RRB NTPC CBT-I Official Paper (Held On: 6 April 2021 Shift 1) (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.

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

Q1. What is the least number, which, when divided by 45 and 55 leaves a remainder of 3 in each case?

(a) 2475
(b) 498
(c) 825
(d) 625

Q2. Select the letter that can replace the question mark (?) in the following series.

C, A, E, C, G, ?

(a) J
(b) H
(c) G
(d) E

Q3. Article 51A containing Fundamental Duties was inserted by which constitutional amendment?

(a) 44^(th) Amendment
(b) 73^(rd) Amendment
(c) 42^(nd)Amendment
(d) 74^(th) Amendment

Q4. Which is the award instituted by the Government of India for individuals or communities from rural areas who have shown extraordinary courage and dedication in protecting wildlife?

(a) Amrita Devi Bishnoi Award
(b) Sanjay Gandhi Paryavaran Award
(c) Sunderlal Bahuguna Award
(d) BP Pal Award

Q5. On which day is World Day to Combat Desertification and Drought observed?

(a) 5^(th) June
(b) 22^(nd) April
(c) 22^(nd) May
(d) 17^(th) June

Q6. If a : b = 2 : 5, b : c = 5 : 8, c : d = 8 : 11, then a : d is:

(a) 3 : 5
(b) 2 : 7
(c) 2 : 11
(d) 5 : 8

Q7. The product of two positive numbers is 972 and their quotient is 4/3. The numbers are:

(a) 26 and 36
(b) 36 and 27
(c) 46 and 56

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(d) 26 and 27

Q8. The third proportional of 10 and 20 is:

(a) 40
(b) 20
(c) 200
(d) 10

Q9. If one-ninth of one-eight of one-seventh of one-fifth of one-fourth of one-third of one-half of a number is 32, then the number is:

(a) 2345789
(b) 1935360
(c) (32/9)
(d) 9875432

Q10. Which of the following IITs has been declared one among the seven Eat Right Campus by FSSAI?

(a) IIT Ropar
(b) IIT Kanpur
(c) IIT Delhi
(d) IIT Gandhinagar

Q11. 36 men can do a task in 25 days. If the task is to be finished in 60 days, then the number of men required are:

(a) 30
(b) 25
(c) 20
(d) 15

Q12. A train, 100 m long, is running at a speed of 64 km/h. Find the time taken by it to pass a man who is running at 8 km/h in the direction opposite to that of the train.

(a) 15 sec
(b) 64 sec
(c) 5 sec
(d) 10 sec

Q13. Who wrote the book 'Words of Freedom: Ideas of a Nation'?

(a) Rabindranath Tagore
(b) Jawaharlal Nehru
(c) Subhash Chandra Bose
(d) B. R. Ambedkar

Q14. Which of the following is correct?

(a) 1 - cos2a - sin2a = 0
(b) frac2tan 301 - tan²30 = tan 60
(c) Both option (1) & (2)
(d) 9 sec² a - 9tan²a = 2

Q15. Who among the following publishes the 'Economic Survey' in India?

(a) Ministry of Finance
(b) NITI Aayog
(c) Central Statistical Organisation
(d) The Reserve Bank of India

Q16. Rudreswara Temple or Veyisthambala Gudi (thousands pillars temple) was built by Rudra Deva. Which dynasty does Rudra Deva belong to?

(a) Kakatiya
(b) Chola

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(c) Chalukya
(d) Pallav

Q17. Pulakeshin II was the most illustrious ruler of which dynasty?
(a) Hoysala
(b) Chalukya
(c) Kakatiya
(d) Pandya

Q18. Which of the following is used in the treatment of cancer?
(a) An isotope of iodine
(b) An isotope of copper
(c) An isotope of cobalt
(d) An isotope of uranium

Q19. Which one of the following triplets can be measures of the sides of a triangle?
(a) 1, 1.5, 3
(b) 5, 7, 4
(c) 1, 2, 4
(d) 11, 3, 7

Q20. In Oct 2020, NASA named the Cygnus Spacecraft after the astronaut _____.
(a) Rakesh Sharma
(b) Ravish Malhotra
(c) Sunita Williams
(d) Kalpana Chawla

Q21. In a right circular cylinder, the ratio of the curved surface area to the total surface area is 2 : 5. Find the ratio of the height to the radius of the cylinder.
(a) 3 : 4
(b) 5 : 3
(c) 2 : 5
(d) 2 : 3

Q22. If $(\sqrt{7} - 1)/(\sqrt{7} + 1) - (\sqrt{7} + 1)/(\sqrt{7} - 1) = a + b\sqrt{7}$, then the values of a and b are:
(a) a = 0 and b = ((- 2))/3
(b) a = 0 and b = 0
(c) $a = \sqrt{7}$ and $b = (-2\sqrt{7})/3$
(d) a = - 3/2 and $b = \sqrt{7}$

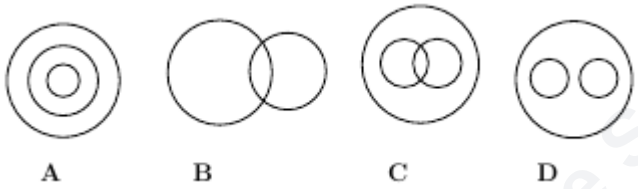
Q23. Indian standard Time determined taking the meridian of longitude 82.5° East as the standard meridian that passes close to ____.
(a) Indore
(b) Nagpur
(c) Allahabad
(d) Nashik

Q24. If the radius of a sphere is tripled, then its surface area is increased by:
(a) 400%
(b) 800%
(c) 900%
(d) 300%

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Q25. Select the Venn diagram that best represents the relationship between the following classes.

Trousers, Garments, Shirts



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

Q26. The number 0.1313... in the form of p/q is equal to:

(a) 31/99
(b) 13/99
(c) 99/13
(d) 39/99

Q27. In a certain code language, SWEET is written as SZEHT and SALTY is written as SDLWY. How will SPICY be written in that code language?

(a) SSIFY
(b) SRJGZ
(c) SQIEY
(d) STKFY

Q28. For a frequency distribution, mean, median and mode are connected by the relation:

(a) mean = (3 median + mode) / 2
(b) mean = (3 median - 2 mode) / 2
(c) mean = (3 median - mode) / 2
(d) mean = 2 / (3 median - mode)

Q29. When 30% of a number is added to another number, the second number becomes 140% of itself. The ratio of the first number to the second number is:

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

Q30. A steamer goes downstream and covers the distance between two ports in 6 h. It covers the same distance upstream in 8 h. If the speed of the stream is 3 km/h, then the speed of the streamer in still water is:

(a) 20.5 km/h
(b) 21 km/h
(c) 10 km/h
(d) 10.375 km/h

Q31. Eight persons A, B, C, D, E, F, G and H are sitting around a circular table facing towards the centre (not necessarily in the same order). C is third to the right of G. A and B are not neighbours of C or G. D is third to the left of A. Only two persons sit between D and E. F is second to the right of E.

Who is to the immediate left of A?

(a) F
(b) B
(c) H
(d) E

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Q32. Select the number that can replace the question mark (?) in the following series.

3, 6, 5, 12, ?, 24, 11, 48, 13

(a) 6
(b) 9
(c) 8
(d) 7

Q33. The value of 9.377 - [3 + 0.5 × (3.1 - 2.3 × 1.02)] is:

(a) 3.77
(b) 3.79
(c) 6.3
(d) 6

Q34. What was the first computer created by JW Mauchly and J Presper Eckert with NO mechanical parts?

(a) Mark II
(b) EDVAC
(c) ENIAC
(d) Mark I

Q35. If '>' denotes '+', '<' denotes '-', '+' denotes '÷', '^' denotes '×', '-' denotes '=', '=' denotes '<' and '×' denotes '>', then which of the following equations is correct?

(a) 7 < 7 + 7 = 6
(b) 7 > 7 < 7 + 7 = 14
(c) 7 + 7 > 7 = 8
(d) 7 ^ 7 > 7 + 7 = 7

Q36. Which is not a web browser from the following?

(a) Mozilla Firefox
(b) Safari
(c) Google
(d) Opera

Q37. If x% of y is 2000 and y% of z is 4000, then the relation between x and z is:

(a) z + 2 = x
(b) z - 2 = x
(c) z = x/2
(d) z = 2x

Q38. Which of the following options gives the correct chronological history of India?

P - Gupta Kingdom
Q - Mauryan Empire
R - Mughals
S - Delhi Sultanate

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

Q39. In march 2021, which of the following Indian State/Union Territory has announced that is will bid for 2048 Olympics?

(a) Delhi
(b) Chandigarh
(c) Andhra Pradesh
(d) Tamilnadu

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Q40. Which of the following is NOT based on the Archimedes' Principle?

(a) Hydrometers
(b) Designing of aeroplane wings
(c) Designing of ships and submarines
(d) Lactometers

Q41. If a sum of money doubles itself in 10 years, then the rate of simple interest is:

(a) 10.50%
(b) 10%
(c) 20%
(d) 20.50%

Q42. In a certain code language, ALIGATOR is written as LAROGITA. How will COMPUTER be written as in that language?

(a) OCREPMTU
(b) RETUPMOC
(c) PMOCRETU
(d) OCPMTURE

Q43. What is the approximate contribution of mica in the formation of the earth's crust?

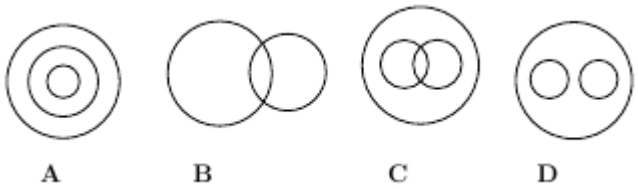
(a) 8%
(b) 12%
(c) 24%
(d) 4%

Q44. If x^4 + 1/(x^4) = 6239, and x > 0, then the value of x + 1/x is:

(a) 10
(b) √6239
(c) 1/√12
(d) 9

Q45. Select the Venn diagram that best represents the relationship between the following classes.

Peacock, Sparrow, Bird



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

Q46. Two parallelograms are on equal bases and between the same parallels. The ratio of their areas is:

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

Q47. The negative of a non-zero rational number is:

(a) a rational number
(b) surd
(c) zero
(d) an irrational number

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Q48. The ratio of the HCF to the LCM of the numbers √64 and 16 is:

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

Q49. The "10 Degree Channel" is related to _____.

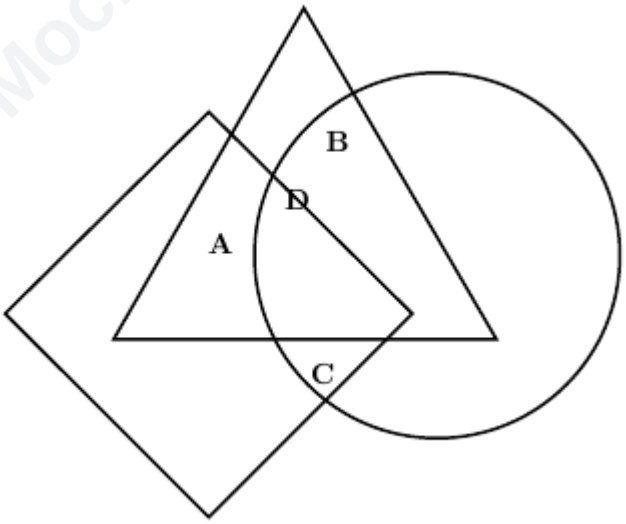
(a) Gulf of Kachch
(b) Malabar Coast
(c) Andaman and Nicobar islands
(d) Lakshadweep islands

Q50. Government of India decided to Celebrate the birthday of _____as "Parakram Diwas" every year.

(a) Vir Sawarakar
(b) Deen Dayal Upadhyaya
(c) Swami Vivekananda
(d) Subhash Chandra Bose

Q51. In the following diagram square represents students, circle represents hard workers and triangle represents urban people.

Find the region that represents hard working students who are not urban.



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

Q52. The _____ range practically forms the boundary between North and South India.

(a) Vindhya
(b) Shivalik
(c) Sahyadri
(d) Himadri

Q53. According to the _____, Indian rulers were not allowed to have their independent armed forces by the East India Company.

(a) policy of paramountcy
(b) subsidiary alliance system
(c) doctrine of lapse
(d) divide and rule policy

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Q54. 1 gigabyte is equal to how many megabytes in binary?

(a) 1002
(b) 3004
(c) 2015
(d) 1024

Q55. Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusions logically follow(s) from the statements.

Statements:

No door is window.

No window is table.

Conclusions:

I. Some tables are not doors.

II. No door is a table.

(a) Both conclusions I and II follow.
(b) Only conclusion II follows.
(c) Only conclusion I follows.
(d) None of the conclusions follow.

Q56. If the selling price of 10 pens is equal to the cost price of 15 pens, then the gain per cent is:

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

Q57. Which type of soil covers most of the Deccan Plateau?

(a) Red soil
(b) Black soil
(c) Yellow soil
(d) Alluvial soil

Q58. The value of √(10 + √(200 + √(596 + √(841)))) is:

(a) 5√2
(b) 5√1
(c) 5√5
(d) 5√3

Q59. 'Horse' is related to 'Cart' in the same way as _____ is related to 'Car'.

(a) Wheel
(b) Brake
(c) Steering
(d) Engine

Q60. Out of the four materials listed, three are alike in some manner and one is different. Select the odd one.

(a) Blanket
(b) Quilt
(c) Sari
(d) Bedsheet

Q61. Famous 'Sangai Festival' is an annual cultural festival organized by which state of North-East India?

(a) Tripura
(b) Manipur
(c) Meghalaya

(d) Nagaland

Q62. Which of the following indemnity levels has been provided under the 'Pradhan Mantri Fasal Bima Yojana'?

(a) Three indemnity levels - 70%, 80% and 90%
(b) Five indemnity levels - 50%, 60%, 70%, 80% and 90%
(c) Two indemnity levels - 50% and 75%
(d) Four indemnity levels - 50%, 65%, 80% and 90%

Q63. What is the duration of the term of a Rajya Sabha MP?

(a) Four years
(b) Five years
(c) Two years
(d) Six years

Q64. If A and B are acute angles such that tan A = cot B, then the value of A + B is:

(a) 180°
(b) 0°
(c) 90°
(d) 360°

Q65. Which of the following temples was built by the Pallava rulers?

(a) Konark Sun temple
(b) Lingaraja temple
(c) Dilwara temple
(d) Kanchipuram Kailashnath temple

Q66. If '>' denotes '+', '<' denotes '-', '+' denotes '÷', '^' denotes '×', '-' denotes '=', '=' denotes '<' and '×' denotes '>', then which of the option is correct?

(a) 8 < 4 + 2 = 6 > 3
(b) 4 > 6 + 2 × 32 + 4 < 1
(c) 14 + 7 > 3 = 6 + 3 > 2
(d) 6 + 3 > 8 = 4 + 2 < 1

Q67. Select the option in which the words do NOT share the same relationship as that shared bt the rest.

(a) Touch : Push
(b) Cut : Scratch
(c) Punch : Tap
(d) Run : Walk

Q68. The Chipko movement was related with:

(a) environment protection
(b) human rights
(c) freedom struggle
(d) women's rights

Q69. Which vitamin activates proteins and calcium essential for blood clotting?

(a) Vitamin D
(b) Vitamin K
(c) Vitamin C
(d) Vitamin B1

Q70. The Moplah Rebellion took place between the years:

(a) 1914 - 1915
(b) 1921 - 1922
(c) 1923 - 1924

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(d) 1917 - 1919

Q71. Who was the Prime Minister of India when 'rolling plans' were introduced in India?

(a) Morarji Desai
(b) Indira Gandhi
(c) Lal Bahadur Shastri
(d) Rajiv Gandhi

Q72. Who was the protem speaker of the 17^(th) Lok Sabha?

(a) Sumitra Mahajan
(b) Om Birla
(c) Virendra Kumar
(d) JP Nadda

Q73. The length of a rectangular solar panel is 5% more than its breadth. If the area of the solar panel is 210 m², find its breadth.

(a) 20 √2 m
(b) 10 √2 m
(c) 210 m
(d) 10 m

Q74. Which country will host the Asian Cup Football tournament in 2023?

(a) India
(b) Japan
(c) South Korea
(d) China

Q75. Which electric device is NOT based on Joule's law of heating?

(a) Electric iron
(b) Electric plugs and switches
(c) Electric kettle
(d) Fuse used in an electric circuit

Q76. Which of the following is NOT a correct statement?

(a) Mucus protects the inner lining of the stomach from the acid
(b) Gastric glands release hydrochloric acid and the enzyme pepsin and mucus in the stomach
(c) The stomach receives the secretion of the liver and pancreas
(d) Hydrochloric acid creates an acidic medium to facilitate the action of enzyme pepsin

Q77. What kind of organisation is NATO(North Atlantic Treaty Organization)?

(a) Intergovernmental Military Alliance
(b) Technology Exchange and Development group
(c) Cultural Cooperation and Development Organization
(d) Intergovernmental Economic Cooperation group

Q78. Ravi took a loan of Rs. 16,000 for one year at 20% interest p.a. compounded quarterly. The amount that Ravi has to pay after one year is:

(a) Rs. 38,896.20
(b) Rs. 12,784.25
(c) Rs. 19,448.10
(d) Rs. 48,897.30

Q79. The largest four-digit number which is exactly divisible by 77 is:

(a) 6993
(b) 9977
(c) 9693

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(d) 9933

Q80. In which of the following cities did Maharaja Jai Singh II NOT build the Jantar Mantar?

(a) Jaipur
(b) Varanasi
(c) Delhi
(d) Allahabad

Q81. Who has been sworn in as the new Chief Minister of Uttarakhand in March, 2021?

(a) Satpal Maharaj
(b) Tirath Singh Rawat
(c) Trivendra Singh Rawat
(d) Dhan Singh Rawat

Q82. Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusions logically follow(s) from the statements.

Statements:

I. Some cups are plates.

II. All plates are trays.

Conclusions:

I. Some cups are trays.

II. All trays are cups.

(a) None of the conclusions follows.
(b) Only conclusion I follows.
(c) Both conclusions I and II follow.
(d) Only conclusion II follows.

Q83. If among four numbers, the second is thrice of the first, the third is four times the second, the fourth is five times the third, and the mean of the four numbers is 1900, then the smallest number is:

(a) 6000
(b) 1200
(c) 100
(d) 50

Q84. Which Navratna company is fondly called 'Vizag steel'?

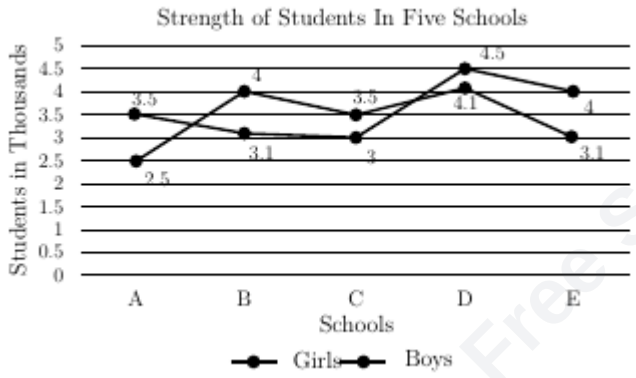
(a) Bokaro Steel Plant
(b) Rourkela Steel Plant
(c) Rashtriya Ispat Nigam Limited
(d) IISCO Steel Plant

Q85. How many schedules are there in Wildlife Protection Act, 1972 of India?

(a) IV
(b) V
(c) VII
(d) VI

Q86. Study the following graph and answer the question that follows.

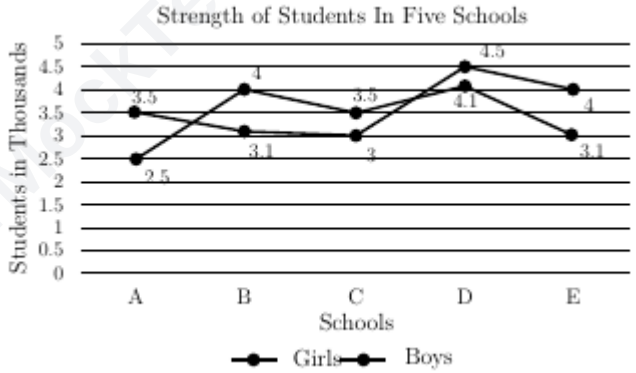
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Which of the following statements is TRUE?

(a) The strength of boys is higher than girls in 4 of the 5 schools.
(b) There are 900 more boys than girls across all schools.
(c) There are 900 more girls than boys across all schools.
(d) The strength of girls is higher than boys in 3 of the 5 schools.

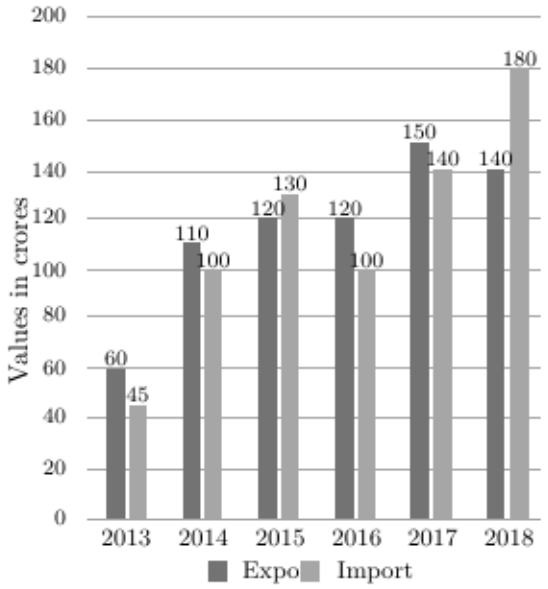
Q87. Study the following graph and answer the question that follows.



In which of the schools is the number of boys 40% more than the number of girls?

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

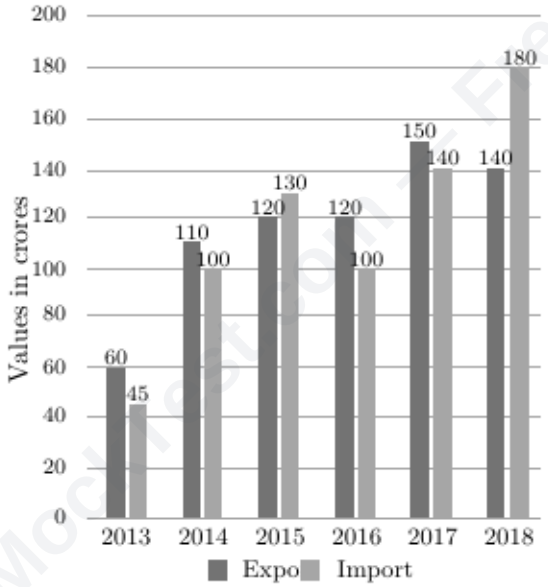
Q88. Study the following graph and answer the question that follows. (Amount in Crore Rs.)



Which of the following years has recorded the highest ratio of Exports to Imports?

(a) 2014
(b) 2013
(c) 2017
(d) 2016

Q89. Study the following graph and answer the question that follows. (Amount in Crore Rs.)



What is the difference between the total Export and Import during the period 2013 to 2015?

(a) Rs. 15 crore
(b) Rs. 20 crore
(c) Rs. 12 crore
(d) Rs. 18 crore

Q90. Select the number that can replace the question mark (?) in the following series.

600, 650, 702, ?, 812

(a) 756
(b) 764
(c) 729
(d) 760

Q91. Consider the given statement and decide which of the given assumptions is/are implicit in the statement.

Statement:

Advertising can be a good strategy to increase the sales of a company.

Assumptions:

I. It enables a wider range of people to know about the products of the company.

II. Everyone who knows about the products of the company will buy them.

(a) None of the Assumptions are implicit.
(b) Both Assumptions I and II are implicit.
(c) Only Assumption I is implicit.
(d) Only Assumption II is Implicit.

Q92. Read the given information and answer the question that follows.

Sanjay and Neetu like Blue and Red colours. Priya and Neetu like Yellow and Blue colours. Sanjay, Manju and Kapil like Red and Blue colours. Neetu and Manju like Green and Blue colours.

Which colour is liked by the maximum number of people?

(a) Yellow

(b) Blue
(c) Green
(d) Red

Q93. Six bags A, B, C, D, E and F are kept one above another (not necessarily in the same order). Only three bags are kept between B and D. Bag A is kept above E but below C. There are only two bags between A and F. B is kept above D. D is not kept below F.

If we re-arrange these bags in alphabetical order from top to bottom, then position of how many bags will remain same?

(a) Zero
(b) One
(c) Two
(d) Three

Q94. Select the combination of letters that when sequentially placed in the blanks will create a series.

ab_, ac_, ade, _ef, a_g

(a) b, d, a, f
(b) c, d, b, f
(c) a, b, a, b
(d) c, d, a, f

Q95. There are 48 students in a class. The number of girls is half of the number of boys. If Rashmi is a girl whose rank is 15^(th) from the top and five girls have better ranks than Rashmi, then Rashmi's rank is better than how many boys?

(a) 30
(b) 20
(c) 26
(d) 23

Q96. Among four friends, A is twice as heavy as B. C is half of B's weight. D is 60 kg more as compared to B but 60 kg less as compared to A. Who is heaviest?

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

Q97. Fish and Chip are Mother and son, respectively. Bird is granddaughter of Turtle. Frog and Crab are father and son, respectively. Turtle has only two children, Frog and Moth. If bird is the only child of her parents and Chip is the grandson of Turtle, how is Fish related to Frog?

(a) Brother's Daughter
(b) Wife
(c) Daughter
(d) Sister

Q98. Select the number that can replace the question mark (?) in the following series.

86, 42, 22, 10, ?

(a) 6
(b) 8
(c) 10
(d) 4

Q99. In a certain code language, BOMBAY is written as DQODCA. How will CALCUTTA be written as in that language?

(a) ECNEWVVC
(b) ECNEXWWC
(c) DCOEXUUB
(d) EBNDWUUC

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Q100. Study the following information and answer question that follows.

Among six students, Anil and Bhupesh are from Subhash house while the rest belong to Shekhar house. Danish and Farooq are tall while the others are short. Anil, Charu and Danish wear glasses while the others do not.

Which student of Subhash house is short and wears glasses?

(a) Bhupesh
(b) Ekant
(c) Charu
(d) Anil

ANSWER KEY

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

SOLUTIONS

Q1. Answer: (b) 498

Given:

We need to find the least number, which, when divided by 45 and 55 leaves a remainder of 3 in each case.

Formula used:

Least Common Multiple (LCM) of 45 and 55

Required number = LCM(45, 55) + Remainder

Calculation:

Prime factorization:

$45 = 3^2 \times 5$

$55 = 5 \times 11$

$LCM(45, 55) = 3^2 \times 5 \times 11 = 9 \times 5 \times 11$

=> LCM(45, 55) = 495

Required number = 495 + 3

=> Required number = 498

Therefore The correct answer is option (2).

Q2. Answer: (d) E

The logic followed here is:

Hence, "Option 4" is the correct answer.

Q3. Answer: (c) 42^(nd)Amendment

The correct answer is 42^(nd)Amendment

Key Points

• The 42nd Amendment of the Constitution of India, adopted in 1976, added Article 51A, which contains the Fundamental Duties of Indian citizens:

• The Fundamental Duties were inspired by the Constitution of the former Soviet Union.

• The duties include:

• Abiding by the Constitution

• Cherishing and following the ideals that inspired India's struggle for freedom

• Defending the country and rendering national service when called upon

• Promoting harmony and spirit of common brotherhood

• The 86th Amendment Act, 2002 added an additional duty to provide education opportunities to children and dependents aged 6 to 14 years.

Additional Information

• 44th Amendment

• This amendment was passed in 1978. It aimed to restore democratic principles, limit the executive's authority, and protect Fundamental Rights.

• It reversed many of the changes made by the 42nd Amendment and undid many of the Emergency provisions.

• It also replaced the term "internal disturbance" with "armed rebellion" and made the Right to Property a legal right.

• 73rd Amendment

• This amendment was passed in 1992. It gave constitutional status to Panchayati Raj Institutions.

• It also reserved seats for scheduled castes and scheduled tribes in every municipality.

• 74th Amendment

• This amendment was passed in 1992. It gave constitutional status to Urban Local Bodies.

• The Indian Constitution is amended roughly twice a year. Amendments require the support of a two-thirds majority in both houses of Parliament.

Q4. Answer: (a) Amrita Devi Bishnoi Award

The correct answer is Amrita Devi Bishnoi Award

Key Points

• The Amrita Devi Bishnoi Wildlife Protection Award is the award given by the Government of India to individuals or communities from rural areas who have shown extraordinary courage and dedication in protecting wildlife.

• The award was instituted in 2001.

• It recognises individuals or communities who have made significant contributions to wildlife protection and shown exemplary courage or valor.

• The award is named after Amrita Devi, a Bishnoi woman who in 1731 sacrificed her life and the lives of her three daughters and hundreds of other Bishnois to protect trees from being cut down by the Jodhpur king's men.

Additional Information

• Sanjay Gandhi Paryavaran Award

• This award is given to individuals or organizations for significant contributions to environmental conservation and protection.

• Sanjay Gandhi, was known for his interest in environmental issues during his political career.

• Efforts in afforestation, wildlife conservation, and promoting environmental awareness.

• Sunderlal Bahuguna Award

• This award recognizes outstanding efforts in environmental conservation, especially in protecting forests and natural ecosystems.

• Sunderlal Bahuguna, a prominent environmentalist known for his role in the Chipko Movement in India.

• Sustainable development and environmental activism.

• BP Pal Award

• The award is given for achievements in the field of botany, forestry, or environmental science.

• Dr. B.P. Pal (Birbal Sahni Pal), a renowned Indian botanist and the first Director-General of ICAR (Indian Council of Agricultural Research).

• Contributions to plant sciences and conservation.

Q5. Answer: (d) 17^(th) June

The correct answer is 17th June

Key Points

• The World Day to Combat Desertification and Drought is observed on June 17th every year:

• To raise awareness about desertification and drought, and to highlight ways to prevent desertification and recover from drought

• To promote public awareness of the issues linked to desertification, land degradation, and drought

• The United Nations General Assembly declared the day in 1994

Additional Information

• 5th June: World Environment Day and International Day for the Fight Against Illegal, Unreported and Unregulated Fishing

• 22nd April: Earth Day, which marks the anniversary of the birth of the modern environmental movement in 1970

• 22nd May: International Day for Biological Diversity

Q6. Answer: (c) 2 : 11

Given:

If a : b = 2 : 5

b : c = 5 : 8

c : d = 8 : 11

Formula used:

To find a : d, we need to find the combined ratio using the given ratios:

a : b : c : d

Calculation:

a : b = 2 : 5

b : c = 5 : 8

c : d = 8 : 11

Now, we combine the ratios:

Since b = 5 in both a : b and b : c, and c = 8 in both b : c and c : d, we can directly combine them:

a : b : c : d = 2 : 5 : 8 : 11

Therefore, a : d = 2 : 11

Therefore The correct answer is option (3).

Q7. Answer: (b) 36 and 27

Given:

The product of two positive numbers is 972 and their quotient is 4/3.

Formula used:

Let the numbers be x and y.

$x \times y = 972$

$x/y = 4/3$

Calculations:

$x/y = 4/3$

$\Rightarrow x = 4y/3$

Substitute x in the product equation:

$(4y/3) \times y = 972$

$\Rightarrow 4y^2/3 = 972$

$\Rightarrow 4y^2 = 972 \times 3$

$\Rightarrow 4y^2 = 2916$

$\Rightarrow y^2 = 2916/4$

$\Rightarrow y^2 = 729$

$\Rightarrow y = \sqrt{729}$

$\Rightarrow y = 27$

Now, $x = 4y/3$

$x = 4(27)/3$

$x = 36$

Therefore The correct answer is option (2): 36 and 27.

Q8. Answer: (a) 40

Given:

The third proportional of 10 and 20 is:

Formula used:

If a, b, and c are in continued proportion, then $b^2 = a \times c$

Calculation:

Let the third proportional be x.

$20^2 = 10 \times x$

=> 400 = 10 × x

=> x = 40

Therefore The correct answer is option (1).

Q9. Answer: (b) 1935360

Given:

If one-ninth of one-eight of one-seventh of one-fifth of one-fourth of one-third of one-half of a number is 32, then the number is:

Formula used:

Let the number be x.

1/9 × 1/8 × 1/7 × 1/5 × 1/4 × 1/3 × 1/2 × x = 32

Calculation:

1/9 × 1/8 × 1/7 × 1/5 × 1/4 × 1/3 × 1/2 × x = 32

=> 1/(9 × 8 × 7 × 5 × 4 × 3 × 2) × x = 32

=> 1/60480 × x = 32

=> x = 32 × 60480

=> x = 1935360

Therefore The correct answer is option (2).

Q10. Answer: (d) IIT Gandhinagar

The correct answer is IIT Gandhinagar

Key Points

• The Indian Institute of Technology (IIT) Gandhinagar (IITGN) was the first educational institution in India to be awarded the Eat Right Campus (ERC) certification by the Food Safety and Standards Authority of India (FSSAI):

• IITGN was awarded the ERC certification on June 7, 2019, the first World Food Safety Day

• IITGN was given a 5-star rating and the "Exemplary" category

• The award recognizes the institute's efforts to promote healthy and safer eating practices

• IITGN's efforts include:

• Regular training sessions for food handlers

• Laboratory tests

• Displaying daily food wastage outside dining halls

• Managing kitchen waste in an in-house biogas plant

• Collecting used cooking oil from eating joints

• Distributing excess food to the needy through the Robinhood Army

Additional Information

• IIT Ropar

• One of the newer IITs, established in 2008 by the Ministry of Human Resource Development (MHRD).

• It started out on a temporary campus, but now has a permanent campus of over 500 acres.

• IIT Kanpur

• Established in 1959, IIT Kanpur is a premier institution that aims to provide quality education, research, and technological innovation.

• It also has a strong cultural and sports program.

• IIT Delhi

• Established in 1961 as the College of Engineering, IIT Delhi is a center of excellence for training, research, and development in science, engineering, and technology.

Q11. Answer: (d) 15

Given:

36 men can do a task in 25 days.

The task is to be finished in 60 days.

Formula used:

Work done = Number of men × Number of days

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Calculation:

Work done by 36 men in 25 days:

Work = 36 × 25

=> Work = 900 man-days

To finish the task in 60 days, let the required number of men be x:

Work done by x men in 60 days:

Work = x × 60

Since the work remains the same,

900 = x × 60

=> x = 900 / 60

=> x = 15

Therefore The correct answer is option 4.

Q12. Answer: (c) 5 sec

Given:

A train, 100 m long, is running at a speed of 64 km/h. Find the time taken by it to pass a man who is running at 8 km/h in the direction opposite to that of the train.

Formula used:

Relative Speed = Speed of Train + Speed of Man

Time = Distance / Speed

Calculation:

Speed of Train = 64 km/h

Speed of Man = 8 km/h

Relative Speed = 64 + 8

=> Relative Speed = 72 km/h

Convert speed to m/s:

1 km/h = 5/18 m/s

72 km/h = 72 × (5/18) m/s

=> 72 × (5/18) = 20 m/s

Distance = 100 m

Time = Distance / Speed

=> Time = 100 / 20

=> Time = 5 sec

Therefore The correct answer is option (3).

Q13. Answer: (d) B. R. Ambedkar

The correct answer is B. R. Ambedkar

Key Points

• B.R. Ambedkar wrote the book Words of Freedom: Ideas of a Nation.

• The Government of Maharashtra published volumes of Ambedkar's unpublished works to showcase his philosophy and ideology to the world and the nation

• B. R. Ambedkar founded the All India Scheduled Castes Federation (SCF) in 1942 to fight for the rights of the Dalit community.

• He also founded the Independent Labour Party

Additional Information

• Rabindranath Tagore

• Known as the "Divine Teacher" (Gurudev) and the "Bard of Bengal", Tagore was a Bengali poet and statesman.

• Jawaharlal Nehru

• Known as "Chacha Nehru", Nehru was a leader of the Indian independence movement. He wrote The Discovery of India.

• Subhash Chandra Bose

• Known as "Netaji" and the "Prince of Patriots", Bose was a leader of the Indian National Congress and a key figure in India's independence movement. He wrote The Indian Struggle.

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Q14. Answer: (c) Both option (1) & (2)

Solution:

Option 1:

$1 - \cos^2 a - \sin^2 a = 0$

Using the identity $\sin^2 a + \cos^2 a = 1$:

$1 - (\sin^2 a + \cos^2 a) = 1 - 1 = 0$

Option 1 is correct.

Option 2:

We know $\tan 30 = 1/\sqrt{3}$ and $\tan 60 = \sqrt{3}$:

$2\tan 30 / (1 - \tan 230) = (2 \times 1/\sqrt{3}) / (1 - (1/\sqrt{3})2)$

$= (2/\sqrt{3}) / (1 - 1/3)$

$= (2/\sqrt{3}) / (2/3)$

$= \sqrt{3}$

Option (2) is correct.

Option 4:

$9\sec^2 a - 9\tan^2 a = 2$

Using the identity $\sec^2 a - \tan^2 a = 1$:

$9(\sec^2 a - \tan^2 a) = 9 \times 1 = 9$

This does not equal 2.

Option 4 is incorrect.

Since both option (1) and (2) is correct. Option (3) indicates both options (1) and (2).

So, Option (3) is the correct answer.

Q15. Answer: (a) Ministry of Finance

The correct answer is the Ministry of Finance

Key Points

• The Economic Survey of India is an annual report published by the Ministry of Finance.

• It provides a detailed review of the Indian economy's performance over the past year.

• This comprehensive document is typically released a day before the Union Budget is presented in Parliament.

• The report is meticulously prepared by the Chief Economic Adviser (CEA) and their team in the Economic Division of the Department of Economic Affairs (DEA).

• Once finalized, it is formally presented in Parliament by the Department of Economic Affairs.

Additional Information

• Ministry of Finance

• Manages the finances of the Central Government and has six departments:

• Department of Economic Affairs

• Department of Expenditure

• Department of Revenue

• Department of Investment and Public Asset Management

• Department of Financial Services

• Department of Public Enterprises

• NITI Aayog

• The Government of India's policy think tank provides policy inputs and designs long-term policies and programs.

• NITI Aayog also offers strategic and technical advice to the Centre, States, and Union Territories.

• Central Statistical Organisation (CSO)

• Has five divisions:

• National Accounts Division (NAD)

• Industrial Statistics Division (ISD)

• Economic Census Division (ECD)

• Social and Miscellaneous Statistics Division (MSD)

• Training Division

• Reserve Bank of India (RBI)

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• India's central bank that controls the monetary policy for the Indian rupee.

• The RBI's functions include issuing currency, maintaining monetary stability, and operating the currency.

Q16. Answer: (a) Kakatiya

The correct answer is Kakatiya

Key Points

• The Rudreswara Temple, commonly known as the Thousand Pillars Temple (Veyisthambala Gudi), is a renowned historic temple located in Hanamkonda, Telangana.

• It was built in 1163 CE by Rudra Deva, a prominent ruler of the Kakatiya dynasty.

• This temple stands as a testament to the architectural brilliance and craftsmanship of the Kakatiyas, showcasing intricate carvings and a unique style of temple construction.

• The temple was constructed under the patronage of the Kakatiya Dynasty, which ruled parts of southern India, particularly in the Deccan region, between the 12th and 14th centuries.

• The temple is dedicated to a trinity of deities: Lord Shiva (Rudreswara), Lord Vishnu, and Surya (Sun God), representing the Shaivite, Vaishnavite, and solar traditions.

• The temple is built in a star-shaped structure with intricately carved pillars and sculptures, reflecting the Kakatiya's mastery in temple design.

• The name "Thousand Pillars Temple" arises from the numerous intricately designed pillars within the temple complex. However, the exact number of pillars is slightly less than a thousand, but their aesthetic and functional design is unparalleled.

Additional Information

• Chola Dynasty: The Cholas were prominent in Tamil Nadu and were known for temples like the Brihadeeswara Temple in Thanjavur. They did not construct the Thousand Pillars Temple.

• Chalukya Dynasty: The Chalukyas ruled parts of Karnataka and were known for their contributions to Indian temple architecture, such as the Virupaksha Temple in Pattadakal.

• Pallava Dynasty: The Pallavas ruled in Tamil Nadu and are famous for their rock-cut temples in Mahabalipuram.

Q17. Answer: (b) Chalukya

The correct answer is Chalukya

Key Points

• Pulakeshin II was the most illustrious ruler of the Chalukya dynasty:

• Pulakeshin II ruled from 610 to 642 CE.

• He expanded the Chalukya kingdom to include most of the Deccan region and peninsular India.

• He also patronized the arts and sciences and constructed rock-cut temples at Badami and Aihole.

• He was known for his military prowess and successful campaigns against the Pallavas.

• His court poet, Ravikirti, wrote the Aihole Inscription, which describes Pulakeshin II's campaigns and victories.

• His reign is considered a golden age for the Chalukya dynasty.

• The Chalukya dynasty ruled large parts of southern and central India from the 6th to the 12th century CE.

Additional Information

• Hoysala

• This Kannadiga dynasty ruled most of what is now Karnataka from the 10th to the 14th centuries.

• The Hoysala capital was first in Belur, and then moved to Halebidu.

• The earliest known member of the Hoysala dynasty was Nripakama, who fought against a Chola general in the Kaliyur inscription of around 990 AD.

• Kakatiya

• This dynasty ruled from 1000 to 1323 CE over the present Telangana and Andhra regions, parts of Karnataka, Orissa, and Tamilnadu.

• The Kakatiya capital was Orugallu (Warangal).

• The early members of this dynasty served as generals for the Rashtrakutas and later shifted their allegiance to the Chalukyas of Kalyani.

• Pandya

• This dynasty ruled the area in southern India that is now in the state of Tamil Nadu from the 3rd century BCE to 1345 CE.

• The capital of the Pandyas was Madurai

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Q18. Answer: (c) An isotope of cobalt

The correct answer is An isotope of Cobalt

Key Points

• The isotope of cobalt is used in the treatment of cancer:

• Cobalt-60 is a radioactive isotope of cobalt that is used in radiation therapy to treat cancer.

• In this treatment, high-energy gamma radiation from the cobalt is directed at cancerous cells to burn them.

• Radioisotopes are unstable isotopes that emit radiation in the form of alpha, beta, and gamma rays

Additional Information

• Other isotopes and their uses include:

• Iodine: Radioiodine therapy is used to treat thyroid cancer and hyperthyroidism.

• Copper: Copper-64 and copper-67 are copper imaging agents that are being developed for cancer radiation and diagnostic imaging.

• Uranium: Uranium is a radioactive element that is used in nuclear reactors and for making nuclear weapons. It does not have a recognized role in cancer therapy.

Q19. Answer: (b) 5, 7, 4

Formula used:

For a set of numbers to be the sides of a triangle, the sum of any two sides must be greater than the third side.

Calculation:

Option 1: 1, 1.5, 3

=> 1 + 1.5 = 2.5 < 3

=> This does not satisfy the triangle inequality theorem.

Option 2: 5, 7, 4

=> 5 + 4 = 9 > 7

=> This satisfies the triangle inequality theorem.

Option 3: 1, 2, 4

=> 1 + 2 = 3 < 4

=> This does not satisfy the triangle inequality theorem.

Option 4: 11, 3, 7

=> 3 + 7 = 10 < 11

=> This does not satisfy the triangle inequality theorem.

Therefore The correct answer is option 2.

Q20. Answer: (d) Kalpana Chawla

The correct answer is Kalpana Chawla

Key Points

• NASA named the Cygnus Spacecraft after Kalpana Chawla in October 2020:

• Kalpana Chawla was the first Indian-origin woman to travel to space.

• She was a mission specialist and primary robotic arm operator on the Space Shuttle Columbia in 1997.

• However, she lost her life in the Space Shuttle Columbia disaster in 2003.

Additional Information

• Rakesh Sharma

• The first Indian to travel to space, Sharma flew on the Soyuz T-11 in 1984. He was awarded the title of Hero of the Soviet Union.

• Sunita Williams

• The second Indian-origin woman to travel to space, Williams holds the record for the longest single space flight and most spacewalk time by a woman.

• Ravish Malhotra

• An Air Force test pilot who served as a backup for Rakesh Sharma on the Soyuz T-11 mission.

Q21. Answer: (d) 2 : 3

Given:

In a right circular cylinder, the ratio of the curved surface area to the total surface area is 2 : 5.

Formula used:

Curved Surface Area (CSA) = 2πrh

Total Surface Area (TSA) = 2πr(r + h)

Calculation:

Given CSA : TSA = 2 : 5

=> 2πrh/(2πr(r + h)) = 2/5

=> rh/(r(r + h)) = 2/5

=> h/(r + h) = 2/5

Cross-multiplying:

=> 5h = 2r + 2h

=> 5h - 2h = 2r

=> 3h = 2r

=> h/r = 2/3

Therefore The correct answer is option (4).

Q22. Answer: (a) a = 0 and b = ((- 2))/3

Given:

(√7 - 1)/(√7 + 1) - (√7 + 1)/(√7 - 1) = a + b√7

Formula used:

Rationalize the denominators to simplify the expression.

Calculation:

(√7 - 1)/(√7 + 1)

=> (√7 - 1)(√7 - 1)/(√7 + 1)(√7 - 1)

=> (7 - 2√7 + 1)/(7 - 1)

=> (8 - 2√7)/6

=> (4 - √7)/3

(√7 + 1)/(√7 - 1)

=> (√7 + 1)(√7 + 1)/(√7 - 1)(√7 + 1)

=> (7 + 2√7 + 1)/(7 - 1)

=> (8 + 2√7)/6

=> (4 + √7)/3

Combine the simplified fractions:

(4 - √7)/3 - (4 + √7)/3

=> (4 - √7) - (4 + √7)/3

=> (4 - √7 - 4 - √7)/3

=> (-2√7)/3

Therefore, a = 0 and b = -2/3

Therefore The correct answer is option (1).

Q23. Answer: (c) Allahabad

The correct answer is Allahabad

Key Points

• The Indian Standard Time (IST) is determined using the 82.5° East longitude as the standard meridian.

• This meridian passes close to Allahabad in Uttar Pradesh.

• The 82.5° E longitude is chosen as the standard meridian for India because it lies approximately in the centre of the country, ensuring that the entire nation follows a uniform time.

• The clock tower in Mirzapur is near the corresponding longitude reference line, which is why it's used to determine IST.

• This meridian runs through Mirzapur, a town near Allahabad (now known as Prayagraj), making it the closest prominent location to this longitude.

• IST is 5 hours and 30 minutes ahead of GMT (Greenwich Mean Time).

Q24. Answer: (b) 800%

Given:

If the radius of a sphere is tripled

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Formula used:
Surface Area of Sphere = $4\pi r^2$
Calculations:
Initial radius = r
New radius = 3r
Initial Surface Area = $4\pi r^2$
New Surface Area = $4\pi(3r)^2$
=> New Surface Area = $4\pi \times 9r^2$
=> New Surface Area = $36\pi r^2$
=> Increase in Surface Area = New Surface Area - Initial Surface Area
=> Increase in Surface Area = $36\pi r^2 - 4\pi r^2$
=> Increase in Surface Area = $32\pi r^2$
=> Increase = 8 times
Therefore The correct answer is option 2.

Q25. Answer: (d) D

The diagram that best represents the relationship between Trousers, Garments, and Shirts is shown below :
Trousers and shirts are two different types of garments.
Hence, "Option 4" is the correct answer.

Q26. Answer: (b) 13/99

Given:
The number 0.1313... in the form of (p)/(q) is equal to:
Formula used:
Let x = 0.1313...
Then, 100x = 13.1313...
Now, subtract the first equation from the second equation:
Calculation:
Let x = 0.1313...
Then, 100x = 13.1313...
=> 100x - x = 13.1313... - 0.1313...
=> 99x = 13
=> x = 13/99
Therefore The correct answer is option (2).

Q27. Answer: (a) SSIFY

The logic followed here is:
SWEET is written as SZEHT
And,
SALTY is written as SDLWY
Similarly,
SPICY is written as

Hence, "Option 1" is the correct answer.

Q28. Answer: (c) mean = (3 median - mode) / 2

Given:
For a frequency distribution, mean, median and mode are connected by the relation:
Formula used:
Mean = (3 × Median - Mode) / 2
Calculation:
Mean = (3 × Median - Mode) / 2
=> Mean = (3 Median - Mode) / 2

Therefore The correct answer is option (3).

Q29. Answer: (b) 4 : 3

Given:

When 30% of a number is added to another number, the second number becomes 140% of itself.

Formula used:

Let the first number be x and the second number be y.

x × 0.3 + y = y × 1.4

Calculation:

x × 0.3 + y = y × 1.4

=> x × 0.3 = y × 1.4 - y

=> x × 0.3 = y(1.4 - 1)

=> x × 0.3 = y × 0.4

=> x/y = 0.4/0.3

=> x/y = 4/3

Therefore The correct answer is option 2.

Q30. Answer: (b) 21 km/h

Given:

A steamer goes downstream and covers the distance between two ports in 6 h. It covers the same distance upstream in 8 h. The speed of the stream is 3 km/h.

Formula used:

Let the speed of the steamer in still water be x km/h.

Speed downstream = (x + 3) km/h

Speed upstream = (x - 3) km/h

Using the formula Distance = Speed × Time

Distance downstream = Distance upstream

Calculation:

6(x + 3) = 8(x - 3)

=> 6x + 18 = 8x - 24

=> 18 + 24 = 8x - 6x

=> 42 = 2x

=> x = 21

Therefore The correct answer is option (2).

Q31. Answer: (c) H

Given: Eight persons A, B, C, D, E, F, G and H are sitting around a circular table facing towards the centre.

1) D is third to the left of A.

2) Only two persons sit between D and E.

3) F is second to the right of E.

4) A and B are not neighbours of C or G.

5) C is third to the right of G.

Thus final arrangement:

So, H is to the immediate left of A.

Hence, the correct answer is "H".

Q32. Answer: (d) 7

The logic followed here is:

Hence, the correct answer is "7".

Q33. Answer: (d) 6

Given:

The value of 9.377 - [3 + 0.5 × (3.1 - 2.3 × 1.02)] is:

Formula used:

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Apply the order of operations (PEMDAS/BODMAS).

Calculation:

9.377 - [3 + 0.5 × (3.1 - 2.3 × 1.02)]

=> 9.377 - [3 + 0.5 × (3.1 - 2.346)]

=> 9.377 - [3 + 0.5 × 0.754]

=> 9.377 - [3 + 0.377]

=> 9.377 - 3.377

=> 6

Therefore The correct answer is option (4).

Q34. Answer: (c) ENIAC

The correct answer is ENIAC

Key Points

• The first computer created by J.W. Mauchly and J. Presper Eckert with no mechanical parts was the ENIAC (Electronic Numerical Integrator and Computer).

• ENIAC was developed in 1945 and was the first general-purpose, fully electronic digital computer.

• It used vacuum tubes for computation instead of mechanical components or relays, making it much faster than earlier mechanical or electromechanical computers.

• ENIAC was used primarily for military purposes, such as calculating artillery firing tables.

Additional Information

• Mark II:

• The Mark II was an electromechanical computer built after the Mark I.

• It used relays and mechanical parts, so it was slower and less advanced compared to ENIAC.

• Created under the guidance of Howard Aiken at Harvard University.

• EDVAC (Electronic Discrete Variable Automatic Computer):

• EDVAC was an advancement over ENIAC and was designed by Mauchly and Eckert as well.

• It introduced the concept of stored programs, as suggested by John von Neumann.

• It was completed in 1952, after ENIAC.

• Mark I (Harvard Mark I):

• The Harvard Mark I was an electromechanical computer built in 1944 by Howard Aiken with funding from IBM.

• It was a pioneering machine but relied heavily on mechanical relays, unlike ENIAC, which was fully electronic.

Q35. Answer: (b) 7 > 7 < 7 + 7 = 14

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×	

Option 1) 7 < 7 + 7 = 6

After interchanging the symbols, apply BODMAS rule:

=> 7 - 7 ÷ 7 < 6

=> 7 - 1 < 6

=> 6 < 6

Option 2) 7 > 7 < 7 + 7 = 14

After interchanging the symbols, apply BODMAS rule:

=> 7 + 7 - 7 ÷ 7 < 14

=> 7 + 7 - 1 < 14

=> 14 - 1 < 14

=> 13 < 14

Option 3) 7 + 7 > 7 = 8

After interchanging the symbols, apply BODMAS rule:

=> 7 ÷ 7 + 7 < 8

=> 1 + 7 < 8

=> 8 < 8

Option 4) 7 ^ 7 > 7 + 7 = 7

After interchanging the symbols, apply BODMAS rule:

=> 7 × 7 + 7 ÷ 7 < 7

=> 7 × 7 + 1 < 7

=> 49 + 1 < 7

=> 50 < 7

Hence, the correct answer is "7 > 7 < 7 + 7 = 14".

Q36. Answer: (c) Google

The correct answer is Google

Key Points

• Google is not a web browser, but rather a search engine:

• Google is a search engine that provides many products, including cloud computing, e-commerce, and more.

• Web browsers, on the other hand, are software applications that help users access the World Wide Web and local websites.

• Some examples of web browsers include Mozilla Firefox, Safari, Google Chrome, and Opera.

Additional Information

• Mozilla Firefox

• An open-source browser that's customizable and has privacy features. Some say it's the best browser that's not based on the Chromium browser engine.

• However, others say it's slower and has a smaller extension library.

• Apple Safari

• Optimized for Apple devices, this browser is energy efficient but limited to Apple devices and less customizable.

• Opera

• An older browser with innovative features and a built-in VPN. It's designed to make extensions unnecessary by including a full range of built-in features.

• However, some say it has compatibility issues.

Q37. Answer: (d) z = 2x

Given:

If x% of y is 2000 and y% of z is 4000

Formula used:

x% of y = 2000

y% of z = 4000

Calculation:

x% of y = 2000

=> (x/100) × y = 2000

=> xy = 200000

y% of z = 4000

=> (y/100) × z = 4000

=> yz = 400000

Now, divide the two equations:

=> (xy)/(yz) = 200000/400000

=> x/z = 1/2

=> z = 2x

Therefore The correct answer is option (4).

Q38. Answer: (a) Q, P, S, R

The correct answer is Q, P, S, R

Key Points

• To arrange the options in the correct chronological order of Indian history:

• Q - Mauryan Empire → P - Gupta Kingdom → S - Delhi Sultanate → R - Mughals

• Mauryan Empire (322 BCE - 185 BCE)

• The Mauryan Empire was one of the earliest large empires in Indian history, founded by Chandragupta Maurya.

• Gupta Kingdom (circa 320 CE - 550 CE)

• Known as the Golden Age of India, the Gupta Empire came after the decline of the Mauryan Empire.

• Delhi Sultanate (1206 CE - 1526 CE)

• This was a period of Muslim rule in North India, starting with the Mamluk Dynasty and ending with the Lodhi Dynasty.

• Mughals (1526 CE - 1857 CE)

• The Mughal Empire followed the Delhi Sultanate and marked a significant era of cultural, architectural, and administrative developments.

• This sequence reflects the correct historical progression.

Q39. Answer: (a) Delhi

The correct answer is Delhi

Key Points

• In March 2021, the Delhi government announced its intention to bid for hosting the 2048 Olympics.

• The announcement was made as part of a long-term vision to develop the necessary infrastructure and facilities to make Delhi a viable candidate for hosting the prestigious international sporting event.

• Key highlights of the announcement include:

• Infrastructure Development: The government emphasized building world-class sports facilities, expanding transport networks, and upgrading the city's overall infrastructure.

• Long-Term Planning: The target year, 2048, marks the centenary of India's independence, symbolizing national pride and progress.

• Youth Engagement: Promoting sports culture among the youth to prepare a new generation of athletes.

• Sustainability: Ensuring environmentally sustainable development in line with international Olympic standards.

• This ambitious proposal was positioned as a way to boost Delhi's global reputation and inspire nationwide enthusiasm for sports.

Additional Information

• India is one of several countries competing to host the 2036 Olympics, which will be the earliest available slot after the 2028 Los Angeles Games and the 2032 Brisbane Games. The International Olympic Committee (IOC) is expected to make a decision on the 2036 host city after its elections next year. However, the IOC has said that a decision is not expected before 2026 or 2027

Q40. Answer: (b) Designing of aeroplane wings

The correct answer is Designing of aeroplane wings

Key Points

• Designing laboratory thermometers is not based on Archimedes' Principle.

• Archimedes' Principle states that the upward force on an object immersed in a fluid is equal to the weight of the fluid displaced.

• It is used in many applications, including: Designing ships and submarines, Lactometers, Hydrometers, and Hydraulic lifts.

• An odometer is an instrument that measures the distance travelled by a wheeled vehicle, and it is not based on Archimedes' Principle.

Additional Information A hydrometer measures the general density of any liquid, whereas a lactometer is specifically designed for milk quality analysis.

Q41. Answer: (b) 10%

Given:

If a sum of money doubles itself in 10 years, then the rate of simple interest is:

Formula used:

Simple Interest (SI) = Principal (P) × Rate (R) × Time (T) / 100

Amount (A) = Principal (P) + Simple Interest (SI)

Calculations:

Let Principal (P) = 100 (assumed value)

Since the money doubles, Amount (A) = 2 × P = 200

Time (T) = 10 years

From the formula of Amount:

200 = 100 + (100 × R × 10) / 100

=> 200 = 100 + 10R

=> 200 - 100 = 10R

=> 100 = 10R

=> R = 10%

Therefore The correct answer is option 2.

Q42. Answer: (a) OCREPMTU

The logic followed here is:

ALIGATOR is written as LAROGITA.

Similarly, COMPUTER will be written as:

Hence, the correct answer is "OCREPMTU".

Q43. Answer: (d) 4%

The correct answer is 4%

Key Points

• Mica forms 4% of earth crust is commonly found in igneous and metamorphic rocks and used in electrical instruments.

• Mica comprises of potassium, aluminium, magnesium, iron, silica, etc.

• About 98 per cent of the total crust of the earth is composed of eight elements like oxygen, silicon, Aluminium, iron, calcium, sodium, potassium and magnesium.

Important Points

• There are many different kinds of rocks which are grouped under three families on the basis of their mode of formation. They are-

• Igneous Rocks — solidified from magma and lava

• Sedimentary Rocks — the result of deposition of fragments of rocks by exogenous processes

• Metamorphic Rocks — formed out of existing rocks undergoing recrystallisation

• Igneous Rocks

• As igneous rocks form out of magma and lava from the interior of the earth, they are known as primary rocks.

• The igneous rocks are formed when magma cools and solidifies.

• When magma in its upward movement cools and turns into solid form it is called igneous rock.

• The process of cooling and solidification can happen in the earth’s crust or on the surface of the earth.

• Granite, gabbro, pegmatite, basalt, volcanic breccia and tuff are some of the examples of igneous rocks.

• Sedimentary Rocks

• Sedimentary rocks are formed from deposits of pre-existing rocks or pieces of once-living organism that accumulate on the Earth's surface.

• Depending upon the mode of formation, sedimentary rocks are classified into three major groups-

• mechanically formed — sandstone, conglomerate, limestone, shale, loess etc. are examples

• organically formed — geyserite, chalk, limestone, coal etc. are some examples

• chemically formed — chert, limestone, halite, potash etc

• Metamorphic Rocks

• These rocks form under the action of pressure, volume and temperature (PVT) changes.

• Metamorphism is a process by which already consolidated rocks undergo recrystallisation and reorganisation of materials within original rocks.

• Gneissoid, granite, syenite, slate, schist, marble, quartzite etc. are some examples of metamorphic rocks.

Q44. Answer: (d) 9

Given:

If x^4 + 1/x^4 = 6239, and x > 0

Formula used:

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

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

Calculation:

x^4 + 1/x^4 = 6239

=> x^4 + 1/x^4 + 2 = 6239 + 2

=> $(x^2 + 1/x^2)^2 = 6241$

=> $x^2 + 1/x^2 = \sqrt{6241}$

=> $x^2 + 1/x^2 = 79$

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

=> $(x + 1/x)^2 = 79 + 2$

=> $(x + 1/x)^2 = 81$

=> $x + 1/x = \sqrt{81}$

=> x + 1/x = 9

Therefore The correct answer is option (4).

Q45. Answer: (c) D

Given: Peacock, Sparrow, Bird

Peacock and Sparrow are both types of Birds.

So, Peacock and Sparrow are subsets of Bird.

Hence, the correct answer is "D".

Q46. Answer: (a) 1 : 1

Given:

Two parallelograms are on equal bases and between the same parallels.

Formula used:

The areas of two parallelograms on equal bases and between the same parallels are equal.

Calculation:

Since the bases are equal and they lie between the same parallels,

=> The ratio of their areas = 1 : 1

Therefore The correct answer is option (1).

Q47. Answer: (a) a rational number

Shortcut Trick

By definition, a rational number is any number that can be written in the form p/q.

Negative of p/q is simply (−p)/q.

Since (−p) and q are still integers, the resulting number remains rational.

Therefore The correct answer is a rational number.

Alternate Method

Given: A non-zero rational number x.

Definition: A rational number is defined as a number that can be expressed in the form p/q, where p and q are integers and $q \neq 0$.

=> Let the non-zero rational number be x = p/q.

=> The negative of x is −x = −(p/q).

=> This can be written as (−p)/q.

=> Since p is an integer, −p is also an integer.

=> q is an integer and $q \neq 0$.

=> Since (−p)/q satisfies the definition of a rational number, it is rational.

Therefore The correct answer is a rational number.

Additional Information

Closure Property of Rational Numbers

Rational numbers are closed under addition, subtraction, and multiplication. This means the result of these operations on two rational numbers is always a rational number.

Reciprocal of Rational Numbers

The multiplicative inverse or reciprocal of a non-zero rational number p/q is q/p, which is also a rational number.

Rational vs Irrational Sum

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The sum or difference of a rational number and an irrational number is always an irrational number.

Q48. Answer: (c) 1 : 2

Given:

The numbers are √64 and 16.

Formula used:

HCF and LCM of two numbers.

Calculation:

First, find the HCF and LCM of the given numbers.

√ 64 = 8

Numbers are 8 and 16.

HCF of 8 and 16 = 8

LCM of 8 and 16 = 16

Ratio of HCF to LCM = HCF/LCM

=> 8/16

=> 1/2

Therefore The correct answer is option (3): 1 : 2.

Q49. Answer: (c) Andaman and Nicobar islands

The correct answer is Andaman and Nicobar Islands

Key Points

• The 10 Degree Channel is a waterway that separates the Andaman and Nicobar Islands in the Bay of Bengal.

• The Andaman and Nicobar Islands are an Indian Union Territory.

• Other passes in the Andaman and Nicobar Islands include:

• Duncan Passage: Separates Little Andaman and South Andaman

• The Grand: Located between the Great Nicobar islands and the Sumatra Channel islands of Indonesia

• The Coco: Located between the North Andaman islands and the Coco Islands Strait of Myanmar

Additional Information

• Gulf of Kutch – This is a large inlet of the Arabian Sea, located on the western coast of India, near Gujarat, but not directly associated with a "channel."

• Malabar Coast – A coastal region in southwestern India, known for its beautiful coastline, but it's not typically referred to in terms of channels.

• Lakshadweep Islands – This group of islands in the Arabian Sea also has several channels between them, such as the channels separating the islands from the mainland

Q50. Answer: (d) Subhash Chandra Bose

The correct answer is Subhash Chandra Bose

Key Points

• The Government of India decided to celebrate the birthday of Netaji Subhas Chandra Bose as "Parakram Diwas" every year.

• The day is celebrated on January 23.

• The day is celebrated to honor Netaji's patriotism, selfless service, and indomitable spirit.

• The day's purpose is to inspire people to act with fortitude in the face of adversity and to infuse a spirit of patriotic fervor.

• Netaji Subhas Chandra Bose was a prominent Indian freedom fighter who played a pivotal role in the Indian independence movement.

• He was the head of the Indian National Army (Azad Hind Fauj) and the founder-head of the Azad Hind Government.

• The Government of India also instituted the Subhash Chandra Bose Aapda Prabandhan Puraskaar to recognize the excellent work done by individuals and institutions in the field of disaster management.

Additional Information

• Veer Savarkar – A freedom fighter and prominent leader of the independence movement, known for his role in the independence struggle and his idea of "Hindutva."

• Deen Dayal Upadhyaya – A philosopher, economist, and politician, known for his contribution to the idea of "Integral Humanism" and his role in the Bharatiya Jana Sangh.

• Swami Vivekananda – A renowned spiritual leader, monk, and reformer, known for his speeches on spirituality and the power of Indian culture and philosophy, especially his address at the 1893 Parliament of the World's Religions in Chicago.

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Q51. Answer: (a) C

The logic followed here is:

The shaded region that represents hard working students who are not urban.

So, the region that represents hard working students who are not urban = C.

Hence, the correct answer is "C".

Q52. Answer: (a) Vindhya

The correct answer is Vindhya

Key Points

• The Vindhya Range is the mountain range that forms the traditional boundary between North and South India:

• The Vindhya Range is a chain of hills, ridges, and plateaus in west-central India.

• It stretches from Gujarat in the west to the Ganges River valley near Varanasi in Uttar Pradesh.

• The Vindhya Range is bordered by the Aravalis to the northwest and the Central Highlands to the south.

• The range's highest point is Sad-Bhawana Shikhar, which is 2,467 feet (752 m) above sea level.

• Significance

• The Vindhyas are an important geographical and mythological feature in India. In ancient Indian texts, the Vindhyas marked the boundary between the territories of the Indo-Aryans and others.

Additional Information

• Shivalik: The Shivalik range is the southernmost range of the Himalayas, also known as the Outer Himalayas. It stretches across the northern parts of India, Nepal, and Pakistan, known for its lower elevation compared to other Himalayan ranges. It forms a boundary between the Indo-Gangetic plains and the higher Himalayas.

• Sahyadri: The Sahyadri, also called the Western Ghats, is a mountain range running parallel to the western coast of India. This range is known for its rich biodiversity and forms a natural barrier between the coastal region and the Deccan Plateau.

• Himadri: The Himadri is the northernmost range of the Himalayas, also known as the Great Himalayas. It includes the highest peaks of the Himalayan mountain system, such as Mount Everest, and forms the core of the Himalayan range, extending across several countries, including India, Nepal, Bhutan, and Tibet.

Q53. Answer: (b) subsidiary alliance system

The correct answer is the subsidiary alliance system

Key Points

• According to the Subsidiary Alliance, Indian rulers were not allowed to have their own independent armed forces by the East India Company:

• Indian rulers were to be protected by the East India Company but had to pay for the "subsidiary forces" that the Company maintained for their protection.

• If Indian rulers failed to make the payment, part of their territory was taken away as a penalty.

• For example, the Nawab of Awadh was forced to give over half of his territory to the Company in 1801.

• The treaty of alliance was introduced by Lord Wellesley.

• The Nizam of Hyderabad was the first to accept the Subsidiary Alliance in 1798.

Additional Information

• Policy of paramountcy

• The British East India Company claimed that its authority was "paramount" or "supreme" over Indian states.

• Doctrine of Lapse

• This policy stated that if a ruler of a princely state died without a natural heir, the state would automatically be annexed by the British.

• Divide and rule policy

• This policy involved identifying and exploiting pre-existing divisions in society to prevent a united challenge to British rule

Q54. Answer: (d) 1024

The correct answer is 1024

Key Points

• In binary, 1 gigabyte (GB) is equal to 1,024 megabytes (MB):

• some other ways to measure a gigabyte:

• Kilobytes: 1 GB is equal to 1,000,000 kilobytes (KB) in decimal, or 1,048,576 KB in binary.

• Bytes: 1 GB is equal to 1,000,000,000 bytes in decimal, or 1,073,741,824 bytes in binary.

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• Terabytes: 1 GB is equal to 0.001 terabytes (TB).

• Gigabytes are the standard unit of measurement for data plans on cell phones.

• For example, a cell phone plan might offer 5 GB, 15 GB, or 20 GB of data.

Q55. Answer: (d) None of the conclusions follow.

Statements:

No door is window.

No window is table.

The least possible Venn diagram is as follows,

Conclusions:

I. Some tables are not doors. → False (because no direct relationship given between tables and doors so it may be possible but not defined)

II. No door is a table. → False (because no direct relationship given between tables and doors so it may be possible but not defined)

Hence, the correct answer is "None of the conclusions follow".

Q56. Answer: (b) 50%

Given:

Selling price of 10 pens = Cost price of 15 pens

Formula used:

Gain% = (Selling Price - Cost Price)/(Cost Price) × 100

Calculation:

Let Cost price of 1 pen be Rs. 1

=> Cost price of 15 pens = Rs. 15

=> Selling price of 10 pens = Rs. 15

=> Selling price of 1 pen = Rs. 1.5

Cost price of 1 pen = Rs. 1

Gain = Selling price - Cost price

=> Gain = Rs. 1.5 - Rs. 1 = Rs. 0.5

Gain% = 0.5/1 × 100

=> Gain% = 50%

Therefore The correct answer is option (2).

Q57. Answer: (b) Black soil

The correct answer is Black soil

Key Points

• Black soil covers most of the Deccan Plateau:

• Black soil is formed from basaltic parent material, which is derived from trapped lava.

• The Deccan Plateau's black soil area is known as the Deccan Trap, which is of volcanic origin.

• Black soil is a mineral soil with a black surface horizon and is rich in organic carbon.

• It's also rich in calcium, potassium, and magnesium, but low in nitrogen.

• Crops like cotton, tobacco, chilly, oil seeds, jowar, ragi, and maize grow well in black soil.

• Black soil covers parts of Maharashtra, Madhya Pradesh, Gujarat, Andhra Pradesh, and some parts of Tamil Nadu.

Additional Information

• Alluvial soil: This soil is formed by the deposition of sediments carried by rivers.

• It is found in the Indo-Gangetic-Brahmaputra plains, deltas like Mahanadi, Godavari, Krishna, and Cauvery, and some regions in Narmada, Tapi valleys, and parts of Gujarat.

• Alluvial soil is well-suited for agriculture, especially rice, wheat, sugarcane, tobacco, cotton, jute, maize, oilseeds, vegetables, and fruits.

• Red soil: Red soil is one of the types of soil found in India.

• Other types of soil found in India include: Laterite soil, Mountainous or Forest Soil, Arid or Desert Soil, Saline and Alkaline Soil, and Peaty and Marshy Soil.

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Q58. Answer: (b) 5√1

Given:

The value of √(10 + √(200 + √(596 + √841)))

Formula used:

√(a + √(b + √(c + √d)))

Calculations:

Start from the innermost square root:

√841 = 29

=> √(596 + 29)

√625 = 25

=> √(200 + 25)

√225 = 15

=> √(10 + 15)

√25 = 5 √1

Therefore The correct answer is option (2).

Q59. Answer: (d) Engine

The logic followed here is:

Logic: Means of Motion.

Here,

Horse : Cart → Horse is a means of motion for a Cart.

Similarly,

Engine : Car → Engine is a means of motion for a Car.

Hence, the correct answer is "Option 4".

Q60. Answer: (c) Sari

The logic followed here is:

Blanket	Bedding category
Quilt	Bedding category
Sari	Worn as clothing
Bedsheet	Bedding category

Blanket, Quilt, Bedsheet all are used for covering,

Whereas,

Sari is worn as clothing.

Hence, the correct answer is "Sari".

Q61. Answer: (b) Manipur

The correct answer is Manipur

Key Points

• The Sangai Festival is an annual cultural festival organized by the state of Manipur in northeast India

• Held from November 21 to 30, the festival brings together various cultural performances and events.

• The festival celebrates traditional folk dances, music, indigenous sports, cuisine, and handicrafts from Manipur.

• The opening ceremony of the festival takes place at Loktak Lake and Keibul Lamjao National Park, attracting both locals and tourists.

• The festival is named after Sangai, the state animal of Manipur, which is a rare and endangered subspecies of Eld's deer.

• The Sangai Festival was previously known as the Tourism Festival, but was renamed in 2010 to highlight the state's unique culture and the rare Sangai deer.

Q62. Answer: (a) Three indemnity levels - 70%, 80% and 90%

The correct answer is Three indemnity levels-70%,80% and 90%

Key Points

• The Pradhan Mantri Fasal Bima Yojana (PMFBY) offers three levels of indemnity: 70%, 80%, and 90%.

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• The level of indemnity is based on the risk of the area for the crop.
• The PMFBY also offers a mid-season calamity cover for farmers.
• This cover provides immediate relief to farmers if the expected yield for the season is less than 50% of the normal yield.
• In this case, the insured farmer receives a 25% payout of the total sum insured.
• To apply for the PMFBY, you can create a farmer's login account in the NCIP portal.

Q63. Answer: (d) Six years

The correct answer is Six years

Key Points

• The term of a Rajya Sabha MP is six years.
• However, the terms are staggered, with about one-third of the 233 members up for election every two years.
• The Rajya Sabha is a continuing chamber, unlike the Lok Sabha, which is subject to dissolution.
• The Vice President of India is the ex-officio Chairman of the Rajya Sabha, and the House elects a Deputy Chairman from among its members.

Q64. Answer: (c) 90°

Given:

A and B are acute angles such that tan A = cot B.

Formula used:

tan A = cot B

cot B = tan (90º - B)

Therefore, tan A = tan (90º - B)

Calculations:

tan A = tan (90º - B)

=> A = 90º - B

=> A + B = 90º

Therefore The correct answer is option (3).

Q65. Answer: (d) Kanchipuram Kailashnath temple

The correct answer is Kanchipuram Kailashnath Temple

Key Points

• The Pallava rulers built the Kanchipuram Kailashnath temple:
• Kanchipuram Kailashnath temple: Built by the Pallava king Rajasimha (Narasimhavarman II) between 685–705 AD, this temple is the oldest structure in Kanchipuram.
• It is a Hindu temple dedicated to Lord Shiva and is built in the Dravidian architectural style.
• The temple has 58 small shrines that contain images of various forms of Shiva.
• The Pallavas also built other notable temples, including:
• Shore Temple: Built by Narasimhavarman II at Mahabalipuram between 630–668 CE.
• Chariot temples: Built at Mahabalipuram.
• These are a group of five temples built in the name of the five Pandavas from Mahabharat.
• The Pallava dynasty was founded by Simhavishnu and ruled in South India.
• The capital of their kingdom was Kanchi, and their kingdom stretched from Southern Andhra Pradesh and Northern Tamil Naidu.

Additional Information

• Konark Sun Temple – Located in Konark, Odisha, this 13th-century temple is dedicated to the Sun God, Surya. It is known for its remarkable architecture, built in the shape of a giant chariot with twelve wheels, and is a UNESCO World Heritage site.
• Lingaraja Temple – Situated in Bhubaneswar, Odisha, this is one of the largest and most important temples dedicated to Lord Shiva. It is an excellent example of Kalinga architecture.
• Kanchipuram Kailashnath Temple – This temple is situated in Kanchipuram, Tamil Nadu, and is dedicated to Lord Shiva. It is one of the oldest temples in the region, known for its Dravidian-style architecture and historical significance.

Q66. Answer: (a) 8 < 4 + 2 = 6 > 3

Signs	Interchanged with
	•

<	•
•	÷
^	×
•	=
=	<
×	

Option 1) 8 < 4 + 2 = 6 > 3

After interchanging the symbols, apply BODMAS rule:

=> 8 - 4 ÷ 2 < 6 + 3

=> 8 - 2 < 6 + 3

=> 6 < 9

Option 2) 4 > 6 + 2 × 32 + 4 < 1

After interchanging the symbols, apply BODMAS rule:

=> 4 + 6 ÷ 2 > 32 ÷ 4 - 1

=> 4 + 3 > 8 - 1

=> 7 > 7

Option 3) 14 + 7 > 3 = 6 + 3 > 2

After interchanging the symbols, apply BODMAS rule:

=> 14 ÷ 7 + 3 < 6 ÷ 3 + 2

=> 2 + 3 < 2 + 2

=> 5 < 4

Option 4) 6 + 3 > 8 = 4 + 2 < 1

After interchanging the symbols, apply BODMAS rule:

=> 6 ÷ 3 + 8 < 4 ÷ 2 - 1

=> 2 + 8 < 2 - 1

=> 10 < 1

Hence, the correct answer is "8 < 4 + 2 = 6 > 3".

Q67. Answer: (a) Touch : Push

The logic is given here:

1st word is a more intense or forceful version of the 2nd word.

Option (1): Touch : Push → 2nd word is a more intense or forceful version of the 1st word

Option (2): Cut : Scratch → 1st word is a more intense or forceful version of the 2nd word

Option (3): Punch : Tap → 1st word is a more intense or forceful version of the 2nd word

Option (4): Run : Walk → 1st word is a more intense or forceful version of the 2nd word

So, 'Touch : Push' is an odd one.

Hence, The correct answer is "Option (1)".

Q68. Answer: (a) environment protection

The correct answer is Environmental protection

Key Points

• The Chipko movement was related to environment protection

• The Chipko movement was a nonviolent, social and ecological movement that aimed to protect trees and forests from deforestation.

• The movement is considered a landmark environmental movement in India and a global inspiration for environmental activism.

Additional Information

• Women's rights

• The Chipko movement is considered an important success story in the fight to secure women's rights.

• Women were the most affected by deforestation, which led to a lack of firewood, fodder, and water for drinking and irrigation.

• The Chipko movement originated in the 1970s when rural villagers, particularly women, protested by hugging trees to prevent

them from being cut down by forest contractors. The name comes from the Hindi word chipko, which means "to hug" or "to cling".

Q69. Answer: (b) Vitamin K

The correct answer is Vitamin K

Key Points

• Vitamin K activates proteins and calcium that are essential for blood clotting:

• Vitamin K: A fat-soluble vitamin that helps the body produce clotting factors in the liver.

• Vitamin K is a coenzyme that allows coagulation factors to bind to calcium ions, which helps blood clot.

• Vitamin K deficiency can lead to bleeding issues. It's also important for healthy bones.

Additional Information

• Vitamin D

• Helps keep bones and muscles strong. It's a fat-soluble vitamin, which means the body stores it in the liver, muscles, and fatty tissue.

• The body can also produce vitamin D from sunlight, so exposure to the sun is important.

• Vitamin C

• Helps with collagen formation, iron absorption, and fighting infections.

• It's a water-soluble vitamin, which means the body doesn't store it and excess amounts are excreted in urine.

• Vitamin C is found in citrus fruits, tomatoes, guava, and amla.

• Vitamin B1

• Also known as thiamine, it's part of the B-complex group of water-soluble vitamins.

• A deficiency in vitamin B1 is known as beriberi.

Q70. Answer: (b) 1921 - 1922

The correct answer is 1921-1922

Key Points

• The Moplah Rebellion took place between 1921 and 1922:

• The rebellion began on August 20, 1921 and continued into 1922.

• The rebellion took place in the Malabar region of Kerala.

• The rebellion was led by Sayyad Ali and Saiyed Fazl.

• The Moplah Rebellion was a peasant revolt against the British and Hindu landlords.

• It was also known as the Moplah massacre, Moplah riots, and Mappila riots.

• The rebellion was inspired by the Non-Cooperation Movement and the Khilafat Movement.

• The Moplahs were motivated by new tenancy laws, anti-British sentiments, and the communal angle of the Namboodiri Brahmins who were the landlords.

• The British crushed the rebellion and sentenced the leaders to death.

• The British raised a special battalion called the Malabar Special Force to put down the rebellion.

Q71. Answer: (a) Morarji Desai

The correct answer is Morarji Desai

Key Points

• Morarji Desai was the Prime Minister of India when the Rolling Plan was introduced in 1978

• The Rolling Plan was the sixth five-year plan in India, and was introduced by the Janata party government led by Desai.

• The plan was flexible and could be revised based on the economy's needs.

• The plan's main feature was that the performance of the plan was assessed each year, and a new plan was created for the following year based on that assessment.

• The Rolling Plan concept was developed by Gunnar Myrdal.

• However, the Congress government led by Indira Gandhi ended the plan prematurely when it came to power in 1980.

Additional Information

• Indira Gandhi:

• She was known for her decisive leadership, particularly during the 1971 India-Pakistan war and the subsequent creation of Bangladesh.

• She also implemented significant economic and social reforms but faced criticism for her authoritarian rule, especially during the Emergency (1975–77).

• Lal Bahadur Shastri:

• Shastri is remembered for his leadership during the 1965 India-Pakistan war and his role in strengthening India's position on the international stage.
• He is also known for promoting the slogan "Jai Jawan Jai Kisan" ("Hail the soldier, Hail the farmer"),
• emphasizing the importance of soldiers and farmers to the country's progress.
• Shastri's sudden death in 1966 remains a subject of controversy.
• Rajiv Gandhi:
• Rajiv Gandhi became the youngest Prime Minister of India at the age of 40 after the assassination of his mother, Indira Gandhi.
• His tenure saw efforts to modernize India's economy, particularly in the fields of telecommunications and technology.
• He is credited with initiating economic reforms, but his tenure also saw several controversies, including issues with corruption.
• He was assassinated in 1991 by the Tamil Tigers during an election campaign.

Q72. Answer: (c) Virendra Kumar

The correct answer is Virendra Kumar.

Key Points

• Virendra Kumar was sworn in as Protem Speaker of 17th Lok Sabha.
• President Ram Nath Kovind swore in a seven-term member of Parliament Virendra Kumar as the Protem Speaker of Lok Sabha.
• The first session of the newly-constituted 17th Lok Sabha was held from June 17 to July 26.
• The Election for the Lok Sabha Speaker was scheduled to be held on June 19, 2019.
• Virendra Kumar was elected to the 11th Lok Sabha for the first time in 1996 and became a member of the Standing Committee on Labour and Welfare.
• Kumar was also served a prison sentence of 16 months under the Maintenance of Internal Security Act (MISA) in protest against the imposition of Emergency

Additional Information

• Sumitra Mahajan:
• Position: Former Speaker of the Lok Sabha (2014–2019)
• Significance: Sumitra Mahajan served as the Speaker of the Lok Sabha, the lower house of the Indian Parliament. She was one of the longest-serving Members of Parliament, representing the Indore constituency in Madhya Pradesh. Her tenure as Speaker was marked by efforts to ensure the smooth functioning of the house.
• Om Birla:
• Position: Speaker of the Lok Sabha (2019–present)
• Significance: Om Birla is the current Speaker of the Lok Sabha. He was elected to this position in 2019 and has been instrumental in managing parliamentary proceedings, ensuring discipline in the house, and promoting the democratic process. He represents the Kota-Bundi constituency in Rajasthan.
• JP Nadda:
• Position: President of the Bharatiya Janata Party (since 2019)
• Significance: Jagat Prakash Nadda, commonly known as JP Nadda, is the current President of the Bharatiya Janata Party. He has played a key role in shaping the party's strategy, and under his leadership, the BJP has focused on expanding its outreach and political dominance across India. He has also served in various capacities in the Union Cabinet.

Q73. Answer: (b) 10 √2 m

html

Given:

The length of a rectangular solar panel is 5% more than its breadth. If the area of the solar panel is 210 m², find its breadth.

Formula used:

Let the breadth be x meters.

Then, the length is 1.05x meters.

Area = Length × Breadth

Calculation:

$210 = x \times 1.05x$

$\Rightarrow 210 = 1.05x^2$

$\Rightarrow x^2 = 210 / 1.05$

$\Rightarrow x^2 = 200$

$\Rightarrow x = \sqrt{200}$

$\Rightarrow x = 10\sqrt{2}$

Therefore The correct answer is option (2).

Q74. Answer: (d) China

The correct answer is China

Key Points

• The 2023 AFC Asian Cup was originally awarded to China in 2019, but due to the ongoing challenges related to the COVID-19 pandemic and travel restrictions, China withdrew from hosting the event in May 2022.

• In response to this, the Asian Football Confederation (AFC) re-evaluated potential hosts and awarded the tournament to Qatar in 2023.

• This is Qatar's second time hosting the Asian Cup, having previously hosted it in 2011.

• The tournament will be held from January 12 to February 10, 2024. T

• his will be a significant event as it is being hosted just after Qatar's successful staging of the 2022 FIFA World Cup.

• The decision to shift the venue to Qatar also reflects the country's state-of-the-art infrastructure and experience in hosting major international football events.

• So, to clarify, Qatar will be hosting the 2023 AFC Asian Cup after China's withdrawal.

Q75. Answer: (b) Electric plugs and switches

The correct answer is Electric plugs and switches

Key Points

• The Electric plugs and switches are not based on Joule's law of heating.

• Instead, the Electric plugs and switches work by converting an electric current into mechanical energy.

• Joule's law of heating is the principle that electrical energy is converted into heat energy.

• Joule heating has been used in materials synthesis, recovery, and processing.

• For example, flash joule heating has been used to synthesize graphene and diamond.

Additional Information

• Many household appliances use this principle, including:

• Electric iron: Uses the heating effect of current to warm up the iron plate

• Electric heater: Current passes through a high resistance wire, causing it to heat up

• Electric bulb: The filament is heated until it glows and emits light

• Electric kettle: An electric current is passed through a heating element, causing it to become hot and boil the water

• Toaster: Electrical resistance is used to generate heat that toasts bread slices

• A fuse is a safety device that also uses the heating effect of electric current.

• When a fault occurs in the circuit, the fuse melts and breaks the circuit to protect the appliances connected to it.

Q76. Answer: (c) The stomach receives the secretion of the liver and pancreas

The correct answer is The stomach receives the secretion of the liver and pancreas

Key Points

• The statement that is not correct is "The stomach receives the secretion of the liver and pancreas":

• The stomach does receive secretions from the liver and pancreas, but these secretions continue the breakdown of food in the small intestine.

• The small intestine is made up of the duodenum, jejunum, and ileum.

• The duodenum continues to break down food, while the jejunum and ileum absorb nutrients.

Additional Information

• some other facts about the stomach and its digestive functions:

• Mucus protects the stomach lining: Mucus is a sticky, watery fluid that protects the stomach lining from the stomach's own secretions of hydrochloric acid and enzymes.

• If mucus is not secreted, the stomach lining can erode and lead to ulcers.

• Gastric glands release hydrochloric acid and pepsin:

• Gastric glands in the stomach mucosa secrete hydrochloric acid and the enzyme pepsin.

• Hydrochloric acid lowers the pH of the stomach, which activates pepsin. Pepsin is an enzyme that digests proteins in food.

• The stomach has an acidic environment: The stomach's acidic environment helps digest protein.

Q77. Answer: (a) Intergovernmental Military Alliance

The correct answer is the Intergovernmental Military Alliance

Key Points

• The North Atlantic Treaty Organization (NATO) is an intergovernmental military alliance:

• NATO's purpose is to guarantee the security and freedom of its members through political and military means.

• All decisions in NATO are made by consensus, meaning all member countries must agree unanimously.

• NATO has two arms: a civilian, administrative arm and a military arm.

• The headquarters are in Brussels, Belgium.

• NATO has 32 member states, including 30 European and 2 North American.

• NATO was established in 1949 after World War II.

• The North Atlantic Treaty, also known as the Treaty of Washington, was signed on April 4, 1949.

• NATO members are committed to the principles of democracy, individual liberty, human rights, and the rule of law.

Additional Information

• Technology Exchange and Development Group (TEDG)

• The group typically focuses on promoting the exchange of technological knowledge, innovations, and expertise between countries or organizations.

• This could involve facilitating technology transfers, collaborative research, and development initiatives,

• as well as supporting sustainable technological advancements in areas such as energy, healthcare, agriculture, and communication.

• Examples: Organizations like UNCTAD (United Nations Conference on Trade and Development)

• or WIPO (World Intellectual Property Organization) may sometimes engage in similar activities related to technology development and exchange.

• Cultural Cooperation and Development Organization (CCDO)

• This type of organization would focus on fostering cultural exchange, understanding, and cooperation between countries or regions to promote cultural development.

• It may support cultural diplomacy, promote arts and heritage, encourage educational exchange programs, and foster mutual respect and understanding across different cultures.

• Examples: Institutions like the UNESCO (United Nations Educational, Scientific and Cultural Organization) or regional cultural organizations work towards similar goals by coordinating cultural activities and promoting international cooperation in culture.

• Intergovernmental Economic Cooperation Group (IECG)

• Such a group would focus on facilitating economic collaboration among governments to achieve shared economic goals, enhance trade, and address common challenges.

• The group could engage in negotiations and agreements on trade, investment, economic development, and policy coordination, helping member countries improve their economic standing and tackle issues like poverty, unemployment, and inequality.

• Groups like the G20, ASEAN (Association of Southeast Asian Nations), or SAARC (South Asian Association for Regional Cooperation) focus on economic cooperation and intergovernmental dialogues to promote growth and stability.

Q78. Answer: (c) Rs. 19,448.10

Given:

Principal (P) = Rs. 16,000

Rate (r) = 20% p.a. compounded quarterly

Time (t) = 1 year

Formula used:

$A = P(1 + r/n)^{(nt)}$

Where, n = number of times interest applied per time period (quarterly means 4 times a year)

Calculation:

$A = 16000(1 + 20/(4 \times 100))^{(4 \times 1)}$

$\Rightarrow A = 16000(1 + 5/100)^4$

$\Rightarrow A = 16000(1 + 0.05)^4$

$\Rightarrow A = 16000(1.05)^4$

$\Rightarrow A = 16000(1.21550625)$

$\Rightarrow A = Rs.\ 19,448.10$

Therefore The correct answer is option (3).

Q79. Answer: (d) 9933

Given:

The largest four-digit number which is exactly divisible by 77 is:

Formula used:

Largest four-digit number = 9999

To find the largest number divisible by 77, we use:

(Largest four-digit number) - (Largest four-digit number mod Divisor)

Calculation:

Largest four-digit number = 9999

Divisor = 77

9999 mod 77 = 9999 - (9999 ÷ 77) × 77

=> 9999 mod 77 = 9999 - 129 × 77

=> 9999 mod 77 = 9999 - 9933

=> 9999 mod 77 = 66

Therefore, the largest four-digit number divisible by 77 = 9999 - 66

=> 9999 - 66 = 9933

Therefore The correct answer is option (4).

Q80. Answer: (d) Allahabad

The correct answer is Allahabad

Key Points

• Maharaja Sawai Jai Singh II did not build a Jantar Mantar in Allahabad.

• He did build Jantar Mantar observatories in the following cities:

• Jaipur

• Varanasi

• Ujjain

• Mathura

• New Delhi:

• The Jantar Mantar observatories were built between 1724 and 1735.

• They were used for astronomical calculations and observations.

• The Jantar Mantar in Varanasi is known as Man Mahal, the one in Ujjain is called Vedh Shala, and the one in Mathura is known as Yantra Mandir.

• The observatory in Mathura and its fort were destroyed before 1857.

Q81. Answer: (b) Tirath Singh Rawat

The correct answer is Tirath Singh Rawat.

Key Points

• Tirath Singh Rawat was the incumbent Chief Minister of Uttarakhand at that time in March 2021.

• He was actively involved in social and political activities from a young age and became a member of the RSS (Rashtriya Swayamsevak Sangh), which later influenced his political journey.

• Before becoming Chief Minister, Rawat held various key positions, including Cabinet Minister for Education and Minister for Health and Family Welfare in the state government.

• His tenure was marked by political turbulence within the state BJP, leading to his resignation in July 2021, as he failed to gain full support within the party and among key political figures.

Important Points

• BJP MLA Pushkar Singh Dhami was sworn in as the new Chief Minister of Uttarakhand on 3 July 2021.

• Dhami has volunteered at Rashtriya Swayamseva Sangh (RSS) and was a member of the Akhil Bharatiya Vidyarthi Parishad (ABVP) for 10 years.

• He was also the state President of Bharatiya Yuva Morcha (BJYM) from 2002-2008.

• Uttarakhand:

• Chief Minister - Pushkar Singh Dhami.

• Governor - Gurmit Singh.

• Lok Sabha seats - 5.

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• Rajya Sabha seats - 3

Q82. Answer: (b) Only conclusion I follows.

Statements:

I. Some cups are plates.

II. All plates are trays.

The least possible Venn diagram is as follows,

Conclusions:

I. Some cups are trays. - True (Because, Some cups are plates and All plates are trays. So Some cups are trays, it is definite)

II. All trays are cups.- False (Because, Some cups are plates and All plates are trays. So Some trays are cups, it is possible but not definite)

Hence, the correct answer is "Only conclusion I follows".

Q83. Answer: (c) 100

Given:

If among four numbers, the second is thrice of the first, the third is four times the second, the fourth is five times the third, and the mean of the four numbers is 1900.

Formula used:

Mean = (Sum of numbers) / (Number of numbers)

Calculations:

Let the first number be x.

Then, the second number = 3x

Third number = 4 × 3x = 12x

Fourth number = 5 × 12x = 60x

Mean of the four numbers = 1900

=> (x + 3x + 12x + 60x) / 4 = 1900

=> (76x) / 4 = 1900

=> 76x = 1900 × 4

=> 76x = 7600

=> x = 7600 / 76

=> x = 100

Therefore The smallest number is 100. The correct answer is option 3.

Q84. Answer: (c) Rashtriya Ispat Nigam Limited

The correct answer is Rashtriya Ispat Nigam Limited.

Key Points

• Rashtriya Ispat Nigam Limited Company is called Vizag Steel

• Rashtriya Ispat Nigam Limited, the corporate arm of Visakhapatnam Steel Plant, is a Navratna PSU under the Ministry of Steel.

• It was established in 1982, RINL was wholly owned by the Government of India. In November 2010, the company was accorded Navratna status by the government.

• It is the first coast-based integrated steel plant in the country.

• It is the first steel plant to be certified to ISO 9001:2008 (currently 2015), ISO 14001:2004 (currently 2015), OHSAS 18001:2007 and ISO/IEC 27001:2013 standards.

• It is also the first PSU to be certified ISO 50001:2011 Energy Management System and has received CMMI Level 3 certification for development.

Additional Information

Company Name	Details
IISCO Steel Plant	• IISCO steel plant was founded in 1918. - IISCO Steel Plant of Steel Authority of India Limited is an integrated steel plant located at Burnpur, West Bengal, India.
Rourkela Steel Plant	• Rourkela Steel Plant, in Rourkela, Odisha is the first integrated steel plant in the public sector in India. - It was set up with West Germany collaboration with an installed capacity of 1 million tonnes in the 1960s. - It is operated by the Steel Authority of India.

Bokaro Steel Plant	• It was founded on 29 January 1964. - It is the fourth integrated public sector steel plant in India built with Soviet help.

Q85. Answer: (d) VI

The correct answer is VI

Key Points

• The Wildlife Protection Act of 1972 in India has six schedules:

• Schedule I

• Covers endangered species that need absolute protection from poaching, killing, and trading.

• Offenses under this schedule are punishable by the highest penalties.

• Schedule II

• Provides high protection to animals listed in this schedule, and prohibits their trade.

• They can only be hunted if they are a threat to human life or are suffering from a disease that is beyond recovery.

• Schedule III and IV

• Includes species that are not endangered, but are still protected.

• The penalties for violating the protection of these species are lower than those for the first two schedules.

• Schedule V

• Contains animals that are considered vermin, such as small wild animals that carry disease and destroy plants.

• These animals can be hunted.

• Schedule VI

• Regulates the cultivation of specific plants and restricts their possession, sale, and transportation.

• The Wildlife Protection Act of 1972 also established the Central Zoo Authority and the National Tiger Conservation Authority.

Q86. Answer: (b) There are 900 more boys than girls across all schools.

Given:

The bar graph showing the strength of students in five schools (A, B, C, D, and E) for both girls and boys.

Calculation:

School A: Boys = 3.5 (thousands), Girls = 2.5 (thousands)

School B: Boys = 3.1 (thousands), Girls = 4 (thousands)

School C: Boys = 3 (thousands), Girls = 3.5 (thousands)

School D: Boys = 4.5 (thousands), Girls = 4.1 (thousands)

School E: Boys = 4 (thousands), Girls = 3.1 (thousands)

Calculation:

Total number of Boys in all Schools = 3.5 + 3.1 + 3 + 4.5 + 4 = 18,100

Total number of Girls in all Schools = 2.5 + 4 + 3.5 + 4.1 + 3.1 = 17,200

Difference between total number of boys and Girls in all schools = 18,100 - 17,200 = 900

So, There are 900 more boys than girls across all schools.

Therefore, the correct answer is Option 2.

Q87. Answer: (b) A

Given:

The bar graph showing the strength of students in five schools (A, B, C, D, and E) for both girls and boys.

Calculation:

School A: Boys = 3.5 (thousands), Girls = 2.5 (thousands)

School B: Boys = 3.1 (thousands), Girls = 4 (thousands)

School C: Boys = 3 (thousands), Girls = 3.5 (thousands)

School D: Boys = 4.5 (thousands), Girls = 4.1 (thousands)

School E: Boys = 4 (thousands), Girls = 3.1 (thousands)

Calculation:

Total number of Boys in school A = 3500

Total number of Girls in school A = 2500

Difference in Boys and Girls = 3500 - 2500 = 1000

Percentage by which boys are more than girls = 1000/2500 × 100 = 40%.

Therefore, the correct answer is Option 2.

Q88. Answer: (b) 2013

Given:

A bar graph showing the values of exports and imports in crores for the years 2013 to 2018.

Calculations:

2013: Exports/Imports = 60/45 ≈ 1.33

2014: Exports/Imports = 110/100 ≈ 1.1

2015: Exports/Imports = 120/130 = 0.92

2016: Exports/Imports = 120/100 ≈ 1.2

2017: Exports/Imports = 150/140 ≈ 1.07

2018: Exports/Imports = 140/180 ≈ 0.77

The highest ratio of Exports to Imports was recorded in 2013.

Therefore, the correct answer is option 2.

Q89. Answer: (a) Rs. 15 crore

Given:

A bar graph showing the values of exports and imports in crores for the years 2013 to 2018.

Calculations:

Total Exports (2013-2015): 60 + 110 + 120 = 290 (crores)

Total Imports (2013-2015): 45 + 100 + 130 = 275 (crores)

Difference: Total Exports - Total Imports = 290 - 275 = 15 (crores)

Therefore, the correct answer is option 1.

Q90. Answer: (a) 756

The logic followed here is:

Hence, the correct answer is "756".

Q91. Answer: (c) Only Assumption I is implicit.

Given Statement: Advertising can be a good strategy to increase the sales of a company.

Now,

Assumptions:

1. It enables a wider range of people to know about the products of the company. - Implicit (Advertising indeed helps in spreading awareness about the products to a larger audience, which can potentially lead to increased sales.)

2. Everyone who knows about the products of the company will buy them. - Not Implicit (Not everyone who knows about the products will necessarily buy them; there are other factors influencing the purchase decision.)

Here, Only assumption I is implicit.

Hence, the correct answer is "Option 3".

Q92. Answer: (b) Blue

According to the given information:

1) Sanjay and Neetu like Blue and Red colours.

Colors	Persons
Blue	Sanjay, Neetu
Red	Neetu, Sanjay
Yellow	
Green	

2) Sanjay, Manju and Kapil like Red and Blue colours.

Colors	Persons
Blue	Sanjay, Neetu, Manju, Kapil

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Red	Neetu, Sanjay, Manju, Kapil
Yellow	
Green	

3) Priya and Neetu like Yellow and Blue colours.

Colors	Persons
Blue	Sanjay, Neetu, Manju, Kapil, Priya
Red	Neetu, Sanjay, Manju, Kapil
Yellow	Priya, Neetu
Green	

4) Neetu and Manju like Green and Blue colours.

Colors	Persons
Blue	Sanjay, Neetu, Manju, Kapil, Priya
Red	Neetu, Sanjay, Manju, Kapil
Yellow	Priya, Neetu
Green	Neetu, Manju

Thus, Sanjay, Neetu, Manju, Kapil, Priya these all like blue color.
So, Blue colour is liked by the maximum number of people.
Hence, the correct answer is "Blue".

Q93. Answer: (b) One

Given: Six bags A, B, C, D, E and F are kept one above another.
1) Only three bags are kept between B and D.
2) B is kept above D.

Boxes (Case 1)	Boxes (Case 2)
B	
	B
D	
	D

3) Bag A is kept above E but below C.

Boxes (Case 1)	Boxes (Case 2)
B	
C	B
A	C
E	A
D	E
	D

4) There are only two bags between A and F.

Boxes (Case 1)	Boxes (Case 2)

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B	F
C	B
A	C
E	A
D	E
F	D

5) D is not kept below F. Here case 2 gets eliminated.

Boxes
B
C
A
E
D
F

If we re-arrange these bags in alphabetical order from top to bottom,

Boxes	Boxes after re-arrange
B	A
C	B
A	C
E	D
D	E
F	F

Then position of one bag will remain same.

Hence, the correct answer is "One".

Q94. Answer: (d) c, d, a, f

The logic followed here is:

Given Sequence: ab_, ac_, ade, _ef, a_g

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

Option 1) b, d, a, f → abb, acd, ade, aef, afg

Option 2) c, d, b, f → abc, acd, ade, bef, afg

Option 3) a, b, a, b → aba, acb, ade, aef, abg

Option 4) c, d, a, f → abc, acd, ade, aef, afg

Here, 1st letter 'a' is the same and each 2nd letter + 1; 3rd letter + 1;

b + 1 = c; c + 1 = d; d + 1 = e; e + 1 = f;

c + 1 = d; d + 1 = e; e + 1 = f; f + 1 = g;

Hence, the correct answer is "c, d, a, f".

Q95. Answer: (d) 23

According to the given information:

The number of girls is half of the number of boys.

Boys = 2 × Girls

There are 48 students in a class.

Girls + Boys = 48

Girls + 2 × Girls = 48

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Girls = 48 / 3 = 16

Then, Boys = 2 × 16 = 32

If Rashmi is a girl whose rank is 15th from the top and five girls have better ranks than Rashmi:

Thus, Rashmi's rank is better than 23 boys.

Hence, the correct answer is "23".

Q96. Answer: (d) A

Given: Among four friends, A is twice as heavy as B. C is half of B's weight. D is 60 kg more as compared to B but 60 kg less as compared to A.

Let's assume the weight of B is B kg.

According to the given information:

1) A = 2B

2) C = 0.5B

3) D = B + 60

4) D = A - 60

From the information above, we can set up the following equation:

D = B + 60 = A - 60

Substitute A with 2B from equation 1:

B + 60 = 2B - 60

Solving for B:

B + 60 = 2B - 60

120 = B

So, the weight of B is 120 kg.

Now we can find the weights of A, C, and D:

A = 2B = 2 * 120 = 240 kg

C = 0.5B = 0.5 * 120 = 60 kg

D = B + 60 = 120 + 60 = 180 kg

Therefore, the weights of the friends are:

A = 240 kg

B = 120 kg

C = 60 kg

D = 180 kg

Among these, A is the heaviest.

Hence, the correct answer is Option 4.

Q97. Answer: (b) Wife

Family Chart:

Given:

Turtle has only two children, Frog and Moth.

Frog and Crab are father and son, respectively.

Fish and Chip are Mother and son, respectively.

If bird is the only child of her parents and Chip is the grandson of Turtle.

Bird is granddaughter of Turtle.

So, Fish is 'Wife' of Frog.

Hence, the correct answer is "Wife".

Q98. Answer: (a) 6

The logic followed here is:

Hence, the correct answer is "6".

Q99. Answer: (a) ECNEWVVC

The logic followed here is:

BOMBAY is written as DQODCA.

Similarly, CALCUTTA will be written as:

Hence, the correct answer is "ECNEWVVC".

Q100. Answer: (d) Anil

According to the given information:

1) Among six students, Anil and Bhupesh are from Subhash house while the rest belong to Shekhar house.

2) Danish and Farooq are tall while the others are short.

Students	Wear glasses	Tall	Short
Danish		Yes	X
Farooq		Yes	X
Anil		X	Yes
Charu		X	Yes
Bhupesh		X	Yes
Shekhar		X	Yes

2) Anil, Charu and Danish wear glasses while the others do not.

Students	Wear glasses	Tall	Short
Danish	Yes	Yes	X
Farooq	X	Yes	X
Anil	Yes	X	Yes
Charu	Yes	X	Yes
Bhupesh	X	X	Yes
Shekhar	X	X	Yes

So, Anil of Subhash house is short and wears glasses.

Hence, the correct answer is "Anil".

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