question is "3rd September, Wednesday"

Thus, First Wednesday in September will be on 3rd September.

Hence, "Option - (3)" is the correct answer.

Q87. Answer: (d) K

Given:

A is older than M.

A > M

G is older than M but younger than A.

A > G > M

K is younger than R and M.

M is older than R.

A > G > M > R > K

So, 'K' is youngest among all.

Hence, the correct answer is "Option 4".

Q88. Answer: (b) Sisters

Explanation :

1) M is N's sister

2) O is N's wife

3) Q is the father of N

4) P is the daughter of Q

Thus, according to the final family tree M and P are sisters.

Hence, the correct answer is "Sisters".

Q89. Answer: (a) 44

The logic followed here is:

Mona's position from the top = 9th

Mona's position from the bottom = 36th

So,

Total number of students in the class = Mona's position from the top + Mona's position from the bottom - 1

= 9 + 36 - 1

= 45 - 1 = 44.

Hence, the correct answer is "Option 1".

Q90. Answer: (b) Tamil-Biography

Given :

• A, B, C, and D, members of a library, borrow books in Bengali, Gujarati, Tamil, and Urdu, each of a different genre (biography, essay, novel, and play).

• The essays and plays are in Bengali and Urdu respectively.

Explanation :

1) C and A borrowed Bengali book and a novel respectively.

As it is given that essays and plays are in Bengali and Urdu respectively therefore C borrowed essay accordingly.

Members of Library	Books	Genre
A		Novel
B		

C	Bengali	Essay
D		

2) D who reads Tamil is not interested in plays.

Members of Library	Books	Genre
A		Novel
B		
C	Bengali	Essay
D	Tamil	

3) A does not read Urdu or Tamil.

4) B borrowed neither the Biography nor the Gujarati book.

As 'A' does not read either Urdu or Tamil and C reads Bengali, therefore only one book is left i.e. Gujarati.

After assigning A's book only one position is left for books i.e Urdu.

As B did not borrow the Biography genre therefore only one genre is left i.e. Play.

After assigning B's genre only one position is left for genre i.e. Biography.

Members of Library	Books	Genre
A	Gujarati	Novel
B	Urdu	Play
C	Bengali	Essay
D	Tamil	Biography

Thus, according to the final arrangement 'Tamil-Biography' of D is the correct combination out of all the options.

Hence, "Option - (2)" is the correct answer.

Q91. Answer: (b) 50

Given Equation: 104 × 13 + 9 ÷ 3 - 25 = ?

BODMAS Rule:

Decoding the given information:

Symbol	×	•	÷	•
Meaning	÷	×	•	•

Now replacing the sign from left to right using BODMAS Rule, we get:

=> 104 ÷ 13 × 9 + 3 - 25 = ?

=> 8 × 9 + 3 - 25 = ?

=> 72 + 3 - 25 = ?

=> 75 - 25 = 50.

Hence, the correct option is "Option 2".

Q92. Answer: (c) Meghalaya

The logic followed here is:

Logic: Location and Corresponding Cities.

Here,

Uttarakhand : Mussoorie → Mussoorie is a city located in the state of Uttarakhand.

Similarly,

? : Shillong → Shillong is a city located in the state of Meghalaya.

Hence, the correct answer is "Option 3".

Q93. Answer: (a) Chandigarh

The logic followed here is:

Logic: State and its Capital City.

Here,
Gujarat : Gandhinagar → Gandhinagar is the capital city of Gujarat.
Similarly,
Haryana : ? → Chandigarh is the capital city of Haryana.
Hence, the correct answer is "Option 1".

Q94. Answer: (b) Kalaripayattu

The logic followed here is:

Garba	Folk dance
Kalaripayattu	Martial art
Bhangra	Folk dance
Jhumar	Folk dance

Garba, Bhangra, Jhumar all are types of Folk dances,
Whereas,
Kalaripayattu is a type of Martial art.
Hence, the correct answer is "Kalaripayattu".

Q95. Answer: (d) Comb

The logic followed here is:

Shampoo	Used for cleaning hair
Soap	Used for cleaning body
Oil	Used for moisturizing body
Comb	Used for arranging hair

Shampoo, Soap, Oil are all products used for cleaning or moisturizing,
Whereas,
Comb is used for arranging hair and not for cleaning or moisturizing.
Hence, the correct answer is "Comb".

Q96. Answer: (a) 58

The logic followed here is : Consecutive multiples of (3) are added subsequently.
Hence, "58" is the correct answer.

Q97. Answer: (a) B- Red - Chhau

Given :
• Four girls A to D are going to dance classes wearing dresses of different colours (red, yellow, blue and white).
• Their areas are Chhau, Bharatanatyam, Manipuri and Kathak.
1) A is learning Manipuri.
2) The one in yellow dress is C.
3) D is in white dress.

Girls	Dance areas	Dress colors
A	Manipuri	
B		
C		Yellow
D		White

4) The Kathak student is in yellow dress.
5) The Chhau dancer is wearing red dress.

Girls	Dance areas	Dress colors

YourMockTest.com — Free Study Material

A	Manipuri	
B	Chhau	Red
C	Kathak	Yellow
D		White

6) The girl learning Bharatanatyam is not in blue dress.

Girls	Dance areas	Dress colors
A	Manipuri	Blue
B	Chhau	Red
C	Kathak	Yellow
D	Bharatnatyam	White

Thus, according to the final arrangement 'B- Red - Chhau' is the correct combination out of all the other options.
Hence, "Option - (1)" is the correct answer.

Q98. Answer: (b) 73

The logic followed here is : Consecutive multiples of (4) are added subsequently.
Hence, "73" is the correct answer.

Q99. Answer: (c) 284

The logic followed here is : Double addition pattern is followed here.
• First addition row → Square of the previous difference between two numbers is added subsequently.
Hence, "284" is the correct answer.

Q100. Answer: (b) 0.64

Given:
We need to find 8 percent of 20 percent of 40.
Formula Used:
Percentage of a number = (Percentage × Number) / 100
Calculation:
First, find 20 percent of 40:
20% of 40 = (20 × 40) / 100
=> 800 / 100
=> 8
Next, find 8 percent of the result:
8% of 8 = (8 × 8) / 100
=> 64 / 100
=> 0.64
The correct answer is 0.64.

More previous year papers and mock tests: **www.yourmocktest.com/pyq**

YourMockTest.com — Free Study Material