RRB NTPC CBT-I Official Paper (Held On: 29 Dec 2020 Shift 1) (Previous Year Paper)

RRB NTPC • 2020 • 100 questions • 90 minutes • Answer key and solutions

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Q1. Which of the following is a tiger reserve?

(a) Great Himalayan National park
(b) Gir Wildlife Sanctuary
(c) Jim Corbett National park
(d) Kedarnath Wildlife Sanctuary

Q2. Evaluate:

cos 20° cos 40° cos 80°

(a) 1/2
(b) 1/4
(c) 1/8
(d) 1/32

Q3. The side of an equilateral triangle ABC is 28 cm. Find the side of another equilateral PQR whose area is 16 times the area of triangle ABC.

(a) 122 cm
(b) 112 cm
(c) 56 cm
(d) 102 cm

Q4. One of the most important teachers of Chishti Silsila, Shaikh Moinuddin Chishti dargah is located at _____.

(a) Fatehpur Sikri
(b) Kashmir
(c) Ajmer
(d) Delhi

Q5. Which is not a web browser from the following?

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

Q6. If $x^3 + y^3 = 35$, $x + y = 5$, find the value of: x^4 + y^4

(a) 97
(b) 79
(c) 98
(d) 87

Q7. A sum of Rs. 5,000 was lent partly at 5% simple interest per annum and partly at 10% simple interest per annum. Total interest received after 5 years was Rs. 1,750. Find the amount of money that was lent out at 10% simple interet per annum.

(a) Rs. 2,500

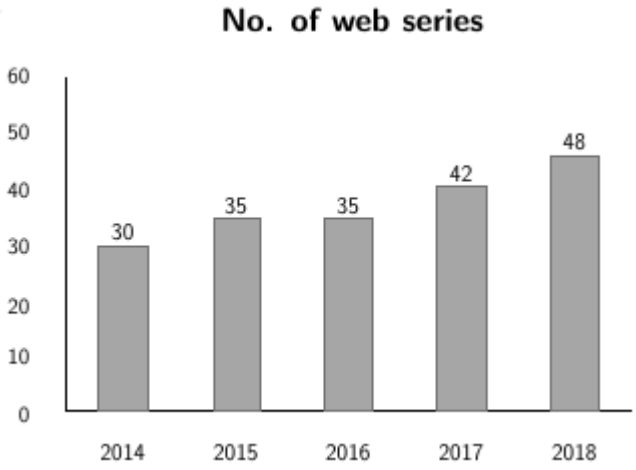
(b) Rs. 2,000
(c) Rs. 3,000
(d) Rs. 3,500

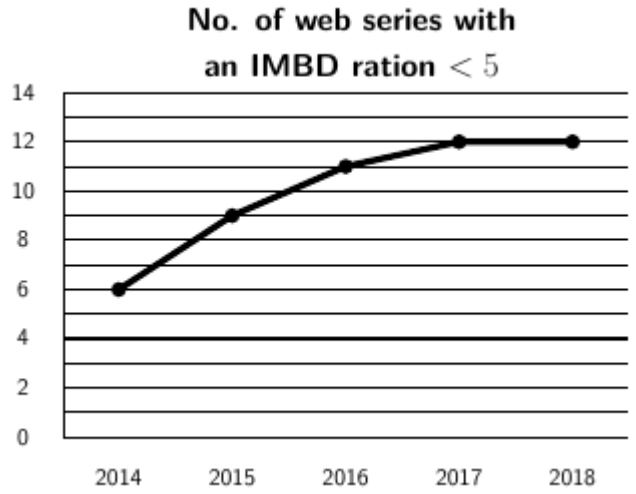
Q8. The exile of the ruler of which kingdom was termed as "The life has gone out of the body"?
(a) Punjab
(b) Maratha lands
(c) Bengal
(d) Awadh

Q9. What kind of a tax is GST?
(a) Value Added Tax
(b) Indirect Tax
(c) Direct Tax
(d) Income Tax

Q10. If the ratio of mean and median of a certain data is 4 : 5, then find the ratio of its mean and mode.
(a) 5 : 7
(b) 3 : 7
(c) 4 : 7
(d) 5 : 4

Q11. The following bar graph shows the number of web series released by a subscription service mobile application in various years from 2014-2018 and the line graph shows the number of web series with a rating of less than 5 stars. Find the approximate total percentage of web series with a rating 5 star and above from 2014 to 2018.





(a) 74
(b) 71

(c) 72
(d) 75

Q12. Find the sum of all the numbers between 100 to 200 which are divisible by 12.

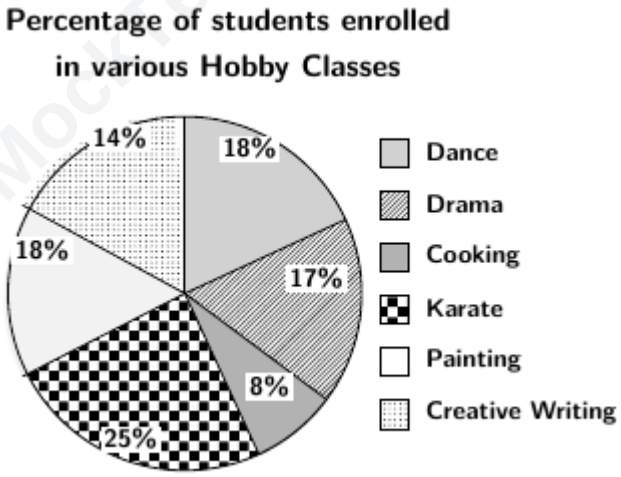
(a) 1200
(b) 1400
(c) 1600
(d) 1240

Q13. Select the option that will fill in the blank and complete the given series.

ABCD, ACEG, _____, AEIM.

(a) ADGJ
(b) AFJN
(c) ABEG
(d) ADIN

Q14. The following pie-chart shows the percentage of students of a metro city enrolled in various hobby classes during summer vacation in 2018. If the total number of students is 3500, find the total number of students enrolled in karate, cooking and creative writing.



(a) 1605
(b) 1645
(c) 1665
(d) 1650

Q15. Who was the inspiration behind Saansad Adarsh Gram Yojana?

(a) Jawaharlal Nehru
(b) Mahatma Gandhi
(c) Sardar Vallabh Bhai Patel
(d) Lal Bahadur Shastri

Q16. HTTP stands for _____

(a) Hyper Text Test Protocol
(b) Hyper Text Tool Protocol
(c) Hyper Text Transfer Protocol
(d) Hyper Test Transport Protocol

Q17. Who painted "In Memorium", a painting dedicated to the British ladies in India during the mutiny of 1857?

(a) Thomas Jones Barker
(b) Jon Tenniel
(c) Joseph Noel Paton
(d) Felice Beato

Q18. Simplify:

$24 + 7.2 \div 8 - 3 \times 2.3 + 5$

(a) 26
(b) 18
(c) 32
(d) 23

Q19. In an election between Rana and Ranvir, Rana got 40% of the votes and was defeated by 60,000 votes. Find the number of votes polled in favour of Ranvir.

(a) 1,20,000
(b) 1,60,000
(c) 1,70,000
(d) 1,80,000

Q20. The total cost of flooring a room at Rs. 12.50 per m^2 is Rs. 3 ,675. If the breadth and length are in the ratio 2 : 3, find its length.

(a) 18 m
(b) 15 m
(c) 14 m
(d) 21 m

Q21. The cost price of 8 tables is equal to the selling price of 5 tables. Find the percentage gain.

(a) 40%
(b) 60%
(c) 30%
(d) 45%

Q22. If $\sqrt{4624}=68$, then the value of:

$\sqrt{46.24}+\sqrt{0.4624}+\sqrt{0.004624}$

(a) 7.548
(b) 7.854
(c) 7.458
(d) 7.648

Q23. Name the female wrestler recommended by the Wrestling Federation of India for the prestigious 2020 Rajiv Gandhi Khel Ratna Award.

(a) Babita Kumari
(b) Vinesh Phogat
(c) Sakshi Malik
(d) Kavita Devi

Q24. Which of the following is the highest peak in India?

(a) Anamudi
(b) Mt. Everest
(c) Kamet
(d) Kanchanjunga

Q25. Name India's first Superfast train.

(a) Shatabdi
(b) Duronto
(c) Deccan Queen
(d) Rajdhani Express

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Q26. A train leaves Bangalore railway station at a speed of 80 km/hr for Mumbai. After 1 h another train leaves Bangalore railway station for Mumbai at a speed of 100 km/h. How many hours, will the second train take to meet the first train?

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

Q27. Ruhr region is the most important industrial region of _____.

(a) Germany
(b) Denmark
(c) Hungary
(d) France

Q28. What is the name of the book written by Ernest Mackay about archaeological excavations?

(a) Early Indus Civilisation
(b) Deeper Excavations at Mohenjo-daro
(c) Archaeology of Mohenjo-daro
(d) Further Excavations at Mohenjo-daro

Q29. Simplify:

186 - 7 × (63 - 39) + 25 ÷ 5

(a) 23
(b) 32
(c) 24
(d) 33

Q30. On which date is the Constitution Day of India celebrated?

(a) 26^(th)January
(b) 26^(th) November
(c) 15^(th) August
(d) 14^(th) April

Q31. Excessive curvature of eye lens leads to _____

(a) hypermetropia
(b) colour blindness
(c) cataract
(d) myopia

Q32. If 'a*b' means 'a is the brother of b', 'a#b' means 'a is the father of b' and 'a$b' means 'a is the wife of b', then which of the following relationships means 'r is the child of p'?

(a) p$q#r
(b) p#q$r
(c) p*q*r
(d) p*q#r

Q33. If '@' indicates either '+' or '×'; what will be the minimum value of '1@2@3@4@5'?

(Note: We have a choice to replace each of the four @ signs in the expression by either '+' or '×' operation)

(a) 12
(b) 13
(c) 14
(d) 15

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Q34. Bile is secreted by the _____.

(a) pancreas
(b) gall bladder
(c) stomach
(d) liver

Q35. Select the letter-cluster from among the given options that can replace the question mark (?) in the following series.

KABL, MCDN, OEFP, QGHR, ?

(a) UQRV
(b) YBAZ
(c) SIJT
(d) WSTX

Q36. A 2 m deep and 21 m wide river is flowing at the rate of 5 km/h. How many kilolitres of water will fall into the sea in 10 min?

(a) 3500 kl
(b) 35000 kl
(c) 33000 kl
(d) 350 kl

Q37. Select the option that is related to the fourth term in the same way as the first term is related to the second term.

Sun : Earth :: _____ : Moon

(a) Earth
(b) Star
(c) Meteoroid
(d) Comet

Q38. 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 chocolates are candies.
2. All candies are toffees.

Conclusions:

1. All chocolates are toffees.
2. All toffees are chocolates.

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

Q39. In the Indian Constitution, from which country were the concepts of liberty, equality and fraternity adopted?

(a) Japan
(b) France
(c) USSR
(d) Britain

Q40. Who has been appointed as the Governor of the state of Telangana in Sept, 2019?

(a) Jagdish Mukhi
(b) Lalji Tandon
(c) OP Kohli
(d) Tamilisai Soundararajan

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Q41. Thumba was chosen as the ideal site for rocket launch due to the presence of _____

(a) Equatorial electrojets
(b) Geomagnetic jets
(c) Electro magna jets
(d) Magna jets

Q42. Which African country launched the first Malaria vaccine to immunize children on the occasion of World Malaria Day?

(a) Malawi
(b) Nairobi
(c) Ghana
(d) Kenya

Q43. Four pairs of numbers have been given, out of which three are alike in some manner and one is different. Select the pair that is different from the rest.

(a) 34, 3
(b) 54, 5
(c) 24, 2
(d) 66, 6

Q44. Which country has the most successful cooperative farming?

(a) Finland
(b) Norway
(c) Sweden
(d) Denmark

Q45. Simplify:

62÷ 5 - (8/9× 18/7)× 7/5+5/4× 16/25

(a) 12
(b) 5
(c) 15
(d) 10

Q46. If $1^2 + 2^2 + 3^2 + ... + 14^2 = 1015$, then $3^2 + 6^2 + 9^2 + ... + 42^2$ is equal to

(a) 9135
(b) 9325
(c) 9315
(d) 9235

Q47. Which launch vehicle was used to launch Chandrayaan-2?

(a) ASLV
(b) GSLV MK-III-M1
(c) GSLV MK-II
(d) PSLV-C46

Q48. Seven chocolates A, B, C, D, E, F and G are bought at different costs between Rs. 40 and Rs. 50 (excluding 40 and 50) but not necessarily in the same order. The cost of chocolate C is five less than that of chocolate E. The cost of the chocolate A is a prime number. The cost of chocolate F is two more than that of chocolate A. The cost of chocolate F is more than that of chocolate E. The cost of chocolate D is an odd number. The cost of chocolate G is three more than the cost of chocolate D. None of the chocolates costs Rs. 44. The cost of chocolate B is an even number. Which is the following chocolates is costlier than E?

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

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Q49. Who formed the Indian National Congress?

(a) W. C. Banerjee
(b) A. O. Hume
(c) Pherozeshah Mehta
(d) Dadabhai Naoroji

Q50. The mean of 150 items was found to be 45. If at the time of calculation, two items were wrongly taken as 83 and 76 instead of 38 and 46, then the correct mean is:

(a) 44.5
(b) 44
(c) 43.5
(d) 43

Q51. A sum of money amounts to Rs. 12,100 in 2 years and Rs. 13,310 in 3 years, when compounded annually. Find the rate of interest.

(a) 12%
(b) 9%
(c) 10%
(d) 8%

Q52. Ram is the brother of Shyam and Mahesh is the father of Ram. Jagat is the brother of Priya and Priya is the daughter of Shyam. How is Mahesh related to Jagat?

(a) Uncle
(b) Grandfather
(c) Father
(d) Brother

Q53. In an examination, 55% candidates passed in English, 35% candidates passed In mathematics and 20% candidates passed in both the subjects. If the total number of failed candidates in both the subjects is 1200, then find how many candidates took the exam.

(a) 4000
(b) 3000
(c) 1200
(d) 2800

Q54. Which country leads in the Human Development Index report, 2019?

(a) Switzerland
(b) Norway
(c) Australia
(d) Singapore

Q55. Which is India's first super computer?

(a) Param Yuva
(b) Param 8000
(c) Param Biochrome
(d) Param Padma

Q56. When was the Sanchi Stupa declared a world heritage site by UNESCO?

(a) 1988
(b) 1990
(c) 1989
(d) 1987

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Q57. As of Nov 2020, who is the Secretary General of the United Nations?

(a) Antonio Guterres
(b) Maria Fernanda Espinosa Garces
(c) Kofi Annan
(d) Ban ki-Moon

Q58. Which of the following Viceroy of India did take the initiative to create elected local government bodies?

(a) Lord Rippon
(b) Lord Irwin
(c) Lord Wavell
(d) Lord Reading

Q59. There are five people A, B, C, D and E at a party, among whom there are two couples. They are employed as a teacher, a doctor, a lawyer, an accountant and an engineer, though not in the same order. The engineer is married to the teacher and C is the unmarried lawyer. D is an accountant. Teacher B is a female whose female friend is the accountant. Find which of the following could be true.

(a) D is a male
(b) E is a teacher.
(c) B is a doctor.
(d) A is an engineer.

Q60. Robert Hooke discovered _____

(a) Protoplasm
(b) Nucleus
(c) Cell
(d) Atom

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

Cat : Feline :: Dog : ?

(a) Ursine
(b) Equine
(c) Bovine
(d) Canine

Q62. In Aug 2020, who was selected as the next Chairman of Steel Authority of India Limited?

(a) Sunil Kumar
(b) Dr. G. Vishwakarma
(c) Saraswati Prasad
(d) Soma Mondal

Q63. The train fare, bus fare and air fare between 2 places are in the ratio 5 : 8 : 12, the number of passenger travelled by them is in the ratio 3 : 4 : 5 and the total fare collected on a particular day for these modes of transportation for a single trip is Rs. 1,07,000. Find the fare collected from the air passengers.

(a) Rs. 60,000
(b) Rs. 70,000
(c) Rs. 80,000
(d) Rs. 65,000

Q64. To create Scientific temperament, innovation amongst the Indian students, Central Government started an ATL lab. What is the full form of ATL?

(a) Applied Techno Lab
(b) Atal Tinkering Lab
(c) Alternate Technique Lab
(d) Atal Technology Lab

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Q65. Find the value of:

√150-√54-√24

(a) 75
(b) 1
(c) 0
(d) 72

Q66. Choose the word-pair that is different from the other three.

(a) Melancholy : Gloomy
(b) Negligent : Attentive
(c) Dynamic : Robust
(d) Lethargic : Laid back

Q67. With the abdication of the throne by the Japanese Emperor, Akihito, the new Imperial era in Japan is known as _____.

(a) Reiwa
(b) Edo
(c) Heisei
(d) Showa

Q68. From the top of a cliff 25 m high, the angle of elevation of the top of a tower is found to be equal to the angle of depression of the foot of the tower. Find the height of the tower.

(a) 60 m
(b) 30 m
(c) 50 m
(d) 40 m

Q69. Which of the following is an example of Footloose industry?

(a) Jute
(b) Computer chip
(c) Sugar
(d) Tea

Q70. A, B and C can complete a job in 40 days, 60 days and 80 days respectively. All the three worked together but A left 11 days and B left 8 days before the completion of work. In how many days, the entire work will be completed?

(a) 24 days
(b) 26 days
(c) 30 days
(d) 28 days

Q71. People with which of the following blood groups are considered as the universal recipient?

(a) O+
(b) A+
(c) AB+
(d) B+

Q72. Chemical formula for Lime water is _____

(a) Ca(OH)2
(b) CaCl2
(c) CaCO3
(d) CaOH

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Q73. 6889 students are sitting in an auditorium in such a manner that there are as many students in a row as there are rows in the auditorium. How many rows are there in the auditorium?

(a) 87
(b) 73
(c) 83
(d) 77

Q74. A, B and C can complete a job in 5 days. B, C and D can complete the same job in 10 days. C, D and A can complete the same job in 15 days and D, A and B can complete the same job in 30 days. How long A, B, C and D together will take to finish the job?

(a) 7 days
(b) 71/2 days
(c) 8 days
(d) 81/2 days

Q75. If $2x + 5y = 12$, $xy = 2$, find the value of: $8x^3 + 125y^3$

(a) 1008
(b) 1208
(c) 1028
(d) 1018

Q76. The sum of and the difference between the LCM and HCF of two numbers are 369 and 351 respectively. If one number is 72, find the other number.

(a) 45
(b) 90
(c) 85
(d) 75

Q77. ABCD is a square. X is the mid-point of AB. Y is a point on BC such that BY=1/3BC.. If the area of ΔBXY is equal to 300 cm^2, find length of diagonal AC.

(a) 50 cm
(b) 60 cm
(c) $50\sqrt{2}$ cm
(d) $60\sqrt{2}$ cm

Q78. Find the sum of the greatest 3-digit number and the smallest 4 digit number that have 24 as their HCF.

(a) 1998
(b) 1892
(c) 1996
(d) 1992

Q79. Which famous author used the pen name Madhavikutty?

(a) Nayantara Sehgal
(b) Toru Dutt
(c) Kamala Das
(d) Balamani Amma

Q80. Bella is taller than Shubham. Umesh is taller than Shubham but shorter than Bella. Salman is shorter than Rahul and Shubham. Shubham is taller than Rahul. Who is the shortest in the group?

(a) Salman
(b) Bella
(c) Rahul
(d) Umesh

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Q81. What is the name of the Societal movement launched by the Union Minister of Environment, forest and climate change?

(a) Great Clean Deeds
(b) Great Green Deeds
(c) Green & Clean Deeds
(d) Green Good Deeds

Q82. If A : B = 15 : 16, B : C = 8 : 25, C : D = 20 : 9, then find A : D.

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

Q83. What is the name of the skill development programme of the Government of India?

(a) Pradhan Mantri Kaushal Vikas Yojana
(b) National Skill Development Corporation
(c) Atal Kaushal Vikas Yojana
(d) Mahatma Gandhi Kaushal Yojana

Q84. Which session of the congress gave a call to the attainment of 'Swaraj'?

(a) 1909
(b) 1906
(c) 1904
(d) 1902

Q85. The focus of World Environment Day, 2018 was on _____

(a) Air Pollution
(b) Water Pollution
(c) Soil Pollution
(d) Plastic Pollution

Q86. 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 dolls are plants.
2. Some plants are books.

Conclusions:

1. Some dolls are books.
2. No book is a plant.

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

Q87. If 'p + q' implies 'p - q', 'p - q' implies 'p × q', 'p × q' implies 'p ÷ q' and 'p ÷ q' implies 'p + q', then find the value of 25 + 48 × 6 ÷ 12 - 2.

(a) 41
(b) 39
(c) 52
(d) 17

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Q88. Select the number from among the given options that can replace the question mark (?) in the following series.

48, 32, 16, ?

(a) 13
(b) 0
(c) -9
(d) 12

Q89. Select the ordered pair of statements which are logically consistent with the main statement.

Main Statement:

Whenever Sakshi hears it's someone's birthday, she orders a cake.

A. Sakshi heard of someone's birthday.

B. Sakshi did not hear of someone's birthday.

C. Sakshi ordered a cake.

D. Sakshi did not ordered a cake.

(a) DB
(b) BD
(c) AB
(d) CA

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

3, 16, 125, ?

(a) 1008
(b) 4096
(c) 4008
(d) 1296

Q91. You are given a question and two statements. Identify which of the statements is/are sufficient to answer the question.

Question:

When is Yuvi's wedding anniversary?

Statements:

1: On the 7^(th) day of a month.

2. The month has 29 days only in a leap year.

(a) Only statement 1 is sufficient but statement 2 is not sufficient.
(b) Both statement 1 and statement 2 are sufficient independently.
(c) Only statement 2 is sufficient but statement 1 is not sufficient.
(d) Both statement 1 and statement 2 are sufficient together.

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

Statement:

In a T-20 cricket match, total wickets taken by a team were 9. Out of these, 6 wickets were taken by spinners.

Conclusion:

A: 80% of the bowlers in the team were spinners.

B. The opening bowlers of the team were spinners.

(a) Both conclusion A and conclusion B follow.
(b) Neither conclusion A nor conclusion B follows.
(c) Only conclusion A follows.
(d) Only conclusion B follows.

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Q93. You are given 3 sets of arguments, each containing three sentences. Select the set(s) in which the third statement is a logical conclusion of the first two statements.

A. (i) All shops are showrooms.

(ii) No showroom is a mall.

(iii) All shops are not malls.

B (i) No Japanese can dance.

(ii) All Americans are books.

(iii) Americans and Japanese can dance.

C. (i) No P is Q.

(ii) No Q is R.

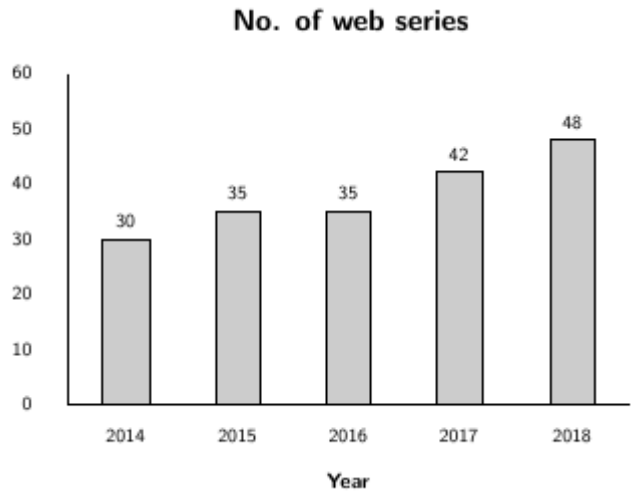
(iii) No P is R.

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

Q94. Two college friends A and B who met after a couple of years had a doubt about the birthday of their common friend C. According to A, C's birthday is after 12^(th) March but before 15^(th) March. But B remembered that C's birthday is after 13^(th) March but before 17^(th) March. Assuming both of them to be correct, on which date is C's birthday?

(a) 16^(th) March
(b) 15^(th) March
(c) 14^(th) March
(d) 13^(th) March

Q95. The following bar graph shows the number of web series released by a subscription service mobile application in various years from 2014-2018. What is the average number of web series released by the subscription service mobile application from 2015 to 2018?



(a) 39
(b) 38
(c) 41
(d) 40

Q96. Out of the four words which are related to books listed below, three are alike in some manner and one is different. Select the odd one.

(a) Foreword
(b) Index
(c) Preface
(d) Edition

Q97. In a certain code language, 'get up and go' is written as 'fa ka la ju', 'jump up and dance' is written as 'lu la hu fa', 'go there jump here' is written as 'na lu fu ka' and 'and there you come' is written as 'na tu ya la'. How will 'get up go there' be written as in that language?

(a) fu ya ka na
(b) fa ju la ka
(c) fa ya ka na
(d) fa ju ka na

Q98. Select the number cluster from among the given options that can replace the question mark (?) in the following series.

2-4-6-8; 3-6-9-12; 4-8-12-16; ?

(a) 5-8-11-15
(b) 5-7-9-11
(c) 5-10-15-20
(d) 5-6-7-8

Q99. The following table shows the cost price of five different goods and their selling prices by two different shopkeepers. Identify the shopkeeper who made more profit (in total) and his/her percentage profit.

Goods	Cost Price	Selling price by Shopkeeper X	Selling price by Shopkeeper Y
A	173	180	175
B	219	220	225
C	350	360	357
D	481	490	500
E	227	250	235

(a) Shopkeeper Y, 2.90%
(b) Shopkeeper X, 2.90%
(c) Shopkeeper Y, 3.45%
(d) Shopkeeper X, 3.45%

Q100. Identify the number from among the given options that does NOT belong to the following series.

243, 280, 172, 230, 92, 41, 14

(a) 41
(b) 14
(c) 280
(d) 230

ANSWER KEY

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

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91 d	92 b	93 d	94 c	95 d	96 d	97 d	98 c	99 d	100 a

SOLUTIONS

Q1. Answer: (c) Jim Corbett National park

The correct answer is Jim Corbett National Park.

Key Points

• Jim Corbett National Park is a tiger reserve.

• Jim Corbett National Park is the oldest national park in India and was established in 1936 as Hailey National Park to protect the endangered Bengal tiger.

• Jim Corbett National Park is in the Nainital district of Uttarakhand state.

Additional Information

• About Uttrakhand:

• State Animal - Alpine musk deer.

• State Bird - Himalayan monal.

• Total districts - 13

• National Parks - Gangotri National Park, Rajaji National Park, Gangotri National Park, Nanda Devi National Park, etc.

Q2. Answer: (c) 1/8

Formula:

$\cos3A = 4\cos^3A - 3\cos A$

$\cos(A + B).\cos(A - B) = \cos2A - \sin2B$

Calculation:

$\Rightarrow ? = \cos 20° \cos 40° \cos 80°$

$\Rightarrow ? = \cos 20° [\cos(60° - 20°) \cos(60° + 20°)]$

$\Rightarrow ? = \cos 20° [\cos^2 60° - \sin^2 20°]$

$\Rightarrow ? = \cos 20° [1/4 - (1 - \cos^2 20°)]$

$\Rightarrow ? = 1/4 \times \cos20° - \cos20° + \cos^3 20°$

$\Rightarrow ? = \cos^3 20° - 3/4 \times \cos20°$

$\Rightarrow ? = 1/4(4\cos^3 20° - 3\cos20°)$

$\Rightarrow ? = 1/4 \times \cos (3 \times 20°)$

$\Rightarrow ? = 1/4 \times 1/2$

$\Rightarrow ? = 1/8$

Therefore $\cos 20° \cos 40° \cos 80° = 1/8$

Shortcut Trick If the expression is in the form of $\cos\theta \times \cos(60 + \theta) \times \cos(60 - \theta) = 1/4 \cos3\theta$.

$\cos20° \cos40° \cos80° = 1/4 \cos60°$

$\Rightarrow 1/4 \times 1/2 = 1/8$

Therefore $\cos 20° \cos 40° \cos 80° = 1/8$.

Q3. Answer: (b) 112 cm

Given:

side of equilateral triangle ABC = 28cm

Formula:

Area of an equilateral triangle = $\sqrt{3}/4 \times \text{side}^2$

Calculation:

Area of equilateral triangle ABC with side 28cm = $\sqrt{3}/4 \times 28^2 = 196\sqrt{3}$ sq.cm

Area of equilateral triangle PQR = $16 \times 196\sqrt{3}$ sq.cm

Then,

$\Rightarrow 16 \times 196\sqrt{3} = \sqrt{3}/4 \times (\text{side of triangle PQR})^2$

Therefore Side of an equilateral triangle PQR = 112 cm

Alternate MethodTwo equilateral triangles are always similar.

Area of ΔABC/Area of ΔPQR = (Side of ABC/Side of PQR)^2

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=> 1/16 = $(28/x)^2$

=> 28/x = 1/4

=> x = 112 cm

Therefore Side of an equilateral triangle PQR = 112 cm

Q4. Answer: (c) Ajmer

The correct answer is Ajmer.

Key Points

• One of the most important teachers of Chishti Silsila, Shaikh Moinuddin Chishti dargah is located at Ajmer.

• Moinuddin Hasan Chishti was born in Sijistan in Iran in 1141-42 CE.

• After Muizuddin Muhammad bin Sam of Ghor had already defeated Prithviraj Chauhan in the Second Battle of Tarain (1192) and established his rule in Delhi, Khwaja Moinuddin Chishti started living and preaching in Ajmer.

Image:

Additional Information

• The First Battle of Tarain, fought in 1191, was a decisive victory for Prithviraj Chauhan, the Rajput ruler of Delhi and Ajmer, over the invading forces of Muhammad of Ghor (Muhammad Ghori)

• The third Battle of Tarain was fought in 1216 between Iltutmish and Tajuddin.

Q5. Answer: (d) Google

The correct answer is Google.

Key Points

• Google is not a web browser.

• Google, is a search engine provided by Google.

• It is also the most-visited website in the world.

• The order of search results returned by Google is based, in part, on a priority rank system called "PageRank".

Additional Information

• Safari is a graphical web browser developed by Apple Inc.

• Opera is a multi-platform web browser developed by Opera Software.

• Mozilla Firefox is a free and open-source web browser developed by the Mozilla Foundation and its subsidiary, the Mozilla Corporation.

Q6. Answer: (a) 97

Given:

$x^3 + y^3 = 35$ and $x + y = 5$

Formula:

$x^3 + y^3 = (x + y)^3 - 3xy(x + y)$

$x^2 + y^2 = (x + y)^2 - 2xy$

Calculation:

Solving,

=> $35 = 5^3 - 3xy(5)$

=> $xy = 6$

Then,

=> $(x^2 + y^2) = 5^2 - 2 \times 6 = 13$

Then,

=> ? = x^4 + y^4

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

=> ? = $(x^2 + y^2)^2 - 2x^2y^2$

=> ? = $13^2 - 2(6)^2$

=> ? = 97

Therefore x^4 + y^4= 97

Q7. Answer: (b) Rs. 2,000

Given:

Total interest received after 5 years = Rs.1750

Formula:

Let P = Principal, R = rate of interest and N = time period

Simple interest = PNR/100

Calculation:

Let amount lent out at 10% simple interest be Rs.a.

Amount lent out at 5% simple interest = Rs(5000 - a)

=> 1750 = (a × 10 × 5)/100 + [(5000 - a) × 5 × 5/100]

=> 1750 × 100/5 = 10a + 25000 - 5a

=> 5a = 10000

=> a = 2000

Therefore Amount lent out at 10% simple interest is Rs.2000.

Q8. Answer: (d) Awadh

The correct answer is Awadh.

Key Points

• The exile of the ruler of Awadh kingdom was termed as "The life has gone out of the body".

• Awadh, known in British historical texts as Avadh or Oudh.

• Awadh is a region of Uttar Pradesh

• The traditional capital of Awadh was Lucknow, also the station of the British Resident, which now is the capital of Uttar Pradesh.

Important Points Why it was termed as "The life has gone out of the body"?

• Awadh was annexed by the British on the plea that the region was being misgoverned

• The British thought that the Nawab was not popular but on the contrary, he was very popular.

• People considered it as “the life has gone out of the body”.

• The removal led to an emotional upheaval among the people of Awadh.

Q9. Answer: (b) Indirect Tax

The correct answer is Indirect Tax.

Key Points

• Goods and Services Tax (GST) is an indirect tax (or consumption tax) used in India on the supply of goods and services.

• It is a comprehensive, multistage, destination-based tax: comprehensive because it has subsumed almost all the indirect taxes except a few state taxes.

• Multi-staged as it is imposed at every step in the production process but is meant to be refunded to all parties in the various stages of production other than the final consumer and as a destination-based tax.

• It is collected from point of consumption.

Important Points

• About GST:

• The tax came into effect on 1 July 2017.

• It is One Hundred and the first Amendment of the Constitution of India.

Q10. Answer: (c) 4 : 7

Given:

Mean : median = 4 : 5

Formula:

mode = 3median - 2mean

Calculation:

Let mean and median be 4a and 5a respectively.

Mode = 3 × 5a - 2 × 4a = 7a

Therefore Mean : Mode = 4a : 7a = 4 : 7

Q11. Answer: (a) 74

Calculation:

From graph,

Total number of web series from 2014 - 2018 = 30 + 35 + 35 + 42 + 48 = 190

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Total number of web series with IMBD rating < 5 from 2014 - 2018 = 6 + 9 + 11 + 12 + 12 = 50

Total number of web series with IMBD rating 5 star and above from 2014 - 2018 = 190 - 50 = 140

Therefore Required percentage = 140/190 × 100 = 73.68% ≈ 74%

Q12. Answer: (a) 1200

Given:

Range = 100 - 200

Formula:

a = first term, d = common difference and n = number of terms

=> Sn = n/2 × [2a + (n - 1)d]

=> Tn = a + (n - 1)d

Calculation:

Smaller term between 100 - 200 divisible by 12 = a = 108

=> d = 12

Larger term between 100 - 200 divisible by 12 = Tn = 192

=> 192 = 108 + (n - 1)12

=> n = 8

There are 8 terms between 100 to 200 which are divisible by 12.

Sum of such 8 terms = S8 = 8/2 × [2 × 108 + (8 - 1) × 12] = 1200

Therefore The Sum of numbers between 100 to 200 which are divisible by 12 is 1200.

Hint

Sum of terms = Sn = (a + Tn) × n/2

Here,

a = 108 and Tn = 192, n = 8

Sn = (108 + 192) × 8/2 = 1200

Q13. Answer: (a) ADGJ

The pattern followed here is:

According to the alphabetical positions of the letters,

Hence, ‘ADGJ’ is the correct answer.

Q14. Answer: (b) 1645

Given:

Percentage number of students enrolled in Karate = 25%

Percentage number of students enrolled in Cooking = 8%

Percentage number of students enrolled in creative writing = 14%

Total percentage number of students enrolled in Karate, Cooking and creative writing = 25 + 8 + 14 = 47%

Therefore Total number of students enrolled in Karate, Cooking, and Creative writing = 47/100 × 3500 = 1645

Q15. Answer: (b) Mahatma Gandhi

The correct answer is Mahatma Gandhi.

Key Points

• Mahatma Gandhi is the inspiration behind Saansad Adarsh Gram Yojana.

• Saansad Adarsh Gram Yojana is a rural development program broadly focusing upon the development in the villages which includes social development, cultural development, and spread motivation among the people on social mobilization of the village community.

• The program was launched by the Prime Minister of India, Narendra Modi on the birth anniversary of Jayaprakash Narayan, on 11 October 2014.

Additional Information

• About Mahatma Gandhi:

• Born - 2 October 1869, Porbandar.

• Full name - Mohandas Karamchand Gandhi.

• Assassinated - 30 January 1948, New Delhi.

• Notable work - The Story of My Experiments with Truth.

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Q16. Answer: (c) Hyper Text Transfer Protocol

The correct answer is HyperText Transfer Protocol.

Key Points

• HTTP stands for HyperText Transfer Protocol.

• The Hypertext Transfer Protocol (HTTP) is an application layer protocol in the Internet protocol suite model for distributed, collaborative, hypermedia information systems.

• HTTP is the foundation of data communication for the World Wide Web, where hypertext documents include hyperlinks to other resources that the user can easily access, for example by a mouse click or by tapping the screen in a web browser.

Important Points

• Some important protocols:

• SMTP - Simple Mail Transfer Protocol.

• FTP - File Transfer Protocol.

• TCP - Transmission Control Protocol

• UDP - User Datagram Protocol

• OSI - Open Systems Interconnection.

Q17. Answer: (c) Joseph Noel Paton

The correct answer is Joseph Noel Paton.

Key Points

• Joseph Noel Paton painted "In Memorium", a painting dedicated to the British ladies in India during the mutiny of 1857.

• Sir Joseph Noel Paton FRSA was a Scottish artist, illustrator, and sculptor.

• He was also a poet and had an interest in, and knowledge of, Scottish folklore and Celtic legends.

Additional Information

• Some other important works of Joseph Noel Paton:

• Hesperus (1857)

• Home (1855–56)

• How an Angel Rowed Sir Galahad Across the Dern Mere (1888)

• Oberon and the Mermaid (1888)

Q18. Answer: (d) 23

Given:

? = 24 + 7.2 ÷ 8 - 3 × 2.3 + 5

Concept:

Follow BODMAS rule to solve this question, as per the order given below:

=> ? = 24 + 7.2 ÷ 8 - 3 × 2.3 + 5

=> ? = 24 + 0.9 - 3 × 2.3 + 5

=> ? = 24 + 0.9 - 6.9 + 5

=> ? = 29.9 - 6.9

=> ? = 23

Therefore 24 + 7.2 ÷ 8 - 3 × 2.3 + 5 = 23

Q19. Answer: (d) 1,80,000

Given:

Rana got 40% of the votes.

Number of votes Rana defeated = 60000

Calculation:

The total number of votes in the election be n.

Ranvir got number of votes = 60n/100 = 3n/5

Rana got number of votes = 40n/100 = 2n/5

Then,

=> 3n/5 - 2n/5 = 60000

=> n = 300000

Total number of votes polled in election = 300000

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Therefore Total number of votes polled in election in favour of Ranvir = 3n/5 = (3/5)× 300000 = 180000

Q20. Answer: (d) 21 m

Given:

Length and breadth ratio = 3 : 2

Cost of flooring = 12.50 per sq.m

Formula:

Area of rectangle = length × breadth

Calculation:

Area of flooring = 3675/12.50 = 294 sq.cm

Let length and breadth of flooring 3a and 2a in meters respectively.

=> 294 = 3a × 2a

=> a = 7

Therefore Length of flooring = 7 × 3 = 21m

Q21. Answer: (b) 60%

Given:

CP of 8 tablets = SP of 5 tablets

Formula:

Profit = SP - CP

Profit % = (SP - CP)/CP × 100

Calculation:

Let CP of one tablet be Rs.100.

CP of 8 tablets = Rs.800 = SP of 5 tablets

SP of one tablet = 800/5 = Rs.160

Therefore Profit percentage = [(160 - 100)/100]× 100 = 60%

Shortcut TrickCP of 8 tablets = SP of 5 tablets

=> CP/SP = 5/8

SP > CP

Profit % = [(8 - 5)/5]× 100

=> 60%

Therefore The percentage gain is 60%.

Q22. Answer: (a) 7.548

Given:

√4624 = 68

Calculation:

=> ? = √46.24+√0.4624+√0.004624

=> ? = √(4624 × 10^(-2)) + √(4624 × 10^(-4)) + √(4624 × 10^(-6))

=> 68/10 + 68/100 + 68/1000

=> ? = 6.8 + 0.68 + 0.068

Therefore ? = 7.548

Q23. Answer: (b) Vinesh Phogat

The correct answer is Vinesh Phogat.

Key Points

• Vinesh Phogat was recommended by the Wrestling Federation of India for the prestigious 2020 Rajiv Gandhi Khel Ratna Award.

• Vinesh Phogat is an Indian wrestler.

• She became the first Indian woman wrestler to win gold in both Commonwealth and Asian Games.

Important Points

• About Rajiv Gandhi Khel Ratna Award:

• The award from 1991-2021 was named after Rajiv Gandhi.

• It was renamed as Major Dhyan Chand Khel Ratna Award in 2021.

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• Rani Rampal was the first Indian female Hockey to receive the Rajiv Gandhi Khel Ratna award.
• About Wrestling Federation of India:
• Headquarters - New Delhi.
• Affiliated to - United World Wrestling (UWW).
• Secretary - V.N. Prasood.

Q24. Answer: (d) Kanchanjunga

The correct answer is Kanchanjunga.

Key Points

• Kanchanjunga is the highest peak in India.
• It is the third highest mountain in the world.
• It rises with an elevation of 8,586 m in a section of the Himalayas called Kangchenjunga Himal delimited in the west by the Tamur River, in the north by the Lhonak the Chu and Jongsang La, and in the east by the Teesta River.

Important Points

• Some highest peaks of the Indian mountain range:
• Aravali Hills - Guru Shikhar.
• Satpura Range - Dhupgarh.
• The Western Ghats - Anamudi.
• The Eastern Ghats - Mahendragiri

Q25. Answer: (c) Deccan Queen

The correct answer is Deccan Queen.

Key Points

• Deccan Queen was India's first Superfast train.
• The Deccan Queen is a daily Indian passenger train service operated by the Central Railway zone of the Indian Railways connecting the cities of Mumbai and Pune.
• Introduced on June 1, 1930, the Deccan Queen was India's "first superfast train, first long-distance electric-hauled train, first vestibuled train, the first train to have a 'women-only car, and the first train to feature a dining car".

Additional Information

• About Indian Railways:
• Started in 1853.
• Zones - 18
• Headquarters - New Delhi.
• India's Railway network is the fourth largest network in the world.

Q26. Answer: (c) 4 h

Given:

Speed of train leaves from Bangalore = 80kmph

Speed of train leaves from Bangalore after 1 hour = 100kmph

Formula:

Speed = distance/time

Calculation:

Both trains meet after n hours after second train leaves.

Distance is same.

=> 100n = (n + 1)80

=> 100n = 80n + 80

=> n = 4

Therefore After 4 hours, second train will meet first train.

Q27. Answer: (a) Germany

The correct answer is Germany.

Key Points

• Ruhr region is the most important industrial region of Germany.
• The Ruhr also referred to as Ruhr area, Ruhr district, Ruhr region, or Ruhr valley, is a polycentric urban area in North

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Rhine-Westphalia, Germany.

• The Ruhr area has no administrative center; each city in the area has its own administration.

Additional Information

• About Germany:

• Capital - Berlin.

• Currency - Euro.

• National Sport - Football.

• National Animal - Federal Eagle.

Q28. Answer: (d) Further Excavations at Mohenjo-daro

The correct answer is Further Excavations at Mohenjo-Daro.

Key Points

• 'Further Excavations at Mohenjo-Daro's is the name of the book written by Ernest Mackay about archaeological excavations.

• This book was originally published in 1934.

• Other books are written by Ernest Mackay:

• Chanhu-Daro excavation.

• Indus Civilisation.

• The city of Shepherd Kings and Ancient Gaza V.

• Further Excavations At Mohenjo-Daro.

Additional Information

• Some features of Mohenjo-Daro:

• Mohenjo-Daro was the largest site of the Indus Valley Civilization.

• Mohenjo-Daro was the world's earliest major urban settlement.

• Evidence of 'The great bath'.

Q29. Answer: (a) 23

Given:

186 - 7 × (63 - 39) + 25 ÷ 5

Concept:

Follow BODMAS rule to solve this question, as per the order given below:

Calculation:

=> 186 - 7 × (63 - 39) + 25 ÷ 5

=> 186 - 7 × 24 + 25 ÷ 5

=> 186 - 7 × 24 + 5

=> 186 - 168 + 5

=> 23

Therefore 186 - 7 × (63 - 39) + 25 ÷ 5 = 23

Q30. Answer: (b) 26^(th) November

The correct answer is 26^(th) November.

Key Points

• The Consitution Day of India is celebrated on 26^(th) November.

• Constitution Day (or Samvidhan Divas), also known as National Law Day, is celebrated in India on 26 November every year to commemorate the adoption of the Constitution of India.

• On 26 November 1949, the Constituent Assembly of India adopted the Constitution of India, and it came into effect on 26 January 1950.

• The Government of India declared 26 November as Constitution Day on 19 November 2015 by a gazette notification.

Additional Information

• Republic Day of India is celebrated on 26th January every year.

• Independence Day of India is celebrated on 15th August.

• Ambedkar Jayanti or Bhim Jayanti is celebrated on 14th April.

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Q31. Answer: (d) myopia

The correct answer is Myopia.

Key Points

• Excessive curvature of the eye lens leads to myopia.

• Myopia or Nearsightedness is caused when the image forms right in front of the retina rather than on its surface.

• It happens when the cornea or the lens is too curved for the length of the eyeball.

• There are mainly three common refractive defects of vision.

• (i) myopia or near-sightedness,

• (ii) Hypermetropia or farsightedness, and

• (iii) Presbyopia

Important Points

• The myopia vision defect can be corrected by using a concave lens.

• Convex lenses are used to treat presbyopia, hypermetropia, and aphakia.

Q32. Answer: (a) p$q#r

Given:

'a*b' means 'a is the brother of b'

'a#b' means 'a is the father of b'

'a$b' means 'a is the wife of b'

a is			
Symbol	•	#	$
Meaning	brother	father	wife
to b			

By using the symbols in the table given below, we can draw the following family tree:

1. p$q#r → p is wife of q, q is father of r

r is child of p.

2. p#q$r → p is father of q, q is wife of r

r is son-in-law of p.

3. p*q*r → p is brother of q, q is brother of r

r is either brother or sister of p.

4. p*q#r → p is brother of q, q is father of r

r is either niece or nephew of p.

Clearly, r is child of p, is possible from option 1 only.

Hence, ‘p$q#r’ is the correct answer.

Q33. Answer: (c) 14

1 × 2 = 2 and 1 + 2 = 3

Here minimum value obtained is 2 when we replace @ by × sign.

Again, we know that if we add the numbers, the value obtained will be minimum, and if we multiply the numbers, the value obtained will be maximum.

So, replacing first @ by × and remaining @ by +, we get:

1 × 2 + 3 + 4 + 5

= 2 + 3 + 4 + 5

= 14

Therefore, the minimum value of '1@2@3@4@5' is 14.

Hence, ‘14’ is the correct answer.

Q34. Answer: (d) liver

The correct answer is liver.

Key Points

• Bile is secreted by the liver.

• Bile is a fluid that is made and released by the liver and stored in the gallbladder.

• Bile helps with digestion.

• It breaks down fats into fatty acids, which can be taken into the body by the digestive tract.

Additional Information

• The pancreas is an organ located in the abdomen.

• It plays an essential role in converting the food we eat into fuel for the body's cells.

• Gall bladder stores the bile fluid.

• The Stomach is a muscular sac located on the left side of the upper abdomen.

• The stomach receives food from the esophagus.

• As food reaches the end of the esophagus, it enters the stomach through a muscular valve called the lower esophageal sphincter.

• The stomach secretes acids and enzymes that digest food.

Q35. Answer: (c) SIJT

The pattern followed here is:

According to the alphabetical positions of the letters,

Hence, ‘SIJT’ is the correct answer.

Q36. Answer: (b) 35000 kl

Given:

Dimension of river = 2m deep and 21m wide.

Speed of river = 5kmph

Formula:

Area of river = depth × width

Calculation:

Area of river = 2 × 21 = 42 sq.m

Flow rate = 5kmph = 5000/60 = 250/3 m/min

Amount of water that falls into the sea in 10 minute = area of river × flow rate × 10

= 42 × 250/3 × 10

= 35000 m^3

= 35000 kl

Therefore Amount of water that falls into the sea in 10 minute is 35000kl.

Q37. Answer: (a) Earth

The logic is:

Sun : Earth → Earth revolves around the sun.

Similarly,

_____ : Moon → The moon orbits the Earth.

Hence, ‘Earth’ is the correct answer.

Q38. Answer: (c) Only conclusion 1 follows.

The least possible Venn diagram is:

Conclusions:

1. All chocolates are toffees. → True (As, All chocolates are candies and All candies are toffees → So, All chocolates are toffees)

2. All toffees are chocolates. → False (As, All chocolates are candies and All candies are toffees → So, Some toffees are chocolates)

Hence, only conclusion 1 follows.

Q39. Answer: (b) France

The correct answer is France.

Key Points

• In the Indian Constitution, the concepts of liberty, equality, and fraternity were adopted from France.

• Article 21 of the Constitution of India, 1950 provides, “No person shall be deprived of his life or personal liberty except according to procedure established by law.”

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• Article 14 - Equality before law. -The State shall not deny to any person equality before the law or the equal protection of the laws within the territory of India.

• Fraternity refers to a feeling of brotherhood and sisterhood and a sense of belonging with the country among its people.

Additional Information

• Some important borrowing in Indian Constitution:

• Fundamental Rights - USA

• Citizenship - Britain

• Amendment - South Africa

• Preamble - USA

• Joint Sitting - Australia

Q40. Answer: (d) Tamilisai Soundararajan

The correct answer is Tamilisai Soundararajan.

Key Points

• Dr. Tamilisai Soundararajan took charge as Governor of Telangana on 8th September 2019 and happens to be the 1st woman to hold this office.

• Dr. Tamilisai Soundararajan (born 2 June 1961) is an Indian politician serving as the 2nd and current Governor of Telangana, also current Lieutenant Governor of Puducherry (Additional charge) as of 18 February 2021.

• She was the National Secretary and Tamil Nadu State Unit President of the BJP prior to this appointment.

Additional Information

• About Telangana:

• Capital - Hyderabad.

• State Animal - Jinka (Deer).

• State Bird - Palapitta (Indian Roller or Blue Jay).

• State Tree - Jand.

Q41. Answer: (a) Equatorial electrojets

The correct answer is Equatorial electrojets.

Key Points

• Thumba was chosen as the ideal site for rocket launch due to the presence of equatorial electrojets.

• Thumba is very close to the earth's magnetic equator.

• Thumba's location at 8°32'34" N and 76°51'32" E is ideal for low-altitude, upper atmosphere, and ionosphere studies.

Image:

Additional Information

• Thumba is in Thiruvananthapuram.

• The launch site was named the Thumba Equatorial Rocket Launching Station (TERLS), or India’s first spaceport.

• TERLS became an international launch station and the sounding rockets launched from here proved instrumental in studying the equatorial electrojet.

Source: The Hindu (MARCH 01, 2018)

Q42. Answer: (a) Malawi

The correct answer is Malawi.

Key Points

• Malawi launched the first Malaria vaccine to immunize children on the occasion of World Malaria Day (observed on 25 April).

• It was launched as part of a pilot program aimed at immunizing children aged 2 years and below in three African countries Malawi, Ghana, and Kenya.

• The name of the Malaria vaccine was launched in Malawi as Mosquirix.

• About Vaccine:

• It is a recombinant protein-based malaria vaccine.

• It is the world’s first and only malaria vaccine.

• Its trade name is Mosquirix.

Additional Information

• About Malawi:

• Capital - Lilongwe.

• Currency - Malawian kwacha.

• National Sports - Football.

Q43. Answer: (d) 66, 6

The logic is as follows:

(Second number × 10) + 4 = First number

1) 3 × 10 + 4 = 34

2) 5 × 10 + 4 = 54

3) 2 × 10 + 4 = 24

4) 6 × 10 + 4 = 64 ≠ 66

Hence, 66 is the odd one out.

Q44. Answer: (d) Denmark

The correct answer is Denmark.

Key Points

• A group of farmers forms a cooperative society by pooling in their resources voluntarily for more efficient and profitable farming.

• Individual farms remain intact and farming is a matter of cooperative initiative.

• Co-operative societies help farmers, to procure all important inputs of farming, sell the products at the most favourable terms and help in the processing of quality products at cheaper rates.

• The co-operative movement originated over a century ago and has been successful in many western European countries like Denmark, Netherlands, Belgium, Sweden, Italy etc.

• In Denmark, the movement has been so successful that practically every farmer is a member of a co-operative.

Q45. Answer: (d) 10

Given:

? = 62÷ 5 - (8/9× 18/7)× 7/5+5/4× 16/25

Concept:

Follow the BODMAS rule to solve this question, as per the order given below:

Calculation:

=> ? = 62÷ 5 - (8/9× 18/7)× 7/5+5/4× 16/25

=> ? = 62 ÷ 5 - (16/7) × 7/5 + 5/4 × 16/25

=> ? = 62/5 - 16/7 × 7/5 + 5/4 × 16/25

=> ? = 62/5 - 16/5 + 4/5

=> ? = 62/5 + 4/5 - 16/5

=> ? = 66/5 - 16/5

=> ? = 50/5

Therefore ? = 10

Q46. Answer: (a) 9135

Given:

=> $1^2 + 2^2 + 3^2 + ... + 14^2 = 1015$

Calculation:

=> $1^2 + 2^2 + 3^2 + ... + 14^2 = 1015$

Multiply by 9 to both sides,

=> $9 \times (1^2 + 2^2 + 3^2 + ... + 14^2) = 9 \times 1015$

=> $9 \times 1^2 + 9 \times 2^2 + 9 \times 3^2 + ... + 9 \times 14^2 = 9 \times 1015$

=> $3^2 \times 12 + 32 \times 22 + 32 \times 32 + ... + 32 \times 142 = 9 \times 1015$

Therefore $3^2 + 6^2 + 9^2 + ... + 42^2 = 9135$

Q47. Answer: (b) GSLV MK-III-M1

The correct answer is GSLV MK-III-M1.

Key Points

• GSLV MK-III-M1 launch vehicle was used to launch Chandrayaan-2.

• The Geosynchronous Satellite Launch Vehicle Mark III(GSLV MK-III) also referred to as the Launch Vehicle Mark 3, is a

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three-stage medium-lift launch vehicle developed by the Indian Space Research Organisation.

• Chandrayaan-2 is the second lunar exploration mission developed by the Indian Space Research Organisation, after Chandrayaan-1.

What is PSLV?

• Polar Satellite Launch Vehicle (PSLV) is the third generation launch vehicle of India.

• It is the first Indian launch vehicle to be equipped with liquid stages.

• After its first successful launch in October 1994, PSLV emerged as the reliable and versatile workhorse launch vehicle of India with 39 consecutively successful missions by June 2017.

• PSLV successfully launched two spacecraft – Chandrayaan-1 in 2008 and Mars Orbiter Spacecraft in 2013 – that later travelled to Moon and Mars respectively

What is ASLV?

• The Augmented Satellite Launch Vehicle (ASLV) Programme was designed to augment the payload capacity to 150 kg, thrice that of SLV-3, for Low Earth Orbits (LEO).

Additional Information

• About ISRO:

• Headquarters - Banglore

• Founder - Vikram Sarabhai

• Founded - 15 August 1969

• Subsidiary - Vikram Sarabhai Space Centre

Q48. Answer: (b) G

Seven Chocolates: A, B, C, D, E, F and G.

Cost of Chocolates: Between Rs. 40 and Rs. 50

(1) The cost of the chocolate A is a prime number, implies A can be 41, 43, or 47.

(2) The cost of chocolate F is two more than that of chocolate A, (means F = A + 2), implies F can be 43, 45, or 49.

(3) The cost of chocolate F is more than that of chocolate E, (means F > E), implies E can be 48 or 46.

(4) The cost of chocolate C is five less than that of chocolate E, (means C = E - 5), implies C can be 43 or 41.

Chocolate	Cost
A	47
B	
C	43 / 41
D	
E	48 / 46
F	49
G	

(5) The cost of chocolate D is an odd number, implies D can be 41, 43, or 45.

(6) The cost of chocolate G is three more than the cost of chocolate D, (means G = D + 3), implies G can be 44, 46, or 48.

(7) None of the chocolates costs Rs. 44. Therefore, G can be 46 or 48 and therefore D can be 43 or 45.

Chocolate	Cost
A	47
B	
C	41
D	45
E	46
F	49
G	48

(8) The cost of chocolate B is an even number, implies B can only be 42. Thus the final arrangement is as follows:

Chocolate	Cost
A	47
B	42
C	41
D	45
E	46
F	49
G	48

We can see that among the options, G(48) is costlier than E (46).

Hence, G is the correct answer.

Q49. Answer: (b) A. O. Hume

The correct answer is A. O. Hume.

Key Points

• A. O. Hume founded the Indian National Congress.

• The Indian National Congress is a political party in India with widespread roots.

• It was founded in 1885.

Important PointsSome important facts:

• First Muslim President of Indian National Congress - Badruddin Tyabji.

• First Female President of Indian National Congress - Annie Besant.

• First Indian woman President of Indian National Congress - Sarojini Naidu.

Additional Information

• Sir Pherozeshah Merwanjee Mehta KCIE was an Indian Parsi politician and lawyer from Bombay.

• He was knighted by the British Government in India for his service to the law.'"

• Dadabhai Naoroji, also known as the "Grand Old Man of India" and "Unofficial Ambassador of India".

Q50. Answer: (a) 44.5

Given:

Mean of 150 items = 45

Formula:

Average = (Sum of elements)/(Number of terms)

Calculation:

Sum of 150 items = 45 × 150 = 6750

Corrected sum of 150 items = 6750 - (83 + 76) + (38 + 46) = 6675

Therefore Correct mean = 6675/150 = 44.5

Q51. Answer: (c) 10%

Alternate MethodInterest = 13310 - 12100 = Rs. 1210

Rate of interest = (1210/12100) × 100 = 10%

Traditional method:

Given:

Amount in 2 years = Rs.12100

Amount in 3 years =Rs. 13,310

Formula:

Let P = Principal, R = Rate of interest and N = time

Amount = $P(1 + R/100)^n$

Calculation:

=> $12100 = P(1 + R/100)^2$ ----(1)

=> $13310 = P(1 + R/100)^3$ ----(2)

Dividing equation (2) by (1),

=> 1.1 = (1 + R/100)

=> 0.1 = R/100

=> R = 10

Therefore Rate of interest is 10% per annum.

Q52. Answer: (b) Grandfather

By using the symbols in the table given below, we can draw the following family tree:

Clearly, Mahesh is grandfather of Jagat.

Hence, ‘Grandfather’ is the correct answer.

Q53. Answer: (a) 4000

Given:

Number of candidates failed in both subjects = 1200

% candidates passed in English = 55%

% candidates passed in Mathematics = 35%

% candidates passed in both English and Mathematics = 20%

Calculation:

% candidates passed in only English = 55 - 20 = 35%

% candidates passed in only Mathematics = 35 - 20 = 15%

% candidates passed in at least one subject = 35 + 15 + 20 = 70%

% candidates failed in both subject = 100 - 70 = 30%

Let number of candidates took the exam be N.

=> 30/100 × N = 1200

=> N = 4000

Therefore There are 4000 candidates who took the exam.

Q54. Answer: (b) Norway

The correct answer is Norway.

Key Points

• Norway topped in the Human Development Index report, 2019.

• The United Nations Development Programme (UNDP) compiles the Human Development Index (HDI) of 189 countries in the annual Human Development Report.

• The index considers the health, education, and income in a given country to provide a measure of human development that is comparable between countries and over time.

• The HDI was first published in 1990.

Additional Information

• About United Nations Development Programme:

• Headquarters - New York, New York, United States

• Founded - 22 November 1965, United States

Q55. Answer: (b) Param 8000

The correct answer is Param 8000.

Key Points

• Param 8000 was India's first supercomputer.

• PARAM is a series of supercomputers designed and assembled by the Centre for Development of Advanced Computing in Pune, India.

• PARAM means "supreme" in the Sanskrit language, whilst also creating an acronym for "PARAllel Machine".

Additional Information

• India's present largest HPC AI supercomputer is PARAM SIDDHI AI.

• Since June 2022, USA's Frontier is the world's most powerful supercomputer, reaching 1102 petaFlops (1.102 exaFlops) on the LINPACK benchmarks. Hence Frontier is the fastest supercomputer.

• China has the maximum number of supercomputers.

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Q56. Answer: (c) 1989

The correct answer is 1989.

Key Points

• The Sanchi Stupa was declared a world heritage site by UNESCO in 1989.

• Sanchi is a Buddhist complex, famous for its Great Stupa, on a hilltop at Sanchi Town in Raisen District of the State of Madhya Pradesh, India.

• It was originally commissioned by the Mauryan emperor Ashoka the Great.

What was the Sanchi Stupa used for?

• The stupa is a ceremonial burial mound used for the veneration of Buddhist saints and relics, as well as the Buddha himself.

Additional Information

• About UNESCO:

• Headquarters - Paris, France.

• Founded - 16 November 1945

Q57. Answer: (a) Antonio Guterres

The correct answer is Antonio Guterres.

Key Points

• As of Nov 2020, Antonio Guterres was the Secretary-General of the United Nations.

• Antonio Guterres served as the ninth Secretary-General of the United Nations.

• María Fernanda Espinosa Garcés is an Ecuadorian politician and diplomat.

• She was the President of the United Nations General Assembly for the 73rd session.

• Kofi Atta Annan served as the seventh Secretary-General of the United Nations.

• Ban Ki-moon is a South Korean politician and diplomat who served as the eighth Secretary-General of the United Nations.

Additional Information

• About United Nations:

• Headquarters - New York

• Founded in 1945.

• 24th October is celebrated as United Nations Day.

Q58. Answer: (a) Lord Rippon

The correct answer is Lord Rippon.

Key Points

• Lord Rippon was the Viceroy of India who took the initiative to create elected local government bodies.

• Local government is government at the village and district level.

• It was the 74th amendment to the Constitution of India in 1992 that brought constitutional validity to municipal or local governments.

Important Points Some important governors and viceroys and their important events:

Warren Hastings	**• Regulating Act of 1773 - English Translation of Bhagwat Gita by Charles Wilkins**
The Marquess Wellesley	• Introduction of Subsidiary Alliance (1798)
The Lord Minto	• Charter Act of 1813
Lord William Bentinck	• Bengal Sati Regulation, 1829 - English Education Act 1835
Dalhousie	• The doctrine of Lapse in 1848 - Charter Act, 1853

Q59. Answer: (d) A is an engineer.

Five people - A, B, C, D and E

Profession - teacher, a doctor, a lawyer, an accountant and an engineer

1. The engineer is married to the teacher

2. C is the unmarried lawyer.

3. D is an accountant.

4. Teacher B is a female whose female friend is the accountant.

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Person	Profession	Gender
A		
B	Teacher	Female
C	Lawyer	
D	Accountant	Female
E		

1. D is a male → False (As, D is female)
2. E is a teacher. → False (As, B is a Teacher)
3. B is a doctor. → False (As, B is a Teacher)
4. A is an engineer. → It can be possible as the profession of A is not known.

Hence, 'A is an engineer' is the correct answer.

Q60. Answer: (c) Cell

The correct answer is Cell.

Key Points

• Robert Hooke discovered the cell.

• Robert Hooke also discovered the law of elasticity.

• Robert Hooke was an English polymath active as a scientist and architect, who, using a microscope, was the first to visualize a micro-organism.

• He illustrated that all organisms are made of cells, which are the basic structural units of life.

Important Points

• Protoplasm was discovered by the Dujardin.

• Nucleus was discovered by Rutherford.

• Atom was discovered by John Dalton.

Q61. Answer: (d) Canine

The logic is:

Cat : Feline → Cat belongs to the family Feline.

Similarly,

Dog : ? → Dog belongs to the family Canine.

Hence, 'Canine' is the correct answer.

Q62. Answer: (d) Soma Mondal

The correct answer is Soma Mondal.

Key Points

• In Aug 2020, Soma Mondal was selected as the next Chairman of Steel Authority of India Limited.

• Mondal's appointment was approved by the Appointments Committee of the Cabinet (ACC).

• Soma Mondal replaced Anil Chaudhary as the chairman of SAIL.

Additional Information

• About SAIL:

• Headquarters: New Delhi

• Founded: 24 January 1973

• Subsidiaries: Bhilai Steel Plant, Rourkela Steel Plant, etc.

Q63. Answer: (a) Rs. 60,000

Given:

The ratio of train, bus, airfares = 5 : 8 : 12

The ratio of passengers traveling by train, bus, air = 3 : 4 : 5

Total fair collected for single trip = Rs.107000

Calculation:

Compound ratio of fares and number of travelers of train, bus and air =

= 5 × 3 : 8 × 4 : 12 × 5

= 15 : 32 : 60

Fare collected from air passengers = 60/(15 + 32 + 60) × 107000 = 60000

Therefore Fare collected from air passengers is Rs.60000.

Hint

Compound ratio: When two or more ratios are multiplied term-wise, the ratio thus obtained is called compound ratio.

Two ratios = m : n and a : b

compound ratio = ma : nb

Q64. Answer: (b) Atal Tinkering Lab

The correct answer Atal Tinkering Lab.

Key Points

• The full form of ATL is Atal Tinkering Lab.

• With a vision to Cultivate one Million children in India as Neoteric Innovators.

• Atal Innovation Mission is establishing Atal Tinkering Laboratories (ATLs) in schools across India.

• The objective of this scheme is to foster curiosity, creativity, and imagination in young minds.

• It inculcates skills such as design mindset, computational thinking, adaptive learning, physical computing, etc.

Additional Information

• About Atal Innovation Mission:

• It is a flagship initiative set up by the NITI Aayog to promote innovation and entrepreneurship across the length and breadth of the country.

• It was launched in 2016.

Q65. Answer: (c) 0

Given:

=> ? = √150-√54-√24

Calculation:

=> ? = √(25 × 6) - √(9 × 6) - √(4 × 6)

=> ? = √(5 × 5 × 6) - √(3 × 3 × 6) - √(2 × 2 × 6)

=> ? = 5√6 - 3√6 - 2√6

=> ? = √6(5 - 3 - 2)

Therefore ? = 0

Q66. Answer: (b) Negligent : Attentive

The logic is:

1. Melancholy: Gloomy → Melancholy means a feeling of sadness that lasts for a long time. Both the words are synonyms of each other.

2. Negligent: Attentive → Negligent means not being careful. Attentive means watching, listening to or thinking about somebody/something carefully. Both the words are antonyms of each other.

3. Dynamic: Robust → Dynamic means full of energy and ideas. Robust is the synonym of Dynamic.

4. Lethargic: Laidback → Lethargic means having little energy; feeling unwilling and unable to do anything. Laidback is the synonym of Lethargic.

Hence, ‘Negligent: Attentive’ is the odd one out.

Q67. Answer: (a) Reiwa

The correct answer is Reiwa.

Key Points

• With the abdication of the throne by the Japanese Emperor, Akihito, the new Imperial era in Japan is known as 'Reiwa'.

• The country's current era, Heisei, will end in a month with Emperor Akihito's historic abdication.

• The term for the new era is made up of the two characters Rei and Wa.

• Rei can mean "commands" or "order", as well as "auspicious" or "good".

Additional Information

• About Japan:

• Capital - Tokyo.

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• Currency - Japanese Yen
• Highest Peak - Mount Fuji
• National Sports - Sumo.

Q68. Answer: (c) 50 m

Given:
PQ = RS = 25m
Calculation:
In right angled triangle PSR,
=> tan a = RS/PS = 25/PS
In right angled triangle PST,
=> tan a = TS/PS
Then,
=> 25/PS = TS/PS
=> TS = 25
Height of tower = RS + TS = 25 + 25 = 50m
Therefore Height of tower is 50m.

Q69. Answer: (b) Computer chip

The correct answer is Computer Chip.
Key Points
• Diamonds, computer chips, and mobile manufacturing are some examples of footloose industries.
• These are generally non-polluting industries.
Footloose Industries:
• Footloose industries can be located in a wide variety of places. They are not dependent on any specific raw material, weight loss or otherwise.
• They largely depend on component parts which can be obtained anywhere.
• They produce in small quantities and also employ a small labour force.
• The important factor in their location is accessibility by road network.

Q70. Answer: (b) 26 days

Given:
A's 1 day's work = 1/40
B's 1 day's work = 1/60
C's 1 day's work = 1/80
Calculation:
Let number of days in which work will be complete be n.
A worked for = (n - 11) days
=> A's (n - 11) days work = (n - 11)/40
B worked for = (n - 8) days
=> B's (n - 8) days work = (n - 8)/60
Then,
=> (n - 11)/40 + (n - 8)/60 + n/80 = 1
=> 6n - 66 + 4n - 32 + 3n = 240
=> n = 26
Therefore In 26 days work will be completed.

Q71. Answer: (c) AB+

The correct answer is AB+.
Key Points
• Type AB-positive blood is called the "universal recipient" type because a person who has it can receive blood of any type.
• Individuals with type O Rh D negative blood are often called universal donors.
• However, these terms are only generally true with respect to possible reactions of the recipient's anti-A and anti-B antibodies to

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transfused red blood cells, and also possible sensitization to Rh D antigens.

Important Points

• The blood group was discovered by Karl Landsteiner in 1901.

• About Rh factor:

• The Rh factor is a protein that can be found on the surface of red blood cells.

• If your blood cells have this protein, you are Rh-positive.

• If your blood cells do not have this protein, you are Rh-negative

Q72. Answer: (a) Ca(OH)2

The correct answer is Ca(OH)2.

Key Points

• The chemical formula for Lime water is Ca(OH)2.

• The chemical name for lime water is calcium hydroxide.

• It is a colourless crystal or white powder and is obtained when calcium oxide (called lime or quicklime) is mixed, or "slaked" with water.

Important Points

• Some important chemical names and common names:

Common Name	Chemical Name
Washing Soda	sodium carbonate decahydrate
Baking Soda	Sodium hydrogen carbonate
Bleaching Powder	Calcium hypochlorite

Q73. Answer: (c) 83

Given:

Total number of students in auditorium = 6889

Calculation:

Let the number of students and number of rows be n.

=> n × n = 6889

=> n = √6889

=> n = 83

Therefore There are 83 rows in the auditorium.

Q74. Answer: (b) 71/2 days

Given:

A + B + C = 1/5

B + C + D = 1/10

C + D + A = 1/15

D + A + B = 1/30

Calculation:

Adding all above equations,

3(A + B + C + D) = 1/5 + 1/10 + 1/15 + 1/30

3(A + B + C + D) = 12/30

(A + B + C + D) = 2/15)

Therefore In 15/2 = (71/2 days work will be completed when all four worked together.

Q75. Answer: (a) 1008

Given:

=> 2x + 5y = 12

=> xy = 2

Formula:

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

=> $(a + b)^2 = a^2 + 2ab + b^2$

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Calculation:

=> $(2x + 5y)^2 = (2x)^2 + 2 \times 2x \times 5y + (5y)^2$

=> $144 = 4x^2 + 25y^2 + 20 \times 2$

=> $4x^2 + 25y^2 = 104$

Then,

=> $(2x)^3 + (5y)^3 = (2x + 5y)(4x^2 - 10xy + 25y^2)$

=> $8x^3 + 125y^3 = 12 \times (104 - 20)$

Therefore $8x^3 + 125y^3 = 1008$

Q76. Answer: (a) 45

Given:

One number = 72

Formula:

LCM × HCF = product of two numbers

Calculation:

LCM + HCF = 369

=> LCM = 369 - HCF ---(1)

LCM - HCF = 351

=> 369 - HCF - HCF = 351

=> 369 - 2HCF = 351

=> 2HCF = 369 - 351 = 18

=> HCF = 18/2 = 9

So, LCM = 369 - 9 = 360

Then, Other number × 72 = 360 × 9

=> Other number = 360 × 9/72 = 45

Therefore Other number is 45

Q77. Answer: (d) 60√2 cm

Given:

X is midpoint of AB.

BY = BC/3

Calculation:

=> AB = BC = CD = AD

=> AX = XB = AB/2

=> Area of ΔBXY = 1/2 × BX × BY

=> 300 = 1/2 × AB/2 × BC/3

=> 300 = 1/12 × AB × AB

=> AB = 60 cm

=> AB = BC = CD = AD = 60cm

=> Diagonal AC = $\sqrt{(AB^2 + BC^2)} = \sqrt{(60^2 + 60^2)} = 60\sqrt{2}$ cm

Therefore Length of diagonal AC is $60\sqrt{2}$ cm.

Q78. Answer: (d) 1992

Calculation:

Greatest 3 digit number divisible by 24 = 984

Smallest 4 digit number divisible by 24 = 1008

Therefore Required sum = 984 + 1008 = 1992

Q79. Answer: (c) Kamala Das

The correct answer is Kamala Das.

Key Points

• Kamala Das popularly known by her one-time pen name Madhavikutty and married name Kamala Das was an Indian poet in English as well as an author in Malayalam from Kerala, India.

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• Her popularity in Kerala is based chiefly on her short stories and autobiography, while her oeuvre in English, written under the name Kamala Das, is noted for the poems and explicit autobiography.

• Some awards of Kamala Das:

• 2002: Ezhuthachan Award

• 2006: Muttathu Varkey Award

Additional Information

• Books written by Kamala Das:

• 1976: Alphabet of Lust

• 2005: Vandikkalakal (novel)

• 1996: Aattukattil (short novel)

Q80. Answer: (a) Salman

1. Bella is taller than Shubham.

Bella > Shubham

2. Umesh is taller than Shubham but shorter than Bella.

Bella > Umesh > Shubham

3. Salman is shorter than Rahul and Shubham.

Rahul / Shubham > Salman

4. Shubham is taller than Rahul.

Shubham > Rahul

From all the statements, we get:

Bella > Umesh > Shubham > Rahul > Salman

So, Salman is the shortest in the group.

Hence, ‘Salman’ is the correct answer.

Q81. Answer: (d) Green Good Deeds

The correct answer is Green Good Deeds.

Key Points

• Green Good Deeds is the name of the Societal movement launched by the Union Minister of Environment, forest, and climate change.

• Green Good Deeds movement was launched to protect the environment and promote good living in the country, has found acceptance by the global community.

• The 'Green Good Deeds' initiative is about simple, practical steps that students/teachers/citizens can perform in their day-to-day life towards the protection of the environment.

• The BRICS Ministerial on Environment was also agreed to include this movement in its official agenda.

Additional Information

• About BRICS:

• Founded: June 2006

• Countries - Brazil, Russia, India, China, South Africa.

• Headquarters - Shanghai, China.

Q82. Answer: (a) 2 : 3

Given:

=> A : B = 15 : 16

=> B : C = 8 : 25

=> C : D = 20 : 9

Calculation:

=> A : B = 15 : 16

=> B : C = 8 : 25 = 16 : 50

=> A : B : C = 15 : 16 : 50

=> A : B : C = 30 : 32 : 100

=> C : D = 20 : 9 = 100 : 45

=> A : B : C : D = 30 : 32 : 100 : 45

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=> A : D = 30 : 45

Therefore A : D = 2 : 3

Q83. Answer: (a) Pradhan Mantri Kaushal Vikas Yojana

The correct answer is Pradhan Mantri Kaushal Vikas Yojana.

Key Points

• Pradhan Mantri Kaushal Vikas Yojana is the name of the skill development program of the Government of India.

• The aim of the PMKVY scheme is to encourage aptitude towards employable skills and to increase the working efficiency of probable and existing daily wage earners, by giving monetary awards and rewards and by providing quality training to them.

• The average award amount per person has been kept as Rs. 8,000 (US$110).

• Those wage earners already possessing a standard level of skill will be given recognition as per the scheme and the average award amount for them is Rs. 2000 to Rs. 2500.

Additional Information

• About Pradhan Mantri Kaushal Vikas Yojana:

• Launched - 15 July 2015

• Ministry - Skill Development and Entrepreneurship

Q84. Answer: (b) 1906

The correct answer is 1906.

Key Points

• The Calcutta session in 1906 call for the attainment of 'Swaraj'.

• The resolution of Swadeshi was adopted in the 1906 Calcutta session of the Indian National Congress.

• In the Calcutta Session of Congress in 1906, Dadabhai Naoroji had placed Swaraj as a national demand.

• The Calcutta session 1906 was presided by Dadabhai Naoroji.

Additional Information

• Some important facts:

• First Muslim President - Badruddin Tyabji.

• First Female President - Annie Besant.

• First Indian woman President - Sarojini Naidu.

• The Surat Split was the splitting of the Indian National Congress into two groups - the Extremists and the Moderates - at the Surat session in 1907.

Q85. Answer: (d) Plastic Pollution

The correct answer is Plastic Pollution.

Key Points

• The focus of World Environment Day, 2018 was on Plastic Pollution.

• The theme for 2018 is beating plastic pollution.

• Every World Environment Day has a different global host country, where the official celebrations take place.

• The focus on the host country helps highlight the environmental challenges it faces and supports the effort to address them.

Important Points

• World Environment Day is celebrated on 5 June every year.

• This day was first observed in 1974.

• The theme for 2021 World Environment Day is Ecosystem Restoration.

Q86. Answer: (a) Neither conclusion 1 nor conclusion 2 follows.

The least possible Venn diagram is:

Conclusions:

1. Some dolls are books. → False (As, there is no definite relation between dolls and books. Hence, false)

2. No book is a plant. → False (As, some plants are books)

Hence, neither conclusion 1 nor conclusion 2 follows.

Q87. Answer: (a) 41

Symbol	•	•	×	÷

Meaning	•	×	÷	•

Given expression: 25 + 48 × 6 ÷ 12 – 2

After replacing the symbols by their meaning, we get:

25 - 48 ÷ 6 + 12 × 2

= 25 – 8 + 24

= 49 – 8

= 41

Hence, '41' is the correct answer.

Q88. Answer: (b) 0

The logic is:

Hence, '0' is the correct answer.

Q89. Answer: (a) DB

Main Statement:

Whenever Sakshi hears it's someone's birthday, she orders a cake.

Options:

1. DB

D. Sakshi did not ordered a cake.

B. Sakshi did not hear of someone's birthday.

The ordered pair of statements is logically consistent with the main statement.

Sakshi did not ordered a cake because Sakshi did not hear of someone's birthday. (As, whenever Sakshi hears it's someone's birthday, she orders a cake)

2. BD

B. Sakshi did not hear of someone's birthday.

D. Sakshi did not ordered a cake.

The ordered pair of statements is logically not consistent with the main statement.

Whenever Sakshi hears it's someone's birthday, she orders a cake. So, Sakshi did not hear of someone's birthday, the later is known from the main statement. The statement D is unnecessary.

3. AB

A. Sakshi heard of someone's birthday.

B. Sakshi did not hear of someone's birthday.

The ordered pair of statements is logically not consistent with the main statement.

The pair of statements have absurd meaning.

4. CA

C. Sakshi ordered a cake.

A. Sakshi heard of someone's birthday.

The ordered pair of statements is logically not consistent with the main statement.

Whenever Sakshi hears it's someone's birthday, she orders a cake. So, Sakshi ordered a cake because of the fact we know from the main statement. The statement A is unnecessary.

Hence, 'DB' is the correct answer.

Confusion Points

• The options "AB" and "DB" are not the same. This is because in the direction of the question it is mentioned that the options are ordered pairs.

Q90. Answer: (d) 1296

The logic is:

$(3 + 0)^1 = 3$

$(3 + 1)^2 = 4^2 = 16$

$(3 + 2)^3 = 5^3 = 125$

(3 + 3)^4 = 6^4 = 1296

Hence, '1296' is the correct answer.

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Q91. Answer: (d) Both statement 1 and statement 2 are sufficient together.

1. Only statement 1 is sufficient but statement 2 is not sufficient. → False

Statement 1: On the 7th day of a month.

From statement 1, we cannot find when is Yuvi's wedding anniversary.

2. Both statement 1 and statement 2 are sufficient independently. → False

As statement 1 is not sufficient independently.

3. Only statement 2 is sufficient but statement 1 is not sufficient. → False

Statement 2: The month has 29 days only in a leap year.

Only February has 29 days in a leap year. So, from this statement, it is clear that Yuvi's wedding anniversary is in the month of February, but the date of Yuvi's wedding anniversary cannot be stated from this statement.

So, only statement 2 is not sufficient.

4. Both statement 1 and statement 2 are sufficient together.

Statements:

1: On the 7th day of a month.

2. The month has 29 days only in a leap year.

From 1 we know the date and from 2, we know the month. So, Yuvi's wedding anniversary is on the 7th of February.

Hence, 'Both statement 1 and statement 2 are sufficient together' is the correct answer.

Q92. Answer: (b) Neither conclusion A nor conclusion B follows.

In cricket, the total number of players is 11. Let's say the match was between India and Pakistan. India did the bowling first.

From the given Statement, India has taken 9 wickets and Out of these, 6 wickets were taken by spinners.

Conclusion A. 80% of the bowlers in the team were spinners => FALSE (The 6 wickets of batting -team were may be taken by 2 or 3 or any number of bowling-team Spinners, So we can not say anything about the number of spinners players).

Conclusion B. The opening bowlers of the team were spinners => FALSE (As no mention of the first bowler in the statement we can not say anything about it).

Hence, Neither conclusion A nor conclusion B follows.

Q93. Answer: (d) Only A

A. (i) All shops are showrooms.

(ii) No showroom is a mall.

(iii) All shops are not malls. → True (As, All shops are showrooms and No showroom is a mall → All shops are not malls)

B (i) No Japanese can dance.

(ii) All Americans are books.

(iii) Americans and Japanese can dance. → False (As, there is no definite relation between Americans and Dance. Hence, false and No Japanese can dance)

C. (i) No P is Q.

(ii) No Q is R.

(iii) No P is R. → False (As, there is no definite relation between P and R. Hence, false)

Hence, 'Only A' is the correct answer.

Q94. Answer: (c) 14^(th) March

According to A, C's birthday is after 12^(th) March but before 15^(th) March.

According to A, C's birthday is either on 13^(th) or 14^(th) of March.

But B remembered that C's birthday is after 13^(th) March but before 17^(th) March.

According to B, C's birthday is either on 14^(th)or 15^(th) or 16^(th) of March.

Assuming both of them to be correct, the definite date of C's birthday is 14^(th) of March.

Hence, '14^(th) March' is the correct answer.

Q95. Answer: (d) 40

Calculation:

Total number of web series released by subscription from 2015 to 2018

=> 35 + 35 + 42 + 48 = 160

=> 160/4 = 40

Therefore The average number of web series released by the subscription service mobile application from 2015 to 2018 is 40

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Q96. Answer: (d) Edition

The description is as follows:

Option	Description	
1.	Foreword	a short introduction to a book, typically by a person other than the author.
2.	Index	(in a book or set of books) an alphabetical list of names, subjects, etc. with reference to the pages on which they are mentioned.
3.	Preface	an introduction to a book, typically stating its subject, scope, or aims.
4.	Edition	a particular form or version of a published text.

Hence, 'Edition' is the odd one out.

Q97. Answer: (d) fa ju ka na

Code of each word is shown below:

The code of 'get up go there' be written as:

get - ju

up - fa

go - ka

there - na

Hence, 'fa ju ka na' is the correct answer.

Q98. Answer: (c) 5-10-15-20

The logic is:

2-4-6-8 → 2 × 1 = 2, 2 × 2 = 4, 2 × 3 = 6, 2 × 4 = 8

3-6-9-12 → 3 × 1 = 3, 3 × 2 = 6, 3 × 3 = 9, 3 × 4 = 12

4-8-12-16 → 4 × 1 = 4, 4 × 2 = 8, 4 × 3 = 12, 4 × 4 = 16

Similarly,

5-10-15-20 → 5 × 1 = 5, 5 × 2 = 10, 5 × 3 = 15, 5 × 4 = 20

Hence, '5-10-15-20' is the correct answer.

Q99. Answer: (d) Shopkeeper X, 3.45%

Calculation:

Cost price of all five goods = 173 + 219 + 350 + 481 + 227 = Rs.1450

Total selling price of all five goods for shopkeeper X = 180 + 220 + 360 + 490 + 250 = Rs.1500

Total selling price of all five goods for shopkeeper Y = 175 + 225 + 357 + 500 + 235 = Rs.1492

Profit % of shopkeeper X = (1500 - 1450)/1450 × 100 = 3.45%

Profit % of shopkeeper Y = (1492 - 1450)/1450 × 100 = 2.90%

Therefore Shopkeeper X have more profit percentage, which is 3.45%.

Q100. Answer: (a) 41

The logic is as follows:

243 → This number is multiple of 3.

280 → This number is multiple of 7, 5 and 2.

172 → This number is multiple of 2.

230 → This number is multiple of 2, 5 and 23.

92 → This number is multiple of 2 and 23.

41 → This number is a prime number.

14 → This number is multiple of 2 and 7.

Hence, 41 is the odd one out.

Note: For this question, discrepancy is found in the question paper so we have improvised this question.

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