RRB NTPC CBT-I Official Paper (Held On: 7 Mar 2021 Shift 2) (Previous Year Paper)

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

Take this paper as a timed mock test

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

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

Q1. Raj is 60% more efficient than Sundar, and Sundar can finish a certain job in 16 days. How many days does Raj alone take to complete the same job?

(a) 10 days
(b) 8 days
(c) 71/2 days
(d) 12 days

Q2. The LCM of two numbers is 126 and their HCF is 2. If one number is 18 then the other is:

(a) 12
(b) 16
(c) 14
(d) 9

Q3. Gautam Buddha is associated with which famous place of the following?

(a) Bardoli
(b) Lumbini
(c) Srirangapatnam
(d) Pawapuri

Q4. Read the given statement and conclusions carefully and decide which of the conclusions logically follow(s) from the statement.

Statement:

It is appropriate to marry a girl who is 18 years of age and above.

Conclusions:

1. At this age, a girl reaches an appropriate level of physical, biological and psychological maturity to become a mother.

2. People do not marry girls less than 18 years of age because of fear.

(a) Only conclusion 2 follows.
(b) Both conclusions 1 and 2 follow.
(c) Neither conclusions 1 nor 2 follows.
(d) Only conclusion 1 follows.

Q5. Which is not a component of the finance budget?

(a) Memorandum expelling grants
(b) Appropriation bill
(c) Finance bill
(d) Receipts budget

Q6. Which of the following is not a version of Android?

(a) Marshmallow
(b) Gingerbread
(c) Candy

(d) Oreo

Q7. The first bullet train is expected to connect which cities of India?

(a) Mumbai and Ahmedabad
(b) Mumbai and Pune
(c) Ahmedabad and Surat
(d) Delhi and Lucknow

Q8. Observe the table below and answer the question.

The table gives the details of computer printers sold by XYZ computers over a period of 5 years.

year	Types of Printers		
L-1101	L-1102	L-1103	
2014	345	678	340
2015	451	822	235
2016	389	907	423
2017	562	1022	548
2018	677	1245	674
Total	2424	4674	2220

What was the approximate percentage increase in the sales of printer model L-1102 in 2018 compared with that in 2014?

(a) 74%
(b) 63%
(c) 84%
(d) 53%

Q9. A bought a horse for Rs. 4,500. He sold it to B at a profit of 5%. B sold it to C at a profit of 20%. Then the cost price of the horse for C is:

(a) Rs. 5430
(b) Rs. 5240
(c) Rs. 5520
(d) Rs. 5670

Q10. Tirumala Raya was the founder of which of the following dynasties in ancient India?

(a) Tuluva
(b) Saluva
(c) Aravidu
(d) Sangama

Q11. At what rate of compound interest per annum will a sum of Rs. 1,000 become Rs. 1,061 in 2 years?

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

Q12. Kaiga Atomic Power station is situated in _____ state of India.

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

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Q13. The international boundary line which separates North Korea and South Korea is popularly known as:

(a) 24^(th) parallel
(b) 49^(th)parallel
(c) Radcliffe line
(d) Military Demarcation Line

Q14. Who said, "Political freedom is the life breath of a nation."

(a) Rabindranath Tagore
(b) Aurobindo Ghose
(c) Gopal Krishna Gokhale
(d) Mahatma Gandhi

Q15. Four words have been given, out of which three are alike in some manner and one is different. Select the odd one.

(a) Knight
(b) Bishop
(c) Ace
(d) Pawn

Q16. A profit of 25% is made when an article is sold for Rs. 750. If the article is sold for Rs. 660 then the profit percentage is:

(a) 10%
(b) 12%
(c) 8%
(d) 15%

Q17. The ratio of simple interest earned on a certain amount at the rate of 5% and 8% for 6 years and 3 years respectively is:

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

Q18. Rama can finish a piece of work in 50 days. He worked 10 days but then stopped. Then Ravi finished the remaining work alone in 32 days. How much time will Rama and Ravi, working together, need to finish the same work?

(a) 24 4/9 days
(b) 24 2/9 days
(c) 24 1/9 days
(d) 22 2/9 days

Q19. Four girls, Radha, Neena, Mohita and Jyoti, are to be served in a sequence by a service provider. However, there are some limitations as follows: Mohita and Jyoti cannot be served one after the other; Neena cannot be served at the third number in sequence; and Radha and Neena are to be served one after the other. Considering the given information, which of the following statements is compulsorily true?

(a) Mohita cannot be served first.
(b) Mohita will be served first.
(c) Radha will be served third.
(d) Jyoti will be served first.

Q20. The intercepts made by the plane 3x - 4y - 2z = 6 with the coordinate axis are:

(a) -2, - 3/2, 3
(b) 2, 3/2, -3
(c) -2, 3/2, 3
(d) 2, - 3/2, -3

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Q21. Evaluate:

{(2 - 1/3) + (2/3 × 11/5)} + 3/5 × 25/7

(a) 4 2/27
(b) 4 2/21
(c) 2 4/27
(d) 2 4/21

Q22. Ozone layer is responsible for preventing harmful UV rays to enter the earth's atmosphere. Which of the hydrocarbons is/are not responsible for depletion of the ozone layer?

(a) Refrigerants
(b) Propellants
(c) Asphalt
(d) Foam-blowing agents

Q23. Which of the following is not true with regard to lokayukta?

(a) He/she can investigate into the grievance of citizens due to injustice and hardship caused by maladministration
(b) Lokyukta can't question Prime Minister on the allegation of abuse of power
(c) He/she can supervise the citizen grievance investigation
(d) He/she can ask for an inquiry into the allegation of abuse of power by public servants

Q24. Bhutan does not share its boundary with which of the following Indian states?

(a) Assam
(b) Odisha
(c) West Bengal
(d) Sikkim

Q25. The simple interest on Rs. 10,000 for 6 months at the rate of 5 paise per rupee per month is:

(a) Rs. 2,000
(b) Rs. 1,500
(c) Rs. 3,000
(d) Rs. 1000

Q26. Consider the given statement and decide which of the given assumptions is/are implicit in the statement.

Statement:

"Moral education should be compulsory at primary school level." - A part of the Education Minister's speech.

Assumptions:

1. Only young children can be provided moral education.
2. Older children do not require moral education.

(a) Either assumption 1 or 2 are implicit.
(b) Only assumption 2 is implicit
(c) Only assumption 1 is implicit.
(d) Neither assumption 1 nor 2 are implicit.

Q27. Select the option that will fill in the blanks and complete the given series.

ZA, BY, XC, DW, _____.

(a) OC
(b) WB
(c) XA
(d) VE

Q28. Long Radio waves were discovered by

(a) Guglielmo Marconi
(b) W. Rontgen
(c) Issac Newton

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(d) Heinrich Hertz

Q29. The parliament of Norway is called:

(a) The National Diet
(b) Folketing
(c) Parliament
(d) Stortinget

Q30. In a certain code language, RATE is written as IZGV. How will FUND be written as in that language?

(a) UWFM
(b) MFWU
(c) UFMW
(d) WMFU

Q31. The equation of a straight line passing through (-2, 5) and (1, 3) is:

(a) 2x - 3y - 9 = 0
(b) 2x + 3y - 11 = 0
(c) 3x + 2y + 9 = 0
(d) 3x - 2y - 11 = 0

Q32. Evaluate the positive value of:

√(107 + √(192 + √(11 + √25)))

(a) 5
(b) 11
(c) 15
(d) 14

Q33. Which equipment is used to transform electrical energy into mechanical energy?

(a) Candle
(b) Electric motor
(c) Photo cell
(d) Battery

Q34. _____is an Integrated Library Management Software developed by National Informatics Centre (NIC), Department of Electronics & Information Technology. The application is useful for automation of in-house activities of libraries and to provide various online member services.

(a) e-Granthalaya
(b) eOffice
(c) DISHA
(d) Digi LOCKER

Q35. When is the 'world health day' celebrated?

(a) 14^(th) April
(b) 7^(th) April
(c) 10^(th) April
(d) 8^(th) April

Q36. Observe the table below and answer the question.

The table gives the expenditure of a company (in 10 lakh Rs.) under different heads.

Year	**Head of Expenditure**			
Raw Materials	Salary	Others	Taxes	
2014	452	340	56	47
2015	569	398	62	56

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2016	659	409	73	61
2017	706	456	77	63
2018	783	479	81	69

What was the average amount of salary paid by the company (in 10 lakh Rs.) over the period of 5 years, i.e. from 2014 to 2018?

(a) 41.64
(b) 416.4
(c) 4164
(d) 4.164

Q37. The diagonal of a cube is 6 √2 cm. The surface area of the cube is:

(a) 24 cm²
(b) 36 cm²
(c) 72 cm²
(d) 144 cm²

Q38. According to the 'All India Tiger Estimation Report 2018' which Indian state has the highest number of tigers?

(a) Madhya Pradesh
(b) Chhattisgarh
(c) Uttarakhand
(d) Karnataka

Q39. The value of 'g' is maximum at:

(a) Equator
(b) Poles
(c) Tropic of cancer
(d) Tropic of capricorn

Q40. A dice is thrown twice and the sum of the appearing numbers is 10. Then the probability that the number 5 has appeared at least once is:

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

Q41. Which of the following is the largest artificial freshwater lake in India?

(a) Shivaji Sagar Lake
(b) Nainital Lake
(c) Kolleru Lake
(d) Kodai Lake

Q42. Which of the following is the most polluted city of the world as per the Guinness World Records 2020 analysis of a World Health Organization report?

(a) Delhi
(b) Kanpur
(c) Lahore
(d) Karachi

Q43. Observe the table below and answer the question.

The table gives details of the number of students from various schools playing different games.

Games	**School**				
A	B	C	D	E	

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Badminton	34	67	23	78	56
Table Tennis	21	40	26	32	29
Football	12	22	19	16	21
Basketball	09	13	07	12	06
Cricket	98	121	78	84	67

Across all games, which schools have the maximum and minimum participation of students, respectively?

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

Q44. The value of the variable x in the equation 3(5x + 2) - 4 = 2(1 - 4x) is:

(a) 10
(b) 2
(c) 0
(d) -1

Q45. In triangle ABC, lengths of sides opposite respective angles are a = 25, b = 45, c = 30, then the value of cos A is:

(a) 21/27
(b) 20/27
(c) 23/27
(d) 25/27

Q46. Which of the following was NOT a part of the revolutionary movement for Indian Independence?

(a) Anushilan Samiti
(b) Jugantar
(c) Abhinav Bharat
(d) Young Party

Q47. Which article deals with the formation of Finance Commission?

(a) Article 279
(b) Article 282
(c) Article 281
(d) Article 280

Q48. Which of the following articles of the Indian Constitution is directed to establish right to work, to education and to public assistance in certain cases?

(a) Article 40
(b) Article 42
(c) Article 43
(d) Article 41

Q49. Which of the following is not a plant hormone?

(a) Gibberellins
(b) Prolactin
(c) Ethylene
(d) Abscisic Acid

Q50. Indian Railways has introduced various initiatives for passengers. Rail Bandhu is one of them. Is it about:

(a) security guard's presence in all AC coaches
(b) medical officer's presence in every train
(c) website of every rail division

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(d) a rail magazine

Q51. In a certain code language, ABLE is written as 3781, HAIR is written as 4365 and TOOL is written as 9008. How will RATTEL be written as in that language?

(a) 53009
(b) 593381
(c) 539918
(d) 539981

Q52. A cylinder has a height of 14 cm and a curved surface area of 660 cm^2, then the volume of the cylinder is:

(a) 2425 cm^3
(b) 2475 cm^3
(c) 2225 cm^3
(d) 2275 cm^3

Q53. Evaluate:

$(0.2)^3 - (0.02)^3$

(a) 0.007992
(b) 0.002992
(c) 0.009992
(d) 0.001002

Q54. If the number 2893#$ is divisible by 8 and 5, then the digits that would come in the place of # and $, respectively, are:

(a) 2, 2
(b) 0, 2
(c) 2, 0
(d) 0, 0

Q55. If the height of a pole is $6\sqrt{3}$ metre and the length of its shadow is 6 metre, then the angle of elevation of the sun is:

(a) 30°
(b) 45°
(c) 60°
(d) 0°

Q56. Ravi's salary is 20% more than Mohan's salary. If Mohan's salary is Rs. 1600, then Ravi's salary is:

(a) Rs. 1,750
(b) Rs. 1,920
(c) Rs. 1,890
(d) Rs. 1,800

Q57. Who among the following was awarded with the Dhyan Chand award in 2020?

(a) Arokia Rajiv
(b) Nandan Bal
(c) Sikki Reddy
(d) Rajat Chauhan

Q58. A cyclist covers 650 m distance in 2 min 10 sec. Then the speed of the cyclist in km/hr is:

(a) 5
(b) 16
(c) 18
(d) 12

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Q59. Which reform/act was passed during the term of Lord Canning in 1856?

(a) Doctrine of lapse
(b) Morley Minto Reforms
(c) Prohibition of Sati
(d) Widow remarriage

Q60. The least square number that is exactly divisible by 4, 5, 8, 16 and 32 is:

(a) 900
(b) 1600
(c) 3600
(d) 400

Q61. The 2012 Summer Olympics were held in which city?

(a) Tokyo
(b) Rio
(c) Paris
(d) London

Q62. Evaluate:

(31/7 + 43/7) + 7/6

(a) 342/42
(b) 432/42
(c) 367/42
(d) 267/42

Q63. In October 2019, which noble gas was detected on the lunar exosphere by the Chandrayaan-2 orbiter?

(a) Helium
(b) Neon
(c) Krypton
(d) Argon

Q64. Param Shivay, the first supercomputer assembled indigenously, was installed at____.

(a) IIT BHU
(b) IIT Kharagpur
(c) IISC, Benguluru
(d) IISER Pune

Q65. If 2*^x* = 4^(y + 1) and 3^y = 3^(x - 9), then the values of x and y*,* respectively, are:

(a) 16, -7
(b) -16, -7
(c) -16, 7
(d) 16, 7

Q66. Which of the following schedules of the Indian Constitution enumerates the allocation of Rajya Sabha seats to states or union territories?

(a) First Schedule
(b) Tenth Schedule
(c) Fourth Schedule
(d) Sixth Schedule

Q67. The least number that when divided by 9, 16, 20 or 24, leaves 3 as remainder in each case is:

(a) 717
(b) 720
(c) 725
(d) 723

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Q68. In a group of four people. A is older than B, D is younger than B and C is older than D but younger than B. Who is the youngest among all?

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

Q69. In which year was the battle of Haldighati fought?

(a) 1764 AD
(b) 1576 AD
(c) 1756 AD
(d) 1761 AD

Q70. Alps is among largest mountain of the world. Which European country doesn't have Alps range located within its geographical boundary?

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

Q71. The square root of 5 44/49 is:

(a) 15/7
(b) 12/7
(c) 16/7
(d) 17/7

Q72. In which of the following cities is the Forest Survey of India located?

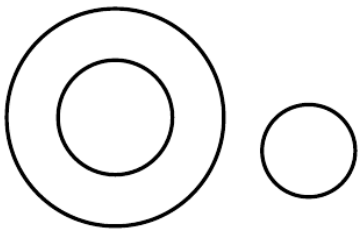
(a) Delhi
(b) Dehradun
(c) Lucknow
(d) Kolkata

Q73. What is the full form of ODBC in terms of computing?

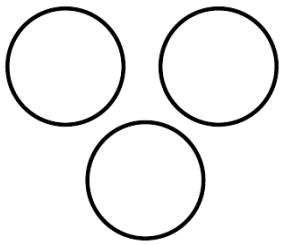
(a) Open data base compliance
(b) Open data base correction
(c) Open data base connection
(d) Open data base connectivity

Q74. Select the Venn diagram that best represents the relationship between fruits, citrus fruits and oranges.

(a)

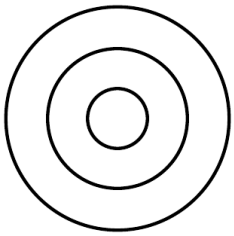


(b)

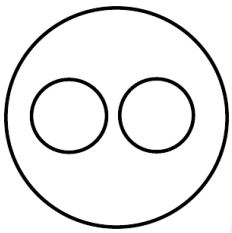


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(c)



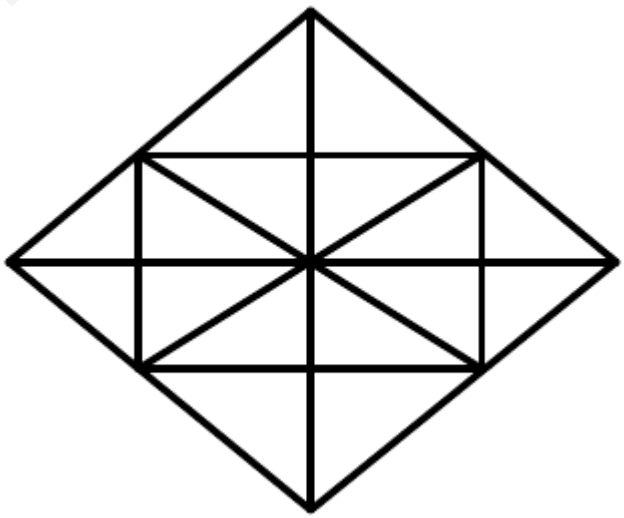
(d)



Q75. Four words have been given, out of which three are alike in some manner and one is different. Select the odd one.

(a) Letter
(b) Pincode
(c) Postcard
(d) Parcel

Q76. Find the minimum number of straight lines in the following figure.



(a) 12
(b) 11
(c) 13
(d) 10

Q77. Which is the least frictional force of the following?

(a) Static
(b) Rolling
(c) Fluid
(d) Sliding

Q78. Which folk dance of the following is not associated with the state of Assam?

(a) Kathi
(b) Natpuja
(c) Chongli

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(d) Bihu

Q79. NASA launched a mission to mars in June, 2020. What is the duration of this mission?

(a) At least 5 mars years
(b) At least 7.5 mars years
(c) At least 10 mars years
(d) At least 1 mars year

Q80. A box contains 2 black, 6 green and 4 yellow balls. If 2 balls are picked up at random, the probability that both are green-coloured is:

(a) 3/11
(b) 1/22
(c) 1/6
(d) 5/22

Q81. Four words have been given, out of which three are alike in some manner and one is different. Select the odd one.

(a) Hanger
(b) Spanner
(c) Screwdriver
(d) Drill

Q82. When was the currency Euro (common European currency) adopted in Europe?

(a) Jan 1999
(b) Jan 2003
(c) Jan, 2002
(d) Jan 2005

Q83. Devdas, a famous novel, was written by:

(a) Rabindranath Tagore
(b) Bankim Chandra Chattopadhyay
(c) Sarat Chandra Chattopadhyay
(d) Samudra Gupta

Q84. A train covers a distance of 35 km in 60 minutes. How long will it take to cover 105 km?

(a) 90 min
(b) 180 min
(c) 120 min
(d) 140 min

Q85. Evaluate:

$18[4 - 3\{6 - (8 \times 1/2)\}]$

(a) 16
(b) 36
(c) -36
(d) 20

Q86. If 'P' means '+', 'S' means '-', 'M' means '×' and 'D' means '÷', then, find the value of:

3 P 2 M 3 S 6 D 2

(a) 5
(b) 6
(c) 4
(d) 0

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Q87. If we interchange + with × and number 3 with 2, then which of the following equations will be correct?

(a) 4 + 6 ÷ 3 - 3 × 2 = 11
(b) 4 + 6 ÷ 3 - 3 × 2 = 13
(c) 4 + 6 ÷ 3 - 3 × 2 = 17
(d) 4 + 6 ÷ 3 - 3 × 2 = 12

Q88. Study the given information and answer the question that follows.

The following table shows the details of the number of people from UP who booked tickets and travelled, during the year 2015 to 2018.

Year	UP	
Tickets booked	Travelled	
2015	2300	2250
2016	2500	2000
2017	3200	3100
2018	3600	3450
Total	11600	10800

In which year was the percentage, of the number of people who travelled compared to those who booked tickets, the maximum?

(a) 2017
(b) 2016
(c) 2015
(d) 2018

Q89. Observe the table below and answer the question.

The table gives the details of the maximum marks and marks obtained by different students in Mathematics, Physics, Chemistry, English, Computer Science and Photography.

Students	Pundir	Anil	Devesh	
Subject	Max. Marks	Marks Obtained		
Mathematics	100	67	84	65
Physics	100	56	89	72
Chemistry	100	87	79	62
English	100	72	69	80
Computer Science	50	33	39	34
Photography	50	40	45	47
Total	500	355	405	360

What is the aggregate percentage of marks scored by Anil in Physics, Chemistry and Mathematics?

(a) 84%
(b) 81%
(c) 83%
(d) 82%

Q90. Most of the wrist watches in this shop are expensive. Which of the following conclusion can be drawn from the given statement.

(a) All the wrist watches in shop are expensive.
(b) None of the wrist watches are cheap.
(c) All the ladies wrist watches are expensive.

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(d) There are cheap wrist watches also in the shop.

Q91. Select the option that is related to the third term in the same way as the second term is related to the first term.

Cloth : Shirt : : Wood : ?

(a) Trouser
(b) Tree
(c) Ash
(d) Furniture

Q92. Select the number that can replace the question mark (?) in the following series.

14, 41, 86, ?, 230, 329

(a) 439
(b) 480
(c) 501
(d) 149

Q93. Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusions logically follow(s) from the statements.

Statements:

1. Some students are dancers.

2. All dancers are musicians.

Conclusions:

1. Some students are musicians.

2. No dancer is a student.

(a) Both conclusions 1 and 2 follow.
(b) Neither conclusions 1 nor 2 follows.
(c) Only conclusion 1 follows.
(d) Only conclusion 2 follows.

Q94. In a line of students, one student is standing at the 9^(th) place from the left end and 12^(th) place from the right end. How many students are standing in the line?

(a) 19
(b) 20
(c) 21
(d) 22

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

Statement:

"In order to eradicate social evils, there is need to educate people."- A statement made by a Social Activist.

Assumptions:

1. Education will quickly eliminate all social evils.

2. All uneducated people practice social evils.

(a) Only assumption 2 is implicit.
(b) Neither assumption 1 nor 2 are implicit.
(c) Either assumption 1 or 2 are implicit.
(d) Only assumption 1 is implicit.

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

Cricket : Umpire : : Volleyball : ?

(a) Player
(b) Umpire
(c) Referee

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(d) Service

Q97. Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusions logically follow(s) from the statements.

Statements:

1. All calendars are mice.
2. All mice are dogs.

Conclusion:

1. All calendars are dogs.
2. Some dogs are calendars.

(a) Only conclusion 2 follows.
(b) Only conclusion 1 follows.
(c) Both conclusions 1 and 2 follow.
(d) Neither conclusions 1 nor 2 follows.

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

W, G, U, F, S, E, Q, D, ____, _____.

(a) O, C
(b) W, B
(c) N, A
(d) B, W

Q99. R is the father of P and brother of K, whereas K is the daughter of D and sister-in-law of S. If S is the mother of P, then what is the relationship between S and R?

(a) Wife and Husband
(b) Father and Daughter
(c) Sister and Brother
(d) Grand-Father and Grand-Daughter

Q100. If A is the father of B, who is the father of C, and D is the only son of C and C's wife F, then how is D related to A?

(a) Father
(b) Great-grandson
(c) Son
(d) Grand-daughter

ANSWER KEY

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

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SOLUTIONS

Q1. Answer: (a) 10 days

Given:

Raj is 60% more efficient than Sundar.

Sundar can finish a certain job in 16 days.

Formula Used:

Time taken by Raj = Time taken by Sundar / Efficiency Ratio

Calculation:

Efficiency of Sundar = 100%

Efficiency of Raj = 160% = 1.6 × Efficiency of Sundar

Time taken by Raj = Time taken by Sundar / 1.6

=> Time taken by Raj = 16 / 1.6

=> Time taken by Raj = 10 days

Raj alone takes 10 days to complete the same job.

Q2. Answer: (c) 14

Given:

LCM of two numbers = 126

HCF of two numbers = 2

One number = 18

Formula Used:

LCM × HCF = Product of the numbers

Calculation:

Let the other number be x.

According to the formula:

LCM × HCF = 18 × x

126 × 2 = 18 × x

=> 252 = 18 × x

=> x = 252 / 18

=> x = 14

The other number is 14.

Q3. Answer: (b) Lumbini

The correct answer is Lumbini

Key Points

• The Lord Buddha was born in 563 BC in the sacred area of Lumbini located in the Terai plains of southern Nepal.

• A World Heritage Site since 1997, Lumbini has attracted travelers and worshippers for centuries.

• The Mahabodhi Temple Complex in Bodh Gaya is located in the central part of the state of Bihar.

• The first temple was built by Emperor Asoka in the 3rd century B.C.

• Mahabodhi temple is a UNESCO world heritage site.

Additional Information

• Mahayana Buddhism:

• After the death of Buddha, a group evolved who believed that compassion for all humanity was an important part of the path, and that teaching is fully available to all.

• Those who followed the newly expanded ideals called themselves Mahayana meaning the big raft.

• In Mahayana Buddhism, all practicing Buddhists are apprentice Bodhisattvas.

• In Mahayana countries, images of the Buddha are set up in the temples and homes as an object of worship.

• Hinayana Buddhism:

• From about 100 years after the death of the Buddha, there had been a movement towards embracing the style of Buddhism.

• The early monks concentrated on personal enlightenment, seeking spiritual answers for themselves, and teaching others the way of enlightenment.

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• But the information was severely limited to the lay community as it was assumed only minks could achieve Buddhahood.
• This section came to be known as Hinayana or also known as Theravada.
• Theravada means the way of elders.
• Milindapanha:
• The Milindapanha, or "Milinda's Questions," is an important early Buddhist text that usually is not included in the Pali Canon.
• Even so, the Milindapanha is cherished because it addresses many of Buddhism's most difficult doctrines with wit and clarity.
• The Milindapanha presents a dialogue between King Menander I (Milinda in Pali) and an enlightened Buddhist monk named Nagasena.
• Menander- I was an Indo-Greek king thought to have ruled from about 160 to 130 BCE.
• He was a king of Bactria, an ancient kingdom that took in what is now Turkmenistan, Afghanistan, Uzbekistan, and Tajikistan, plus a small part of Pakistan.

Q4. Answer: (d) Only conclusion 1 follows.

Given,

Statement:

It is appropriate to marry a girl who is 18 years of age and above.

Conclusions:

I. At this age, a girl reaches an appropriate level of physical, biological and psychological maturity to become a mother - True (Because, the statement mentions that it is appropriate to marry a girl who is 18 years of age and above, and the given data we can say it is biologically proven that's why the age of a girl for marry is 18).

II. People do not marry girls less than 18 years of age because of fear - False (Because, the statement does not mention anything about the reason why people do not marry girls less than 18 years of age. It only states that it is appropriate to marry a girl who is 18 years of age and above).

So, Only conclusion 1 follows..

Hence, the correct answer is "Option 4".

Q5. Answer: (a) Memorandum expelling grants

The correct answer is Memorandum expelling grants.

Key Points

• The budget is related to the government's fiscal policy.
• The budget is a statement of the receipts and expenditure of the government for each financial year.
• It is mentioned in Article 112 of the Indian Constitution as the Annual Financial Statement.
• It contains different heads like
• Revenue and Receipt Expenditure
• Capital Receipt and Expenditure
• Corporation Tax
• Direct Tax
• Indirect Tax
• Fiscal Policy
• Revenue and Fiscal Deficit
• Non-tax revenue

Additional Information

• Appropriation bill
• An appropriation bill is a bill that authorizes the Indian government to withdraw funds from the Consolidated Fund of India for use during the financial year.
• Appropriation acts are not included in any official list of Central govt. laws, they technically remain on the books.
• No amendment can be proposed to the Appropriation Bill in either house of the Parliament.
• Finance bill
• A Bill that contains some provisions related to taxation and expenditure, and additionally contains provisions related to any other matter is called a Financial Bill.
• Therefore, if a Bill merely involves expenditure by the government, and addresses other issues, it will be a financial bill.
• Financial Bills are of two types:
• Financial Bills(1) Articles 117(1)
• Financial Bills(2) Articles 117(3)

• Receipts budget

• It refers to the estimated receipts of the government from all the sources during a fiscal year.

• It is of two types: Capital Receipts, and Revenue Receipts.

Q6. Answer: (c) Candy

The correct answer is Candy.

Key Points

• Android

• Android OS developed by Google is the most widely used mobile operating system.

• The first version bears the name Cupcake.

• Thereafter the version names are on the alphabetical basis.

Additional Information

• Marshmallow:

• Android The sixth major edition of the Android operating system and the 13th version of Android is Marshmallow (codenamed Android M during development).

• It was publicly released on October 5, 2015, and was first released as a beta build on May 28, 2015, with the Nexus devices being the first to receive the update.

• Marshmallow mainly focuses on enhancing its predecessor's overall user experience, Lollipop.

• Gingerbread

• Gingerbread is the nickname for Android version 2.3, which was released in December 2010.

• It brought several new features and improvements, including a more refined user interface, support for larger screen sizes, enhanced gaming performance, and improved battery management.

• Gingerbread also introduced features like NFC (Near Field Communication) support and improved copy-and-paste functionality.

• Oreo

• Oreo is the nickname for Android version 8.0, which was released in August 2017.

• This version introduced several new features and enhancements.

Q7. Answer: (a) Mumbai and Ahmedabad

The correct answer is Mumbai and Ahmedabad.

Key Points

• In September 2017, Prime Minister Narendra Modi and Shinzo Abe laid the foundation stone of the bullet train project.

• Due to their appearance and speedJapan's Shinkansen high-speed trains are referred to as bullet trains. Any train of speed above 250 km/h is termed as the Bullet train.

• The Mumbai-Ahmedabad bullet train route is a 508-kilometer stretch.

• - It is a term generally used to describe a high-speed train of speeds above 250 Kmph.

• India’s first bullet train will run in the Mumbai and Ahmedabad high-speed rail corridor, whose construction began in September 2017.

• It is a 508 km long high-speed rail corridor building with the help of Japan.

• The train will run at a speed of 320kmph and is expected to be completed by 2022.

Additional Information

• Shinkansen Technology:

• Shinkansen means new trunk lines in literal terms, which refers to the high-speed rail network in Japan.

• The train attains a high speed without having to compromise on comfort and safety, through the use of this technology.

• Unlike conventional rail lines, Shinkansen routes are strictly off-limits to any other kind of traffic.

• This network makes use of viaducts and tunnels to go through the obstacles, rather than going around them, thereby saving time spent on covering the distance.

• Due to the lighter vehicles used, chances of damage to the tracks are minimal. These trains offer fast acceleration & deceleration and are electric multiple units.

• Route Map of the Bullet Train:

Q8. Answer: (c) 84%

Given:

Sales of printer model L-1102 in 2018 = 1245

Sales of printer model L-1102 in 2014 = 678

Formula used:

Percentage increase = (New value - Old value)/(Old value) × 100

Calculation:

Percentage increase = (1245 - 678)/678 × 100

=> Percentage increase = 567/678 × 100

=> Percentage increase = 83.63% ≈ 84%

Therefore The approximate percentage increase is 84%.

Q9. Answer: (d) Rs. 5670

Given:

A bought a horse for Rs. 4,500.

He sold it to B at a profit of 5%.

B sold it to C at a profit of 20%.

Formula Used:

Cost price (CP) of horse for B = CP for A + Profit percentage on CP for A

Cost price (CP) of horse for C = CP for B + Profit percentage on CP for B

Calculation:

CP for A = Rs. 4,500

Profit for B = 5% of Rs. 4,500

Profit for B = 5/100 × 4500

Profit for B = 225

CP for B = 4500 + 225

CP for B = 4725

Profit for C = 20% of Rs. 4725

Profit for C = 20/100 × 4725

Profit for C = 945

CP for C = 4725 + 945

CP for C = 5670

The cost price of the horse for C is Rs. 5670.

Q10. Answer: (c) Aravidu

The correct answer is Aravidu.

Key Points

• Aravidu

• Dynastic Shift to Aravidu: By 1542, power in the Vijayanagara Empire had transitioned to the Aravidu dynasty, marking a significant shift from the Tuluva dynasty, which had previously held control.

• Battle of Talikota (1565): This critical battle saw the forces of the Vijayanagara Empire under the rule of the Aravidu dynasty face off against a coalition of Deccan Sultanates comprising Bijapur, Ahmadnagar, and Golconda. The battle took place near the villages of Rakshasi (Demons) and Tangadi (Mustard), often collectively referred to as Talikota.

Additional Information

• The Vijaynagar empire was ruled by four important dynasties:

• Sangama

• Saluva

• Tuluva

• Aravidu

• The Vijayanagara Empire was founded by Harihara and Bukka and the reign was from 1336 A.D to 1646 A.D.

• The Tuluva dynasty was founded by Vir Narsingh.

• This Tuluva dynasty ruled from 1491 to 1570.

• The last king of the Tuluva dynasty was Sadasiva Raya (1542-1570).

• The most popular king of the Tuluva dynasty was Krishna Deva Raya (1509-1529).

• During his rule, the empire reached its Zenith.

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Q11. Answer: (c) 3%

Given:

Principal (P) = Rs. 1,000

Amount after 2 years (A) = Rs. 1,061

Time (t) = 2 years

Formula:

A = P (1 + r/100)^t

Solution:

1061 = 1000 (1 + r/100)²

1.061 = (1 + r/100)²

Take the square root:

1.03 = 1 + r/100

Solve for r:

r = 3%

Therefore The rate of compound interest per annum is 3%.

Q12. Answer: (c) Karnataka

The correct answer is Karnataka.

Key Points

• Kaiga Nuclear Power Plant is the third-largest nuclear power plant in India.

• Kaiga Atomic Power Station (KAPS), located in Uttara Kannada district, is near river Kali.

• The plant has been in operation since 2000 and is operated by the Nuclear Power Corporation of India.

• The Kaiga Atomic Power Station supplies 67% of the power generated through its nuclear reactors to Telangana, Andhra Pradesh, Tamil Nadu, Kerala, and Puducherry.

• The remaining 33% is reserved for the Karnataka.

Additional Information

Indian Nuclear Power station:

Name Of Nuclear Power Station	Location	Established
Kakrapar Atomic Power Station	Gujarat	1993
(Kalpakkam) Madras Atomic Power Station	Tamil Nadu	1984
Narora Atomic Power Station	Uttar Pradesh	1991
Kaiga Nuclear Power Plant	Karnataka	2000
Rajasthan Atomic Power Station	Rajasthan	1973
Tarapur Atomic Power Station	Maharashtra	1969
Kudankulam Nuclear Power Plant	Tamil Nadu	2013

Q13. Answer: (d) Military Demarcation Line

The correct answer is Military Demarcation Line.

Key Points

• The Military Demarcation Line (MDL) lies between North Korea and South Korea.

• It was established as part of the Korean Armistice Agreement in 1953, ending the Korean War.

• The MDL runs roughly along the 38th parallel, forming the boundary between the two countries.

Additional Information

Boundary	Description
Redcliffe Line	On 17 August 1947, the borderline that separated India from Pakistan, known as the Radcliffe Line was revealed.
49th parallel	The 49th Parallel separates the United States of America and Canada.

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24th parallel	The 24th Parallel line is the border dividing India and Pakistan. It is located in Gujarat and is also known as Sir Creek.

Q14. Answer: (b) Aurobindo Ghose

The correct answer is Aurobindo Ghose.

Key Points

• Aurobindo Ghose

• Aurobindo Ghose (Sri Aurobindo) was born in Calcutta (now Kolkata) on 15th August 1872.

• He was a yogi, guru, poet, Indian philosopher and an Indian freedom fighter.

• He was a part of Anushilan Samiti, an organisation which supported revolutionary violence for ending British Rule.

• Aurobindo was arrested and tried in Alipore Bomb case in 1908

• He was eventually set free after which he retired from active politics and moved to Pondicherry choosing spiritual path.

• He founded the Aurobindo Ashram in Pondichery in 1926.

• Some of his Literary works are:

• The life Divine, The synthesis of Yoga and Savitri

Additional Information

• Rabindranath Tagore

• Rabindranath Tagore was born on 7th May 1861 in Kolkata.

• He was a poet, litterateur, philosopher, playwright, composer, and painter.

• He was awarded the Nobel Prize for Literature in 1913 for the creation of the world-famous epic Gitanjali.

• He is the only Indian to win the Nobel in the field of literature.

• Rabindra Nath Tagore gave up his 'Knighthood' in protest of the Jallianwala Bagh Massacre.

• He was awarded the knighthood in the year 1915 by King George V.

• He gave Gandhiji the title of Mahatma.

• He is the only poet whose two compositions became the national anthem of two countries.

• The national anthem of India - Jana-Gana-Mana.

• The national anthem of Bangladesh - Amar Sonar Bangla.

• Tagore established Santiniketan with trees, gardens, and a library in the lap of nature.

• Tagore also established the Vishwabharati University here.

• On 7 August 1941, he breathed his last in Kolkata.

• Gopal Krishna Gokhale

• In the 1905, Gopal Krishna Gokhale founded 'Servants of India Society'.

• The Servants of India Society was formed in Pune on June 12, 1905, for the expansion of Indian education.

• Servants of India Society's aim was to unite and train Indians of different ethnicities and religions in welfare work.

• It was the first secular organization in that country to devote itself to the underprivileged, rural and tribal people, and other social causes.

• Members go through a five-year training period and agree to serve on extremely modest salaries.

• Mahatma Gandhi

• Mohandas Karamchand Gandhi was born on October 2, 1869 in Porbandar.

• He was a lawyer, anti-colonial nationalist, and political ethicist.

• He led the non-violent movement for the independence of the nation from the British Raj.

• Major movements for India’s Independence –

• Champaran agitation – 1917 in Bihar

• Kheda agitation – 1918

• Khilafat movement – 1919

• Non-cooperation movement – 1920

• Dandi March (Salt Satyagraha) – 1930

• Round Table Conferences – 1931-32

• Quit India Movement – 1942

• Independence and Partition – 1947

Q15. Answer: (c) Ace

The logic followed here is:

Knight	Chess piece
Bishop	Chess piece
Ace	Playing card
Pawn	Chess piece

Knight, Bishop, Pawn all are Chess pieces,
Whereas,
Ace is a Playing card.
Hence, the correct answer is "Ace".

Q16. Answer: (a) 10%

Given:
A profit of 25% is made when an article is sold for Rs. 750.
Formula Used:
Cost Price (CP) = Selling Price (SP) / (1 + Profit Percentage)
Profit Percentage = [(Selling Price (SP) - Cost Price (CP)) / Cost Price (CP)] × 100
Calculation:
Let the Cost Price (CP) be x.
Given, Selling Price (SP) = Rs. 750 and Profit Percentage = 25%
Using the formula for CP:
CP = 750 / (1 + 0.25)
=> CP = 750 / 1.25
=> CP = 600
Now, the new Selling Price (SP) = Rs. 660
Using the formula for Profit Percentage:
Profit Percentage = [(660 - 600) / 600] × 100
=> Profit Percentage = (60 / 600) × 100
=> Profit Percentage = 0.1 × 100
=> Profit Percentage = 10%
The profit percentage when the article is sold for Rs. 660 is 10%.

Q17. Answer: (b) 5 : 4

Given:
Rate of interest (r1) = 5% for 6 years
Rate of interest (r2) = 8% for 3 years
Let the principal be P in both cases.
Formula used:
Simple Interest (SI) = (P × r × t)/100
Calculation:
Simple Interest at 5% for 6 years = (P × 5 × 6)/100 = 30P/100 = 0.30P
Simple Interest at 8% for 3 years = (P × 8 × 3)/100 = 24P/100 = 0.24P
Now, the ratio of the simple interest earned is:
Ratio = 0.30P/0.24P = 30/24 = 5/4
Therefore The required ratio is 5:4.

Q18. Answer: (d) 22 2/9 days

Given:
Rama can finish a piece of work in 50 days.
He worked for 10 days but then stopped.
Ravi finished the remaining work alone in 32 days.

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Formula Used:

Work rate of Rama = 1/50 work/day

Work rate of Ravi = 1/remaining work days

Combined work rate = Work rate of Rama + Work rate of Ravi

Time taken by Rama and Ravi together = Total work / Combined work rate

Calculation:

Work done by Rama in 10 days = 10 × (1/50) = 1/5

Remaining work = 1 - 1/5 = 4/5

Time taken by Ravi to finish the remaining work = 32 days

Work rate of Ravi = (4/5) / 32 = 1/40 work/day

Combined work rate = (1/50) + (1/40)

Combined work rate = (4 + 5) / 200

Combined work rate = 9/200 work/day

Time taken by Rama and Ravi together to finish the work = 1 / (9/200)

Time taken by Rama and Ravi together = 200/9 days

Time taken by Rama and Ravi together = 22 (2/9) days

The correct answer is option 4.

Q19. Answer: (c) Radha will be served third.

Given: Four girls, Radha, Neena, Mohita and Jyoti, are to be served in a sequence by a service provider.

Limitations as follows:

1) Mohita and Jyoti cannot be served one after the other;

2) Neena cannot be served at the third number in sequence;

3) And Radha and Neena are to be served one after the other.

S.No.	Girls
1	Mohita /Jyoti
2	Neena
3	Radha
4	Jyoti /Mohita

Considering the given information:

Option 1) Mohita cannot be served first. - False (It can be possible)

Option 2) Mohita will be served first. - False (It can be possible)

Option 3) Radha will be served third. - True (This statements is compulsorily true)

Option 4) Jyoti will be served first - False (It can be possible)

Hence, the correct answer is "Option 3".

Q20. Answer: (d) 2, - 3/2, -3

Shortcut Trick

To find the intercepts of a plane ax + by + cz = d, divide the constant term d by the coefficients a, b, and c.

Given equation: 3x − 4y − 2z = 6

x-intercept = 6 ÷ 3 = 2

y-intercept = 6 ÷ (−4) = −3/2

z-intercept = 6 ÷ (−2) = −3

Therefore The correct answer is 2, − (3)/(2), −3.

Alternate Method

Given: Equation of the plane is 3x − 4y − 2z = 6.

Formula Used: The intercept form of a plane is (x/a) + (y/b) + (z/c) = 1, where a, b, and c are the intercepts on the x, y, and z axes respectively.

Calculations:

=> 3x − 4y − 2z = 6

Divide the entire equation by the constant term on the RHS (6) to make it 1:

=> (3x/6) − (4y/6) − (2z/6) = 6/6

=> (x/2) − (2y/3) − (z/3) = 1

Write the equation in standard intercept form by making the numerators of variables unity and signs positive:

=> (x/2) + (y/(−3/2)) + (z/(−3)) = 1

Comparing with (x/a) + (y/b) + (z/c) = 1:

=> a = 2, b = −3/2, c = −3

Therefore The correct answer is 2, − (3)/(2), −3.

Additional Information

General Equation of a Plane

The linear equation ax + by + cz + d = 0 represents a plane where (a, b, c) are the direction ratios of the normal to the plane.

Distance from Origin to Plane

The perpendicular distance from the origin (0, 0, 0) to the plane ax + by + cz = d is given by $|d| \div \sqrt{(a^2 + b^2 + c^2)}$.

Direction Cosines of the Normal

If the equation is converted to lx + my + nz = p (where $l^2+m^2+n^2=1$), then l, m, n are the direction cosines of the normal.

Q21. Answer: (b) 4 2/21

Given:

{(2 - 1/3) + (2/3 × 1 1/5)} + 3/5 × 2 5/7

Formula used:

We solve the expression by simplifying the terms inside the brackets and multiplying.

Calculations:

2 - 1/3 = 6/3 - 1/3 = 5/3

1 1/5 = 6/5

2/3 × 6/5 = 12/15 = 4/5

Now solve the bracket:

5/3 + 4/5 = 25/15 + 12/15 = 37/15

Next, simplify:

2 5/7 = 19/7

3/5 × 19/7 = 57/35

Now, add both results:

37/15 + 57/35 = (37 × 7)/(15 × 7) + (57 × 3)/(35 × 3) = 259/105 + 171/105 = 430/105 = 86/21

Therefore The final result is 86/21.

Q22. Answer: (c) Asphalt

The correct answer is Asphalt.

Key Points

• Ozone layer:

• The ozone layer or ozone shield is a region of the Earth’s stratosphere that absorbs most of the Sun’s Ultraviolet (UV) radiation.

• It is a layer in the earth’s stratosphere that contains high levels of ozone.

• This layer protects the earth from the Sun’s harmful UV radiation. Hence, option 4 is correct.

• It absorbs 97 – 99% of the UV radiation from the Sun.

• Ozone screens all of the most energetic, UV-c, radiation, and most of the UV-b radiation.

Additional Information

• Millions of individuals would be vulnerable to skin conditions including cancer and compromised immune systems in the absence of ozone layer.

• UV radiation would also affect the environment adversely leading to decreased productivity.

• Fauna on earth is also adversely affected by ozone layer depletion.

• Ozone (O3) is a highly reactive gas whose molecules are comprised of three oxygen atoms.

Q23. Answer: (b) Lokyukta can't question Prime Minister on the allegation of abuse of power

The correct answer is Lokyukta can't question Prime Minister on the allegation of abuse of power.

Key Points

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• Lokayuktas:

• Even much before the enactment of the Lokpal and Lokayuktas Act (2013) itself, many states had already set up the institution of Lokayuktas.

• It must be noted here that the institution of Lokayukta was established first in Maharashtra in 1971.

• Although Odisha had passed the Act in this regard in 1970, it came into force only in 1983.

• Structural Variations:

• The structure of the Lokpal and Lokayuktas is not the same in all the states.

• Some states like Rajasthan, Karnataka, Andhra Pradesh, and Maharashtra have created the Lokayukta as well as a Upalokayukta, while some others like Bihar, Uttar Pradesh, and Himachal Pradesh have created only the Lokayukta.

• There are still other states like Punjab and Orissa that have designated officials as Lokpal.

• This pattern was not suggested by the ARC in the states.

• Appointment:

• The Lokayukta and upalokayukta are appointed by the governor of the state. Hence, statement 3 is correct.

• While appointing, the governor in most of the states consults (a) the chief justice of the state high court, and (b) the leader of Opposition in the state legislative assembly.

Q24. Answer: (b) Odisha

The correct answer is Odisha.

Key Points

• Bhutan shares a 699 km long border with India.

• It adjoins the Indian states of Assam, Arunachal Pradesh, West Bengal and Sikkim.

• Bhutan is known as the Land of Thunder Dragon.

• Capital of Bhutan - Thimphu

• Currency - Bhutanese Ngultrum.

Q25. Answer: (c) Rs. 3,000

Given:

Principal (P) = Rs. 10,000

Time (T) = 6 months

Rate of Interest (R) = 5 paise per rupee per month

Formula Used:

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

Calculation:

Convert the rate from paise to rupees:

R = 5 paise per rupee per month = 5 / 100 = 0.05 rupees per rupee per month

R = 0.05 × 12 = 0.6 rupees per annum

Time in years = 6 months / 12 = 0.5 years

Now, substitute the values in the formula:

SI = (Rs. 10,000 × 0.6 × 0.5)

=> SI = Rs. 10,000 × 0.6 × 0.5

=> SI = Rs. 10000 × 0.3

=> SI = Rs. 3000

The simple interest is Rs. 3000.

Q26. Answer: (d) Neither assumption 1 nor 2 are implicit.

Given Statement: "Moral education should be compulsory at primary school level." - A part of the Education Minister's speech.

Now,

Assumptions:

1. Only young children can be provided moral education - Not Implicit (The statement does not imply that only young children can be provided moral education, it only emphasizes the importance of moral education at the primary school level.)

2. Older children do not require moral education - Not Implicit (The statement does not suggest that older children do not require moral education, it simply focuses on making it compulsory at the primary school level.)

Here, neither assumption 1 nor 2 are implicit.

Hence, the correct answer is "Option 4".

Q27. Answer: (d) VE

The logic followed here is:

Hence, the correct answer is "Option 4".

Q28. Answer: (a) Guglielmo Marconi

The correct answer is Guglielmo Marconi.

Key Points

• Guglielmo Marconi

• Italian physicist and inventor of the successful wireless telegraph (1896).

• He received the Nobel Prize for Physics in 1909.

• He worked on the development of shortwave wireless communication, which constitutes the basis of nearly all modern long-distance radio.

• It meant a giant leap – from an era of communication using wires to communicating without using wires (Wireless).

Additional Information

Inventor/Scientist	Inventions/Discoveries
Michael Faraday	Electric Motor
Guglielmo Marconi	Radio
Joseph Aspdin	Portland cement
Isaac Newton	Newton's laws of motion
Thomas Edison	Electric bulb
Wright brothers	Aeroplane
Nikola Tesla	alternating current (AC) electrical systems
Benjamin Franklin	lightning rod
Marie Curie	Radium

Q29. Answer: (d) Stortinget

The correct answer is Stortinget.

Key Points

• The parliament of Norway is called the Stortinget.

• The word Stortinget is Norwegian for "the Great Thing".

• The Stortinget was established in 1814 by the Constitution of Norway.

Additional Information

Country	Parliament Name
Afghanistan	National Assembly
Australia	Parliament
Bangladesh	Jatiya Sansad
Bhutan	Tshogdu
Myanmar	Assembly of Union
China	National People's Congress
India	Sansad
Indonesia	People's Consultative Assembly
Iran	Majlis
Iraq	Majlis al-Niwab al-Iraqi
Israel	Knesset

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Italy	Chamber of Deputies and Senate
Japan	Diet
Kazakhstan	Parliament
North Korea	Supreme People's Assembly
South Korea	National Assembly
Malaysia	Parliament
Nepal	Legislature-Parliament
Pakistan	Majlis-e-Shora
Philippines	Kongreso
Russia	Federal Assembly (Duma)
Saudi Arabia	Majlis ash-Shura
Singapore	Parliament
Sri Lanka	Sri Lankavay Parlimentuwa
Tajikistan	Majlisi Oli
Thailand	Ratthasapha
USA	Congress

Q30. Answer: (c) UFMW

The logic followed here is:

RATE is written as IZGV.

Similarly,

FUND be written as:

Hence, the correct answer is "Option 3".

Q31. Answer: (b) 2x + 3y - 11 = 0

Given:

Points: (-2, 5) and (1, 3)

Formula used:

Equation of a line passing through two points is:

y - y1 = m(x - x1)

Where slope (m) = (y2 - y1) / (x2 - x1)

Calculation:

m = (3 - 5) / (1 - (-2))

=> m = -2 / 3

Now, using the point (1, 3):

y - 3 = (-2/3)(x - 1)

=> y - 3 = (-2/3)x + 2/3

=> y = (-2/3)x + 2/3 + 3

=> y = (-2/3)x + 2/3 + 9/3

=> y = (-2/3)x + 11/3

=> 2x + 3y - 11 = 0

Therefore The equation of the line is: 2x + 3y - 11 = 0.

Q32. Answer: (b) 11

Given:

√(107 + √(192 + √(11 + √25)))

Formula used:

To simplify the nested square roots.

Calculation:

√(107 + √(192 + √(11 + √25)))

=> √(107 + √(192 + √(11 + 5)))

=> √(107 + √(192 + 4))

=> √(107 + √196)

=> √(107 + 14)

=> √121 = 11

Therefore The value of the expression is 11.

Q33. Answer: (b) Electric motor

The correct answer is Electric motor.

Key Points

• Electric motor

• An electrical motor converts electrical energy into mechanical energy.

• An electrical motor works on the principle of electromagnetic induction.

• Types of the electric motor:

• AC motor: It converts alternating current into mechanical power.

• DC motor: It converts direct current into mechanical power.

Additional Information

• A simple motor has the following parts:

• Power supply: DC for a simple motor.

• Field Magnet: Could be a permanent magnet or an electromagnet

• Commutator: It is the rotating interface of the armature coil with a stationary circuit.

• Field Magnet: The magnetic field helps to produce a torque on the rotating armature coil by virtue of Fleming's left-hand rule.

• Armature Core: Holds the armature coil in place and provides mechanical support.

• Armature Coil: It helps the motor to run.

• Brushes: It is a device that conducts current between stationary wires and moving parts, most commonly the rotating shaft.

• Uses of an Electric Motor

• Drill machine, Water Pumps, Hard Disc Drives, Washing Machines, Industrial Equipment etc.

Q34. Answer: (a) e-Granthalaya

The correct answer is e-Granthalaya.

Key Points

• e-Granthalaya is a Digital Platform developed by the National Informatics Centre, Ministry of Electronics and Information Technology, Government of India.

• Version 4.0 of e Granthalaya was the first version which is a Cloud Ready Application to facilitate web-based data entry with a Centralized Database.

• e-Granthalaya was started as an in-house project at 'The Karnataka State Centre of NIC in 2002 for the automation of public libraries in the Karnataka state.

Technology/ Platform used	Version	Year	DBMS	Edition
Visual Basic 6/ASP/HTML	1.0	2003	MS SQL Server 7	Public Library Edition
Visual Basic 6/ASP/HTML	2.0	2005	MS SQL Server 2000	Government Libraries Edition
VB.NET/ASP.NET 2.0	3.0	2007	MS SQL Server 2005	Network Edition
ASP.NET4.0/AJAX/ JQUERY/JSON/SilverLight	4.0	2015	PostgreSQL-an Open SourceDBMS	Enterprise Edition

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Q35. Answer: (b) 7^(th) April

The correct answer is 7th April.

Key Points

• The Assembly decided to celebrate 7 April of each year, with effect from 1950, as World Health Day.

• World Health Day is held to mark WHO's founding and is seen as an opportunity by the organization to draw worldwide attention to a subject of major importance to global health each year.

• On World Health Day 2022, under the theme “Our planet, our health”.

• It is an enterprise taken by the World Health Organization (WHO) to raise awareness about the overall health and well-being of people across the world. Each year, there is a specific theme for World Health Day.

Additional Information

• World environment day is celebrated on June 5 every year and this day is commemorated to raise awareness about environmental issues, increasingly deteriorating conditions, climate change, etc.

• "Universal Social Protection to End Child Labour" The 2022 theme of the world day calls for increased investment in social protection systems and schemes to establish solid social protection floors and protect children from child labour.

Q36. Answer: (b) 416.4

Given:

The salary paid by the company (in 10 lakh Rs.) over 5 years:

2014: 340

2015: 398

2016: 409

2017: 456

2018: 479

Formula used:

Average salary = (Sum of salaries for all years) ÷ (Number of years)

Calculation:

=> Total salary paid = 340 + 398 + 409 + 456 + 479

=> Total salary = 2082

=> Average salary = 2082 ÷ 5

=> Average salary = 416.4

Therefore The average salary paid by the company over the 5 years is 416.4 (in 10 lakh) Rs. .

Q37. Answer: (d) 144 cm²

Given:

The diagonal of a cube = 6√2 cm.

Formula Used:

The formula for the diagonal of a cube is √3 × side.

The formula for the surface area of a cube is 6 × side².

Calculation:

Let the side of the cube be aaaaa cm.

According to the given diagonal:

√3 × a = 6√2

=> a = 6√2/√3

=> a = 6 × √2/√3

=> a = 6 × √2/3

=> a = 6 × √2/3 × √3/√3

=> a = 6 × √6/3

=> a = 2√6 cm

Now, the surface area of the cube:

Surface Area = 6 × (side)²

Surface Area = 6 × (2√6)²

=> Surface Area = 6 × 4 × 6

=> Surface Area = 144 cm²

The surface area of the cube is 144 cm^2.

Q38. Answer: (a) Madhya Pradesh

The correct answer is Madhya Pradesh.

Key Points

• Madhya Pradesh saw the highest number of tigers at 526, closely followed by Karnataka at 524 with Uttarakhand at number 3 with 442 tigers.

• Madhya Pradesh has the maximum number of tiger reserves.

• Madhya Pradesh is also known as the 'Tiger State' has 6 Tiger reserves within the state.

• Madhya Pradesh harbors nearly 20% of India's Wild Tiger Population and nearly 10% of the world's tiger population as per the current estimates.

• Six tiger reserves of MP are:

• Kanha Tiger Reserve, Pench Tiger Reserve, Panna Tiger Reserve, Bandhavgarh Tiger Reserve, Satpuda Tiger Reserve, and Sanjay Tiger Reserve.

Additional Information

• There are a total of 51 tiger reserves throughout India.

• Project Tiger was launched by the Government of India in the year 1973 to save the endangered species of tiger in the country. Starting from nine (9) reserves in 1973-2016 the number is grown up to fifty-one (51).

Q39. Answer: (b) Poles

The correct answer is Poles

Key Points

• Acceleration Due to Gravity:

• The force of attraction exerted by the earth on a body is called gravitational pull or gravity.

• We know that when a force acts on a body, it produces acceleration. Therefore, a body under the effect of gravitational pull must accelerate.

• The acceleration produced in the motion of a body under the effect of gravity is called acceleration due to gravity, it is denoted by g.

• If g is the acceleration due to gravity, then

• $g = GM/(R^2)$

• Where G = universal gravitational constant, M = mass of the earth and R = radius of the earth

• The distance from the center of the earth to its poles is lesser-than the distance to the equator region.

• Therefore g value is slightly greater at poles and its value is 9.83m/s2. Option (2) is correct.

Additional Information

• The value of g at the equator is 9.78m/s2.

• The difference between gravity and gravitation is Gravity is the force between a body and earth while gravitation is the force acting between two bodies.

Q40. Answer: (d) 1/3

The logic followed here is:

To find the probability that the number 5 has appeared at least once given that the sum of the two dice is 10, we can follow these steps:

1. Determine the total outcomes where the sum is 10: The possible pairs (x, y)

(x, y) where

x + y = 10x + y = 10 are:

Valid outcomes are:

So, the total outcomes where the sum is 10 are 3.

• (4, 6)

• (5, 5)

• (6, 4)

• (3, 7) - not possible since 7 is not on a die.

• (2, 8) - not possible.

• (1, 9) - not possible.

• (4, 6)

• (5, 5)
• (6, 4)
2. Determine the favorable outcomes where at least one die shows a 5: The pairs where at least one die is a 5 are:
So, the favorable outcomes are 1.
• (5, 5)
3. Calculate the probability: The probability PPP P that at least one die shows a 5 given that the sum is 10 is given by:
• P = Number of favorable outcomes / Total outcomes = 1 / 3
• Thus, the probability that the number 5 has appeared at least once given that the sum is 10 is 1/3.
Hence, the correct answer is "Option 4".
Unknown node type: spanUnknown node type: strong
Unknown node type: spanUnknown node type: strong

Q41. Answer: (a) Shivaji Sagar Lake

The correct answer is Shivaji Sagar Lake
Key Points
• Shivaji Sagar Lake is the largest artificial freshwater lake in India.
• It is formed by the Koyna Dam on the Koyna River in Maharashtra.
• It is an artificial reservoir and one of the largest in India.
• The lake plays a crucial role in providing hydroelectric power through the Koyna Hydroelectric Project.
• It is surrounded by the scenic Western Ghats, making it a tourist attraction.
Additional Information
• Nainital Lake
• Nanital lake is situated in the state of Uttarakhand.
• This has a form in the shape of a kidney or a crescent and an outfall at the south-east end.
• Nainital is the most prominent hill-station in the Kumaon district.
• It is famous for its Naini Lake located in the center of the town, as well as several other nearby lakes.
• It is one of the four lakes in Kumaon Hills; the other three are the Sattal Lake, the Bhimtal Lake, and the Naukuchiyatal Lake.
• Kolleru Lake
• A natural freshwater lake, situated between the Krishna and Godavari deltas in Andhra Pradesh.
• Kolleru is a wildlife sanctuary and home to numerous migratory birds, especially in winter.
• It serves as a crucial ecosystem and supports local fishing industries.
• Though a natural lake, it sometimes undergoes changes due to human intervention like drainage.
• Kodai Lake
• An artificial lake located in Kodaikanal, Tamil Nadu.
• It was created in 1863 by Sir Vere Henry Levinge, the then Collector of Madurai.
• The lake is star-shaped and is popular for boating, cycling, and horse riding along its perimeter.
• Surrounded by the Palani Hills, it is a major tourist attraction in Kodaikanal.

Q42. Answer: (b) Kanpur

The correct answer is Kanpur
Key Points
• As per the Guinness World Records 2020 analysis of a World Health Organization (WHO) report, Kanpur in India was listed as the most polluted city in the world
• Kanpur, in Uttar Pradesh, topped the list of the most polluted cities due to extremely high levels of particulate matter (PM2.5).
• The city faces severe air pollution issues mainly due to industrial emissions, vehicular pollution, and dust.
• Poor air quality in Kanpur is linked to serious health risks, including respiratory and cardiovascular diseases.
• The WHO report highlighted several other Indian cities among the most polluted globally.
Additional Information
• Delhi consistently ranks among the most polluted cities in the world in terms of air quality, especially during the winter months.
• High levels of PM2.5 (fine particulate matter) and PM10 due to vehicular emissions, industrial activities, construction dust, and seasonal stubble burning in neighboring states.
• Lahore also ranks among the most polluted cities globally, particularly during winter.
• Major sources of pollution include vehicular emissions, industrial pollution, and crop burning.

• The city also faces air quality problems due to dust and seasonal fog (smog).
• While Karachi experiences high pollution levels, it tends to rank lower than Lahore and Delhi in terms of severity.

Q43. Answer: (a) B and C

Given:

The number of students from various schools participating in different games:

Games	School A	School B	School C	School D	School E
Badminton	34	67	23	78	56
Table Tennis	21	40	26	32	29
Football	12	22	19	16	21
Basketball	9	13	7	12	6
Cricket	98	121	78	84	67

Formula used:

Sum of students in each school = Total number of students in each row

Calculation:

=> Total students for School A = 34 + 21 + 12 + 9 + 98 = 174

=> Total students for School B = 67 + 40 + 22 + 13 + 121 = 263

=> Total students for School C = 23 + 26 + 19 + 7 + 78 = 153

=> Total students for School D = 78 + 32 + 16 + 12 + 84 = 222

=> Total students for School E = 56 + 29 + 21 + 6 + 67 = 179

Conclusion:

The school with maximum participation is School B with 263 students.

The school with minimum participation is School C with 153 students.

Therefore The correct answer is option 1.

Q44. Answer: (c) 0

Given:

The equation to solve is: 3(5x + 2) - 4 = 2(1 - 4x)

Formula Used:

Solve for x by isolating the variable on one side of the equation.

Calculation:

Start by expanding both sides:

=> 3(5x + 2) - 4 = 2(1 - 4x)

=> 15x + 6 - 4 = 2 - 8x

Simplify the equation:

=> 15x + 2 = 2 - 8x

Combine like terms:

=> 15x + 8x = 2 - 2

=> 23x = 0

Divide both sides by 23:

=> x = 0

The value of the variable x is 0.

Q45. Answer: (c) 23/27

Shortcut Trick

Apply the Cosine Rule directly: cos A = $(b^2 + c^2 - a^2) / (2bc)$

Substitute the values: a = 25, b = 45, c = 30

cos A = $(45^2 + 30^2 - 25^2) / (2 \times 45 \times 30)$

cos A = (2025 + 900 − 625) / 2700 = 2300 / 2700 = 23/27

Therefore The correct answer is 23/27.

Alternate Method

Given: Sides of triangle ABC are a = 25, b = 45, and c = 30.

Formula Used: In any triangle ABC, the Law of Cosines states:

cos A = $(b^2 + c^2 - a^2) / 2bc$

Calculation:

=> $a^2 = 25^2 = 625$

=> $b^2 = 45^2 = 2025$

=> $c^2 = 30^2 = 900$

=> cos A = $(2025 + 900 - 625) / (2 \times 45 \times 30)$

=> cos A = $(2925 - 625) / 2700$

=> cos A = 2300 / 2700

=> cos A = 23/27

Therefore The correct answer is 23/27.

Additional Information

Cosine Rule for Other Angles

Similarly, cos B = $(a^2 + c^2 - b^2) / 2ac$ and cos C = $(a^2 + b^2 - c^2) / 2ab$.

Sine Rule

The relationship between sides and angles is given by a / sin A = b / sin B = c / sin C = 2R, where R is the circumradius.

SSS Condition

When all three sides (Side-Side-Side) are known, the angles of the triangle can be uniquely determined using the Cosine Rule.

Q46. Answer: (d) Young Party

The correct answer is the Young Party

Key Points

• The organisation that was NOT a part of the revolutionary movement for Indian Independence is Young Party.

• This name does not appear in historical records or literature related to Indian freedom movements.

Additional Information

• Anushilan Samiti

• A revolutionary organization based in Bengal, founded in the early 20th century.

• It played a major role in the Indian independence movement, focusing on violent methods to overthrow British rule.

• It carried out a number of attacks against British officials and institutions.

• Jugantar

• A branch of Anushilan Samiti, also centered in Bengal.

• Involved in numerous revolutionary activities, including assassinations, bombing campaigns, and organizing armed struggles against British rule.

• Prominent revolutionaries like Barindra Kumar Ghosh and Bagha Jatin were part of this group.

• Abhinav Bharat

• A secret revolutionary society founded by Vinayak Damodar Savarkar in 1904.

• It aimed to incite armed rebellion against the British Empire and inspired many revolutionaries through its radical approach.

• It was involved in conspiracies, bomb-making, and assassinations of British officials.

Q47. Answer: (d) Article 280

The correct answer is Article 280

Key Points

• The article that deals with the formation of the Finance Commission is Article 280

• Article 280 of the Indian Constitution provides for the formation of a Finance Commission by the President of India.

• It outlines the commission’s duties, such as recommending the distribution of taxes between the Union and the States,

• determining financial relations, and providing advice on fiscal matters.

Additional Information

• Article 279

• This article provides the framework for determining and calculating the net proceeds of taxes or duties levied by the Government of India.

• The term "net proceeds" refers to the total revenue collected from a tax after deducting the costs of collection.

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• Article 282

• This article allows the Union or State Governments to make grants for any public purpose, even if the purpose is not within their legislative competence.

• This provides flexibility for governments to allocate funds for unforeseen or special needs that may arise.

• Article 281

• Article 281 outlines how the recommendations of the Finance Commission are to be laid before each house of Parliament.

• Once the Finance Commission submits its report, the recommendations are reviewed and considered for implementation.

Q48. Answer: (d) Article 41

The correct answer is Article 41

Key Points

• The article that is directed to establish the right to work, to education, and to public assistance in certain cases is Article 41

• Article 41 of the Indian Constitution, part of the Directive Principles of State Policy (DPSP),

• directs the state to make provisions for securing the right to work, to education, and to public assistance in cases of unemployment, old age, sickness, and disablement.

• This is subject to the state's economic capacity and development.

Additional Information

• Article 40

• Article 40 directs the state to take steps to organize village panchayats and endow them with powers and authority to function as units of local self-government.

• It emphasizes the decentralization of power to local levels for better governance.

• Article 42

• Article 42 requires the state to ensure that just and humane conditions of work are provided and to make provisions for maternity relief.

• This relates to workers' welfare and the protection of women's rights, particularly concerning maternity benefits.

• Article 43

• Article 43 directs the state to ensure that workers are provided with a living wage, suitable conditions of work, and a decent standard of life.

• It aims to improve the welfare of workers and promote cottage industries.

Q49. Answer: (b) Prolactin

The correct answer is Prolactin

Key Points

• Prolactin is a hormone produced in the pituitary gland of animals, including humans.

• It primarily regulates lactation (milk production) and has various roles in metabolism,

• regulation of the immune system, and development of the reproductive system.

• It is not involved in plant growth or development, which is why it is not classified as a plant hormone.

Additional Information

• Gibberellins

• Gibberellins are a group of plant hormones that promote stem elongation, seed germination, and flowering.

• They help in breaking dormancy in seeds and are involved in various developmental processes in plants.

• They are particularly important in processes such as fruit development and leaf expansion.

• Ethylene

• Ethylene is a gaseous plant hormone involved in the regulation of fruit ripening, flowering, and the response to stress conditions.

• It plays a key role in the ageing process of plants.

• It is well known for promoting the ripening of fruits and is used commercially to control the timing of ripening in various fruits.

• Abscisic Acid (ABA)

• Abscisic acid is a plant hormone that primarily promotes leaf abscission (the shedding of leaves), helps plants respond to stress conditions (such as drought), and regulates seed dormancy.

• It plays a crucial role in maintaining plant water balance and is involved in signalling pathways that help plants cope with environmental stresses.

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Q50. Answer: (d) a rail magazine

The correct answer is a rail magazine

Key Points

• Rail Bandhu is a rail magazine.

• Rail Bandhu is a passenger-friendly magazine published by Indian Railways.

• It provides information about train schedules, services, tourism, and various other topics related to rail travel.

• The magazine aims to enhance the travel experience by keeping passengers informed and engaged during their journey.

Additional Information

• Important facts about Indian Railways:

• It has the largest rail network in Asia and is the second-largest in the world, after the United States.

• The total length of the railway tracks in India is around 68,000 kilometers, spanning across the country, connecting remote and urban areas.

• The first passenger train in India ran on April 16, 1853, from Mumbai to Thane, covering a distance of 34 kilometers.

• Indian Railways is divided into 18 zones and further into divisions.

• Some of the major zones include Northern Railway, Eastern Railway, Southern Railway, and Western Railway.

• Around 75% of the railway network is electrified, and the Indian government aims to achieve 100% electrification in the near future to reduce dependence on fossil fuels.

Q51. Answer: (c) 539918

The logic followed here is:

ABLE is written as 3781,

HAIR is written as 4365

TOOL is written as 9008.

Then, RATTEL be written as:

Hence, the correct answer is "Option 3".

Q52. Answer: (b) 2475 cm³

Given:

Height of the cylinder (h) = 14 cm

Curved surface area (CSA) = 660 cm²

Formula Used:

CSA of a cylinder = $2\pi rh$

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

Calculation:

From CSA, we have:

$2\pi rh = 660$

$\Rightarrow 2 \times 22/7 \times r \times 14 = 660$

$\Rightarrow 88r = 660$

$\Rightarrow r = 660 / 88$

$\Rightarrow r = 7.5$ cm

Now, Volume (V) = $\pi r^2 h$

$\Rightarrow V = (22/7) \times (7.5)^2 \times 14$

$\Rightarrow V = (22/7) \times 56.25 \times 14$

$\Rightarrow V = 22 \times 8.04 \times 14$

$\Rightarrow V = 2475$ cm³

The volume of the cylinder is 2475 cm³.

Q53. Answer: (a) 0.007992

Given:

Evaluate: $(0.2)^3 - (0.02)^3$

Formula Used:

Difference of cubes: $a^3 - b^3 = (a - b)(a^2 + ab + b^2)$

Calculation:

Let a = 0.2 and b = 0.02
$(0.2)^3 - (0.02)^3$
$= (0.2 - 0.02) ((0.2)^2 + (0.2 \times 0.02) + (0.02)^2)$
$= 0.18 (0.04 + 0.004 + 0.0004)$
$= 0.18 (0.0444)$
$\Rightarrow 0.18 \times 0.0444$
$\Rightarrow 0.007992$
The correct answer is option 1.

Q54. Answer: (c) 2, 0

Given:
The number is 2893#$ and it is divisible by 8 and 5.
Formula Used:
1. A number is divisible by 5 if its last digit is 0 or 5.
2. A number is divisible by 8 if its last three digits form a number that is divisible by 8.
Calculation:
Since the number is divisible by 5, the last digit $ must be 0.
Hence, the number becomes 2893#0.
Now, the number must be divisible by 8. So, the last three digits 3#0 must form a number divisible by 8.
We test values for #:
If # = 0: Last three digits = 300, 300 ÷ 8 = 37.5 (Not divisible)
If # = 1: Last three digits = 310, 310 ÷ 8 = 38.75 (Not divisible)
If # = 2: Last three digits = 320, 320 ÷ 8 = 40 (Divisible)
$\Rightarrow$ # = 2 and $ = 0
The correct answer is option 3.

Q55. Answer: (c) 60°

Given:
Height of the pole = $6\sqrt{3}$ metres
Length of the shadow = 6 metres
Formula Used:
$\tan(\theta)$ = Opposite / Adjacent
Calculation:
Let the angle of elevation be θ.
$\tan(\theta)$ = Height of the pole / Length of the shadow
$\tan(\theta) = 6\sqrt{3} / 6$
$\tan(\theta) = \sqrt{3}$
$\Rightarrow \theta = 60^o$
The angle of elevation of the sun is 60^o.

Q56. Answer: (b) Rs. 1,920

Given:
Mohan's salary = Rs. 1600
Ravi's salary is 20% more than Mohan's salary.
Formula Used:
Ravi's salary = Mohan's salary + 20% of Mohan's salary
Calculation:
20% of Mohan's salary = 20/100 × Rs. 1600
20% of Mohan's salary = 0.2 × Rs. 1600
20% of Mohan's salary = Rs. 320
Ravi's salary = Rs. 1600 + Rs. 320
$\Rightarrow$ Ravi's salary = Rs. 1920
The correct answer is option 2.

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Q57. Answer: (b) Nandan Bal

The correct answer is Nandan Bal.

Key Points

• Nandan Bal is a renowned Indian tennis coach who has significantly contributed to the sport.

• He has been instrumental in coaching and mentoring numerous young tennis players in India.

• His dedication to the sport and his contributions to developing tennis in India earned him the prestigious Dhyan Chand Award in 2020.

• The Dhyan Chand Award is India's highest award for lifetime achievement in sports and games, which recognizes his lifelong dedication and achievements in tennis.

Additional Information

• Dhyan Chand Award

• The Dhyan Chand Award is the highest award for lifetime achievement in sports and games in India.

• It is named after the legendary Indian hockey player Dhyan Chand, who is regarded as one of the greatest hockey players of all time.

• The award is given by the Ministry of Youth Affairs and Sports, Government of India.

• The award comprises a bronze statuette of Dhyan Chand, a certificate, and a cash prize.

• Arokia Rajiv

• Arokia Rajiv is an Indian sprinter who specializes in the 400 meters.

• He has represented India in various international events, including the Asian Games and Commonwealth Games.

• Sikki Reddy

• N. Sikki Reddy is an Indian badminton player specializing in doubles.

• She has won several medals in international competitions, including the Commonwealth Games and South Asian Games.

• Rajat Chauhan

• Rajat Chauhan is an Indian archer who competes in the compound archery discipline.

• He has won medals in events like the Asian Games and World Archery Championships.

Q58. Answer: (c) 18

Given:

Distance covered by the cyclist = 650 m.

Time taken = 2 min 10 sec = 2 × 60 + 10 = 130 seconds.

Formula Used:

Speed (in km/hr) = (Distance (in meters))/(Time (in seconds)) × 18/5

Calculation:

Distance = 650 m

Time = 130 sec

Speed (in m/s) = 650/130

=> Speed (in m/s) = 5 m/s

Speed (in km/hr) = 5 × 18/5

=> Speed (in km/hr) = 18 km/hr

The speed of the cyclist is 18 km/hr.

Q59. Answer: (d) Widow remarriage

The correct answer is Widow remarriage

Key Points

• The Widow Remarriage Act was enacted in 1856 during Lord Canning's administration.

• This act aimed to improve the status of widows in Indian society by allowing them to remarry, challenging the stigma associated with widowhood.

• In 19th-century India, widowhood was a highly stigmatized state for women.

• Widows were often subjected to social ostracism and were expected to live a life of austerity, frequently following practices like Sati (self-immolation on the husband's funeral pyre) or leading a life of seclusion.

• The social reform movement in India gained momentum during this period, driven by intellectuals and social reformers who sought to challenge and change entrenched social norms.

• Prominent figures like Ishwar Chandra Vidyasagar, a leading reformer, actively campaigned for widow remarriage.

Additional Information

• Doctrine of Lapse

• The Doctrine of Lapse was a policy introduced by the British East India Company, primarily under Lord Dalhousie (Governor-General from 1848 to 1856).

• It allowed the British to annex any Indian princely state if the ruler died without a direct male heir.

• This doctrine was a major factor leading to the Indian Rebellion of 1857, as many Indian rulers lost their states due to this policy.

• For example, the annexation of Awadh (Oudh) was a significant event attributed to this doctrine.

• Morley-Minto Reforms

• These reforms were enacted in 1909 and aimed to increase Indian participation in government through a series of legislative reforms, including the introduction of separate electorates for Muslims.

• It is named after John Morley (Secretary of State for India) and Lord Minto (Viceroy), these reforms were part of an effort to address growing political discontent in India and manage communal tensions.

• Prohibition of Sati

• The practice of Sati, where widows self-immolated on their husbands' funeral pyres, was banned in 1829 by Lord William Bentinck.

• This was a significant social reform aimed at protecting women's rights and dignity.

• Raja Rammohan Roy, the great Hindu reformer from Bengal fought many social evils prevalent in the Hindu society of Bengal and Sati pratha was one of the chief ones.

Q60. Answer: (b) 1600

Given:

The least square number that is exactly divisible by 4, 5, 8, 16, and 32.

Formula Used:

The least square number divisible by given numbers is the LCM of the numbers raised to the power of 2.

Calculation:

Prime factorization of the given numbers:

$4 = 2^2$

$5 = 5^1$

$8 = 2^3$

16 = 2^4

32 = 2^5

LCM is obtained by taking the highest power of each prime factor:

LCM = 2^5 × 5^1

To make it a perfect square, all exponents in the prime factorization should be even:

LCM = 2^6 × 5^2

Now calculate the number:

LCM = 2^6 × 5^2

LCM = 64 × 25

=> LCM = 1600

The least square number that is exactly divisible by 4, 5, 8, 16, and 32 is 1600.

Q61. Answer: (d) London

The correct answer is London

Key Points

• The 2012 Summer Olympics were held in London

• The 2012 Summer Olympics, officially known as the Games of the XXX Olympiad, took place in London, United Kingdom, from July 27 to August 12, 2012.

• London made history by becoming the first city to host the modern Olympic Games three times, having previously hosted the games in 1908 and 1948.

Additional Information

• Tokyo:

• Tokyo hosted the Summer Olympics in 1964 and later in 2021 (officially the 2020 Summer Olympics, which were postponed due to the COVID-19 pandemic).

• Rio:

• Rio de Janeiro, Brazil, hosted the Summer Olympics in 2016.
• Paris:
• Paris hosted the Summer Olympics in 1900 and 1924, and it is scheduled to host them again in 2024.

Q62. Answer: (c) 367/42

Given:
(31/7 + 43/7) + 7/6
Formula used:
Mixed fractions: a ^b/_c = (a * c + b)/c
Calculations:
=> (31/7 = 22/7) + (43/7 = 31/7)
=> 22/7 + 31/7 = 53/7
=> 53/7 + 7/6
Finding the LCM of 7 and 6 = 42
=> (53 × 6)/42 + (7 × 7)/42 = 318/42 + 49/42 = 367/42
Therefore The correct answer is option 3,

Q63. Answer: (d) Argon

The correct answer is Argon
Key Points
• In October 2019, the noble gas detected on the lunar exosphere by the Chandrayaan-2 orbiter was Argon-40.
• It is produced from the radioactive decay of Potassium-40 in the Moon's interior.
• The detection of Argon-40 is significant for studying the lunar exosphere and
• understanding the processes taking place on and below the Moon's surface, such as volcanic and radioactive decay activities.
Additional Information
• Helium:
• Helium, particularly Helium-3, has been detected on the lunar surface in previous missions,
• It is considered a potential resource for future energy use due to its possible application in nuclear fusion.
• Neon:
• Neon is known to exist in the Moon's exosphere.
• It is released by solar wind particles striking the lunar surface.
• Neon contributes to the extremely thin lunar atmosphere (exosphere)
• Krypton:
• Krypton is a noble gas that has not been prominently detected on the Moon.
• Its atomic number is 36
• A noble gas, about three times heavier than air, monatomic, and does not react with anything except fluorine gas

Q64. Answer: (a) IIT BHU

The correct answer is IIT BHU
Key Points
• Recently, the Indian Institute of Science (IISc) Bengaluru installed the supercomputer 'Param Pravega'.
• It has a supercomputing capacity of 3.3 petaflops.
• It has been installed under the government's National Supercomputing Mission.
• India's first supercomputer was PARAM 8000.
• PARAM Shivay, the first supercomputer assembled indigenously, was installed in IIT (BHU), followed by PARAM Shakti, PARAM Brahma, PARAM Yukti, PARAM Sanganak at IIT-Kharagpur, IISER, Pune, JNCASR, Bengaluru and IIT Kanpur respectively.
• In 2020, PARAM Siddhi, the High-Performance Computing-Artificial Intelligence (HPC-AI) supercomputer, achieved a global ranking of 62nd in the Top 500 most powerful supercomputer systems in the world.
Additional Information
• National Supercomputing Mission
• In 2015, the National Supercomputing Mission was launched to enhance the research capacities and capabilities
• To form a Supercomputing grid, with National Knowledge Network (NKN) as the backbone.
• The NKN project is aimed at establishing a strong and robust Indian network that will be capable of providing secure and reliable

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connectivity.

• It supports the government's vision of 'Digital India' and 'Make in India' initiatives.

• The Mission is being jointly steered by the Department of Science and Technology (DST) and the Ministry of Electronics and Information Technology (MeitY).

Q65. Answer: (d) 16, 7

Given:

2^x = 4^(y + 1) and 3^y = 3^(x - 9)

Formula used:

Using properties of exponents:

a^m = aⁿ implies m = n

Calculations:

1. Start with 2^x = 4^(y + 1)

4 can be written as 2², so the equation becomes:

=> 2^x = (2²)^(y + 1)

=> 2^x = 2^(2y + 2)

Since the bases are the same, equate the exponents:

=> x = 2y + 2

2. Now, solve 3^y = 3^(x - 9)

Equate the exponents:

=> y = x - 9

3. Substitute y = x - 9 into x = 2y + 2:

=> x = 2(x - 9) + 2

=> x = 2x - 18 + 2

=> x - 2x = -16

=> -x = -16

=> x = 16

4. Substitute x = 16 into y = x - 9:

=> y = 16 - 9

=> y = 7

Therefore The values of x and y are 16 and 7, respectively.

Q66. Answer: (c) Fourth Schedule

The correct answer is Fourth Schedule

Key Points

• The Fourth Schedule of the Indian Constitution enumerates the allocation of Rajya Sabha seats to states and union territories.

• It provides details on how many Rajya Sabha seats each state or union territory is allotted based on their population.

• The allocation can be revised based on changes in population and other constitutional amendments.

Additional Information

• Sixth Schedule:

• The Sixth Schedule deals with the administration of tribal areas in the states of Assam, Meghalaya, Tripura, and Mizoram.

• It provides for Autonomous District Councils to govern these tribal areas with a degree of autonomy.

• It aims to protect the rights and culture of tribal communities by granting them the ability to make laws on certain subjects like land, forest, and water.

• First Schedule:

• The First Schedule lists the names of States and Union Territories of India and their territorial jurisdictions.

• It defines the geographical extent of India by including the newly formed states and union territories.

• This schedule is amended when new states are formed or the boundaries of existing ones are altered.

• Tenth Schedule:

• The Tenth Schedule contains provisions relating to anti-defection laws.

• It deals with the disqualification of members of Parliament and state legislatures on grounds of defection to another political party

• Its main aim is to curb political defections by preventing elected representatives from switching parties after elections.

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Q67. Answer: (d) 723

Given:

The least number that when divided by 9, 16, 20 or 24, leaves 3 as remainder in each case.

Formula Used:

Let the least number be N.

Then N = LCM(9, 16, 20, 24) + R, where R is the remainder.

R = 3

Calculation:

First, find the LCM of 9, 16, 20, and 24.

Prime factorization:

$9 = 3^2$

16 = 2^4

$20 = 2^2 \times 5$

$24 = 2^3 \times 3$

LCM = $2^4 \times 3^2 \times 5$

LCM = $16 \times 9 \times 5$

LCM = 720

Therefore, the least number N is:

N = 720 + 3

N = 723

The least number that when divided by 9, 16, 20, or 24, leaves 3 as remainder in each case is 723.

Q68. Answer: (d) D

According to the given information:

A is older than B, D is younger than B.

• A > B > D

C is older than D but younger than B.

• A > B > C > D

Thus, D is the youngest among all.

Hence, the correct answer is "Option 4".

Q69. Answer: (b) 1576 AD

The correct answer is 1576 AD

Key Points

• The Battle of Haldighati was a battle fought on 18 June 1576.

• It was fought between the Rana of Mewar, Maharana Pratap, and the Mughal emperor Akbar.

• The Mughal force was led by Man Singh I of the Amber.

• Abul Fazl says that the Mughal army was forced to retreat in the initial phase of the battle.

• Haldighati is a region in the Aravalli mountain range, which links Rajsamand and Pali districts in Rajasthan, the name for which is inspired by its yellow-turmeric-colored soil.

• The two armies fought a four-hour-long war in which the Mughals suffered heavy casualties and Maharana escaped unhurt.

Q70. Answer: (b) Belgium

The correct answer is Belgium

Key Points

• Belgium is a European country that doesn't have the Alps range located within its geographical boundary

• The Alps are the highest and most extensive mountain range system that lie in south-central Europe. The mountain range stretches approximately 750 miles (1,200 kilometers) in a crescent shape across eight Alpine countries: France, Switzerland, Monaco, Italy, Liechtenstein, Austria, Germany, and Slovenia.

• The Alps are one of the world's largest and highest mountain ranges, and the highest mountain in the Alps is Mont Blanc, which spans the French–Italian border.

• The Alps were formed over millions of years when the African and Eurasian tectonic plates collided.

• The range's size and altitude impact the climate in Europe, and the mountains have distinct climatic zones and varying precipitation levels.

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Q71. Answer: (d) 17/7

Given:

Value = 544/49

Formula Used:

√(a + b/c) = √((ac + b)/c)

Calculation:

We need to find the square root of 544/49.

First, convert the mixed fraction to an improper fraction:

544/49 = (5 × 49 + 44)/49

=> 544/49 = (245 + 44)/49

=> 544/49 = 289/49

Now, find the square root:

√(289/49)

=> √289/√49

=> 17/7

The correct answer is 17/7 (option 4).

Q72. Answer: (b) Dehradun

The correct answer is Dehradun.

Key Points

• Survey of India

• It is the National Mapping Agency (NMA) of the country under the Department of Science and Technology, Govt. of India.

• It is the oldest scientific department of the Indian government.

• It was established in 1767 to help consolidate the Indian territories of the British East India Company.

• It is headquartered in Dehradun, Uttarakhand.

• It is headed by Surveyor- General of India.

• Its chief responsibility is to ensure that India's domain is explored and mapped appropriately.

• It also provides base maps for expeditions and integrated development of the country by ensuring that all resources contribute to the progress, security, and prosperity of the nation for the present and the future.

• Surveyor - General of India: General Girish Kumar.

Additional Information

• Dehradun

• It is the winter capital and most populated city of Uttarakhand.

• It is a part of the Gharwal region.

• It is home to the Indian Military Academy, Forest Research Institute, Uttarakhand Ayurveda University, and Indira Gandhi National Forest Academy.

• Rajiv Gandhi International Cricket Stadium, Dehradun is the first international-level stadium in the state and it is the second home to the Afghanistan Cricket team.

Q73. Answer: (d) Open data base connectivity

The correct answer is Open database connectivity

Key Points

• The full form of ODBC is open database connectivity

• ODBC (Open Database Connectivity) is a standard application programming interface (API) that allows applications to access and interact with database management systems (DBMS) using SQL (Structured Query Language).

• It provides a universal way for applications to communicate with different databases (such as SQL Server, MySQL, Oracle) without needing to know the specific DBMS.

• ODBC helps in achieving interoperability, meaning that applications can interact with various databases through a common interface.

• Thus, ODBC stands for Open Database Connectivity.

Q74. Answer: (c) [figure]

Given words: Fruits, Citrus fruits and Oranges

• All oranges are citrus fruits, and all citrus fruits are fruits, but not all fruits are citrus fruits.

The best representation for given words:

Hence, the correct answer is "Option 3".

Q75. Answer: (b) Pincode

The logic followed here is:

Letter	A means of communication
Pincode	A numerical code for postal services
Postcard	A means of communication
Parcel	A means of communication

Letter, Postcard, Parcel all are means of communication,

Whereas,

Pincode is a numerical code for postal services.

Hence, the correct answer is "Pincode".

Q76. Answer: (a) 12

The minimum number of straight lines:

Thus, there are 12 straight lines.

Hence, the correct answer is "Option 1".

Q77. Answer: (b) Rolling

The correct answer is Rolling

Key Points

• Rolling friction is usually the least frictional force, as it involves minimal contact and resistance compared to static, sliding, and fluid friction.

• Rolling friction occurs when an object rolls over a surface, like wheels or balls.

• It is typically much less than static or sliding friction because the area of contact is reduced, resulting in less resistance.

Additional Information

• Static Friction:

• Static friction is the force that keeps an object at rest and prevents it from starting to move when a force is applied.

• Fluid Friction:

• Fluid friction, also known as drag, occurs when an object moves through a fluid (liquid or gas).

• It varies depending on the shape of the object and the viscosity of the fluid but is usually lower than static and sliding friction.

• Sliding Friction:

• Sliding friction (or kinetic friction) is the force resisting the motion of two surfaces sliding past each other.

• It is generally less than static friction but more than rolling and fluid friction in most cases

• It is generally higher than other types of friction because it must overcome the initial inertia of an object before it can start moving.

Q78. Answer: (a) Kathi

The correct answer is KAthi

Key Points

• Kathi is a dance from Madhya Pradesh not from Assam

• The dance is performed by Balai Samaj artists. The main dancer is called Bada (Big) Bhagat, and the supporting dancers are called Chhota Bhagat.

• The dancers wear bright-colored costumes, and the Kathi is decorated with bamboo

• The dance is performed to the rhythm of a musical instrument called the Dhak, which is shaped like a small drum, and a brass plate

Q79. Answer: (d) At least 1 mars year

The correct answer is At least 1 mars year

Key Points

• NASA's mission to Mars launched in June 2020 was the Perseverance rover as part of the Mars 2020 mission.

• The duration of this mission was planned to be at least 1 Mars year.

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• The primary mission of the Perseverance rover was planned to last at least 1 Mars year, which is roughly 687 Earth days (almost 2 Earth years).

• The mission aims to study Mars' geology, climate, and potential signs of ancient life, as well as collect samples for potential future return to Earth.

• The rover's mission is to explore the Martian surface to:

• Study the planet's geology and past climate.

• Search for signs of ancient microbial life.

• Collect soil and rock samples to be returned to Earth by future missions.

• Test technologies that could help pave the way for future human missions to Mars.

Q80. Answer: (d) 5/22

Given:

A box contains:

2 black balls

6 green balls

4 yellow balls

Total balls = 2 + 6 + 4 = 12

Formula Used:

Probability of both being green = (Number of ways to choose 2 green balls) / (Number of ways to choose any 2 balls)

Calculation:

Number of ways to choose 2 green balls from 6:

binom62 = (6!)/(2!(6-2)!) = (6 × 5)/(2 × 1) = 15

Number of ways to choose any 2 balls from 12:

binom122 = (12!)/(2!(12-2)!) = (12 × 11)/(2 × 1) = 66

Probability of both balls being green: 15/66 = 5/22

The correct answer is option 4.

Q81. Answer: (a) Hanger

The logic followed here is:

Hanger	Not a tool
Spanner	Tool
Screwdriver	Tool
Drill	Tool

Spanner, Screwdriver, Drill all are Tools,

Whereas,

Hanger is not a tool.

Hence, the correct answer is "Hanger".

Q82. Answer: (a) Jan 1999

The correct answer is Jan 1999

Key Points

• January 1, 1999:

• The Euro was introduced as an official currency in 11 countries of the European Union (EU), but only for banking, financial markets, and electronic transactions.

• National currencies (like the Deutsche Mark, French Franc, and others) were still in circulation, but the Euro was used in financial markets and for official accounting purposes.

• January 1, 2002:

• Euro banknotes and coins were introduced for the first time, replacing the national currencies of 12 EU countries.

• From this date, the Euro became the everyday currency used for cash transactions across much of Europe.

• Initially, 11 EU countries adopted the Euro

• (Austria, Belgium, Finland, France, Germany, Ireland, Italy, Luxembourg, the Netherlands, Portugal, and Spain).

• Other countries have joined the Eurozone over the years, with 19 of the 27 EU member states currently using the Euro as their

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official currency.

Q83. Answer: (c) Sarat Chandra Chattopadhyay

The correct answer is Sarat Chandra Chattopadhyay

Key Points

• Devdas, a famous novel, was written by Sarat Chandra Chattopadhyay

• Sarat Chandra Chattopadhyay was an influential Bengali novelist and short story writer in the early 20th century.

• He is known for his portrayal of Indian society and the complexities of human relationships.

• The novel was first published in 1917 and tells the tragic love story of Devdas Mukherjee,

• who struggles with unrequited love for Paro and turns to alcoholism and despair

• "Devdas" has been adapted into several films, plays, and other media, making it one of the most enduring tales in Indian literature.

Additional Information

• Rabindranath Tagore:

• Notable Works:

• Gitanjali: A collection of poems that won Tagore the Nobel Prize in Literature in 1913, celebrated for its spiritual depth and lyrical beauty.

• The Home and the World (Ghare-Baire): A novel that explores the themes of nationalism, love, and the conflict between tradition and modernity.

• Chokher Bali: A novel that deals with complex relationships and societal norms in Bengali culture.

• Kabuliwala: A short story about the poignant friendship between a young girl and an Afghan merchant.

• Bankim Chandra Chattopadhyay:

• Notable Works:

• Anandamath: A historical novel set during the Sannyasi Rebellion, known for the famous song "Vande Mataram," which became a rallying cry during the Indian independence movement.

• Durgeshnandini: One of the first historical novels in Bengali literature, revolving around a tale of love and heroism set in a historical context.

• Kapalkundala: A romantic novel that combines elements of mysticism with a love story, showcasing the beauty of the rural landscape.

Q84. Answer: (b) 180 min

Given:

Distance covered by the train = 35 km

Time taken to cover 35 km = 60 minutes

Formula Used:

Time = (Distance / Speed)

Calculation:

Speed of the train = Distance / Time

Speed = 35 km / 60 min

Speed = 35 / 60 km/min

Speed = 7 / 12 km/min

Time to cover 105 km = Distance / Speed

Time = 105 km / (7 / 12) km/min

Time = 105 km × (12 / 7) min/km

Time = 105 × 12 / 7

Time = 180 minutes

The correct answer is option 2, 180 minutes.

Q85. Answer: (c) -36

Given:

Evaluate:

18[4 - 3{6 - (8 × 1/2)}]

Formula Used:

Order of operations (PEMDAS/BODMAS): Parentheses/Brackets, Exponents/Orders, Multiplication and Division (from left to right),

Addition and Subtraction (from left to right).

Calculation:

Start from the innermost parentheses and work outwards.

Innermost: (1)/(2) = 0.5

{8 × 0.5} = 4

{6 - 4} = 2

3 × 2 = 6

4 - 6 = -2

18 × (-2) = -36

The correct answer is option 3.

Q86. Answer: (b) 6

Given Equation: 3 P 2 M 3 S 6 D 2 = ?

BODMAS Rule:

Decoding the given information:

Symbol	P	S	M	D
Meaning	•	•	×	÷

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

=> 3 + 2 × 3 - 6 ÷ 2 = ?

=> 3 + 2 × 3 - 3 = ?

=> 3 + 6 - 3 = ?

=> 9 - 3 = 6.

Hence, the correct option is "Option 2".

Q87. Answer: (b) 4 + 6 ÷ 3 - 3 × 2 = 13

Option 1) 4 + 6 ÷ 3 - 3 × 2 = 11

After interchange the + with × and number 3 with 2:

=> 4 × 6 ÷ 2 - 2 + 3 = 11

=> 4 × 3 - 2 + 3 = 11

=> 12 - 2 + 3 = 11

=> 15 - 2= 11

=> 13 = 11

Option 2) 4 + 6 ÷ 3 - 3 × 2 = 13

After interchange the + with × and number 3 with 2:

=> 4 × 6 ÷ 2 - 2 + 3 = 13

=> 4 × 3 - 2 + 3 = 13

=> 12 - 2 + 3 = 13

=> 15 - 2 = 13

=> 13 = 13

Option 3) 4 + 6 ÷ 3 - 3 × 2 = 17

After interchange the + with × and number 3 with 2:

=> 4 × 6 ÷ 2 - 2 + 3 = 17

=> 4 × 3 - 2 + 3 = 17

=> 12 - 2 + 3 = 17

=> 15 - 2 = 17

=> 13 = 17

Option 4) 4 + 6 ÷ 3 - 3 × 2 = 12

After interchange the + with × and number 3 with 2:

=> 4 × 6 ÷ 2 - 2 + 3 = 12

=> 4 × 3 - 2 + 3 = 12

=> 12 - 2 + 3 = 12

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=> 15 - 2 = 12

=> 13 = 12

Hence, the correct answer is "Option 2".

Q88. Answer: (c) 2015

Given:

Year: 2015

Tickets booked = 2300

People traveled = 2250

Year: 2016

Tickets booked = 2500

People traveled = 2000

Year: 2017

Tickets booked = 3200

People traveled = 3100

Year: 2018

Tickets booked = 3600

People traveled = 3450

Calculations:

For 2015:

=> Percentage = (2250 × 100)/2300 = 97.83%

For 2016:

=> Percentage = (2000 × 100)/2500 = 80%

For 2017:

=> Percentage = (3100 × 100)/3200 = 96.87

For 2018:

=> Percentage = (3450 × 100)/3600 = 95.83

Therefore The maximum percentage of people who traveled compared to tickets booked was in the year 2015 with approximately 97.83%.

Q89. Answer: (a) 84%

Given:

Marks scored by Anil in:

Mathematics = 84

Physics = 89

Chemistry = 79

Formula used:

Aggregate Percentage = ((Total marks scored)/(Total maximum marks)) × 100

Calculation:

Total marks in the three subjects = 84 + 89 + 79 = 252

Maximum marks in each subject = 100

Total maximum marks = 3 × 100 = 300

=> Aggregate Percentage = (252/300) × 100 = 84%

Therefore Anil scored an aggregate of 84% in Physics, Chemistry, and Mathematics.

Q90. Answer: (d) There are cheap wrist watches also in the shop.

Given,

Statement:

Most of the wrist watches in this shop are expensive.

Conclusions:

I. All the wrist watches in the shop are expensive - False (Because the statement mentions "most" of the wrist watches are expensive, not all).

II. None of the wrist watches are cheap - False (The statement does not rule out the possibility of some wrist watches being

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cheap).

III. All the ladies wrist watches are expensive - False (The statement does not provide any information specifically about ladies wrist watches).

IV. There are cheap wrist watches also in the shop - True (Because, if most are expensive, it implies that there are also some that are not expensive).

So, Only conclusion IV follows.

Hence, the correct answer is "Option 4".

Q91. Answer: (d) Furniture

The logic followed here is:

Logic: Conversion of raw material into a finished product.

Here,

Cloth : Shirt → Cloth is a raw material used to make a Shirt.

Similarly,

Wood : Furniture → Wood is a raw material used to make Furniture.

Hence, the correct answer is "Option 4".

Q92. Answer: (d) 149

The logic followed here is:

Hence, the correct answer is "Option 4".

Q93. Answer: (c) Only conclusion 1 follows.

Given Statements:

1. Some students are dancers.

2. All dancers are musicians.

The least possible diagram:

Conclusions:

I. Some students are musicians. - True (Because, Some students are dancers and All dancers are musicians, so, Some students are musicians)

II. No dancer is a student. - False (Because, Some students are dancers, so, some dancer can be student but no dancer is a student.)

So, Only conclusion 1 follows.

Hence, the correct answer is "Option 3".

Q94. Answer: (b) 20

The logic followed here is:

Position of the student from the left = 9th

Position of the student from the right = 12th

Total number of students in the line = Position from the left + Position from the right - 1

= 9 + 12 - 1

= 21 - 1 = 20

Hence, the correct answer is Option 2.

Q95. Answer: (b) Neither assumption 1 nor 2 are implicit.

Given Statement: "In order to eradicate social evils, there is need to educate people."- A statement made by a Social Activist.

Now,

Assumptions:

1. Education will quickly eliminate all social evils - Not Implicit (The statement does not imply that education will quickly eliminate all social evils, only that it is necessary for their eradication.)

2. All uneducated people practice social evils - Not Implicit (The statement does not imply that all uneducated people practice social evils, only that education is needed to eradicate social evils.)

Here, Neither assumption 1 nor 2 are implicit.

Hence, the correct answer is "Option 2".

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Q96. Answer: (c) Referee

The logic followed here is:
Logic: Roles in Sports.
Here,
Cricket : Umpire → Umpire is an official who oversees the game in Cricket.
Similarly,
Volleyball : Referee → Referee is an official who oversees the game in Volleyball.
Hence, the correct answer is Option 3.

Q97. Answer: (c) Both conclusions 1 and 2 follow.

Given Statements:
1. All calendars are mice.
2. All mice are dogs.
The least possible diagram:
Conclusions:
I. All calendars are dogs. - True (Because, All calendars are mice and All mice are dogs, so, All calendars are dogs)
II. Some dogs are calendars. - True (Because, All calendars are mice and All mice are dogs, so, Some dogs are calendars)
So, Both conclusions 1 and 2 follow.
Hence, the correct answer is "Option 3".

Q98. Answer: (a) O, C

The logic followed here is:
Hence, the correct answer is "Option 1".

Q99. Answer: (a) Wife and Husband

Family Chart:
Given: R is the father of P and brother of K, whereas K is the daughter of D and sister-in-law of S. If S is the mother of P.
So, S and R are 'Wife and Husband'.
Hence, the correct answer is "Option 1".

Q100. Answer: (b) Great-grandson

Family Chart:
Given: If A is the father of B, who is the father of C, and D is the only son of C and C's wife F.
So, D is the "Great-grandson" of A.
Hence, the correct answer is "Option 2".

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