NTPC CBT-II 2016 Official Paper (Held On: 19 Jan, 2017 Shift 2) (Previous Year Paper)

RRB NTPC • 2016 • 120 questions • 90 minutes • Answer key and solutions

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FULL TEST

Q1. Find the next term of the series:

BDCA, FHGE, JLKI, ?

(a) MNPO
(b) ONMP
(c) NPOM
(d) MONP

Q2. If TEMPORARY is written as RPMOAETRY then PERMANENT is

(a) NMRAEEPNT
(b) MNREAEPNT
(c) AMRNEEPNT
(d) REANMEPNT

Q3. ? : Clock :: Temperature : Thermometer

(a) Wall
(b) Time
(c) Pendulum
(d) Analog

Q4. Which of the following contains the World's largest area of mangrove forests?

(a) Namdapha National Park
(b) Rann of Kutch
(c) Balphakram National Park
(d) Sundarbans

Q5. What will be the least number which when doubled, will be exactly divisible by 4, 6, 9, 12 and 14?

(a) 126
(b) 252
(c) 504
(d) 63

Q6. A question and three statements labeled (I), (II) and (III) are given.

You have to decide which statement(s) is / are sufficient to answer the question.

Question: Who is the shortest among P, Q, R, S and T?

Statements:

I. P is taller than T but shorter than S.

II. Q is shorter than R but taller than T.

III. S is taller than R and P is taller than Q.

Select the right option from the following.

(a) Only statement I is sufficient
(b) Only Statement III is sufficient
(c) Statement II and either I or III are sufficient
(d) Both I and III are sufficient.

Q7. International Tourist Bureau facility of Indian Railways is not available at _____.
(a) Chennai
(b) Thiruvananthapuram
(c) Secunderabad
(d) Bengaluru

Q8. _____ is the name of an Indian Light Combat Aircraft.
(a) Chetak
(b) Tejas
(c) Rudra
(d) Dhruv

Q9. In the context of information technology, the process of examining large, pre-existing databases in order to generate new useful information, is referred to as _____.
(a) simulating
(b) mining
(c) resourcing
(d) hewing

Q10. Which one of the following operations will result in 26?
(a) 18 × 16 ÷ 12 - 11 + 13
(b) 18 + 16 - 12 × 11 ÷ 13
(c) 18 ÷ 16 + 12 - 11 × 13
(d) 18 - 16 × 12 ÷ 11 + 13

Q11. A car covers a certain distance in 8 hours at a speed of 50 kmph. What should be the increase in speed to cover the same distance in 5 hours?
(a) 50 kmph
(b) 40 kmph
(c) 30 kmph
(d) 80 kmph

Q12. Two buses X and Y leave from the same place and go in the same direction at speeds of 20 kmph and 50 kmph respectively. But, Y leaves 6 hours after X has left. How far from the starting place will the buses meet?
(a) 100 km
(b) 200 km
(c) 150 km
(d) 300 km

Q13. An article was purchased in a fluctuating market on different dates at a unit price of (i) Rs. 11 (ii) Rs. 9, (iii) Rs. 8, and (iv) Rs. 10. It was sold at Rs. 2 above the purchase price. Which article was the most profitable in percentage terms?
(a) (i)
(b) (ii)
(c) (iii)
(d) (iv)

Q14. Tyndall effect is related to the _____ of light.
(a) Reflection
(b) Scattering
(c) Dispersion

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(d) Refraction

Q15. The LCM of two numbers is 48. The numbers are in the ratio 1 : 2/3. The sum of the numbers is _____.

(a) 60
(b) 40
(c) 20
(d) 45

Directions

Directions: The following table represents the number of items sold by four divisions of a consumer goods dealer during 2010 to 2013.

Year	Division			
W	X	Y	Z	
2010	100	96	110	136
2011	130	134	114	108
2012	140	144	164	96
2013	86	112	76	80

Q16. The combined sales figures in 2011 and 2013 of which division was the lowest?

(a) Y
(b) W
(c) Z
(d) X

Q17. During 2011, which division performed better than the others?

(a) X
(b) Z
(c) Y
(d) W

Q18. What is the ratio of the total number of items sold by Y in 2012 and 2013 together to that of Z in the same period?

(a) 15 : 11
(b) 11 : 16
(c) 11 : 15
(d) 16 : 11

Q19. What is the average number of items sold by division W during the four years?

(a) 116.5
(b) 118
(c) 114
(d) 121.5

Q20. Meera is the wife of Sachin. Sachin's sister is Sarda and she is the wife of Arjun. Arun is the son of Sarda. Arjun is the brother of Meera. Sonali is the daughter of Arjun. How is Arun related Sonali?

(a) Father
(b) Brother
(c) Cannot be determined
(d) Paternal uncle

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Q21. An amount was invested at a simple rate of interest p.a. for 5 years. It would have fetched Rs. 300 more had it been invested at 2% higher rate. What was the amount invested?

(a) Rs. 3300
(b) Rs. 3000
(c) Rs. 2000
(d) Rs. 2300

Q22. Book : Author :: Movie :

(a) Producer
(b) Editor
(c) Director
(d) Master

Q23. P is 4 times faster than Q in doing a job. Q takes 27 more days than P to finish the job. If they work together, in how many days will the work be finished?

(a) 6 4/5 days
(b) 7 2/5 days
(c) 7 3/5 days
(d) 7 1/5 days

Q24. Find the area of a square whose diagonal is half of 12 cm.

(a) 18 sq. cm
(b) 64 sq. cm
(c) 36 sq. cm
(d) 72 sq. cm

Q25. Who among the following is NOT an international golfer?

(a) Shiv Chawrasia
(b) Jason Day
(c) Michael Bevan
(d) Anirban Lahiri

Q26. If cost price is 35% of the selling price, what is the profit margin in percentage?

(a) 187.51%
(b) 183.35%
(c) 185.71%
(d) 181.75%

Q27. Classification of Public or Private sector is based on the:

(a) Service conditions of emploees
(b) Number of persons employed
(c) Nature of activity
(d) Ownership

Q28. Prasar Bharati is an autonomous body that comprises:

(a) AIR, Doordarshan and BSNL
(b) both AIR and Doordarshan
(c) AIR (All India Radio) only
(d) Doordarshan only

Q29. Which one of the following options most appropriately describes ObamaCare?

(a) Cost of hospitalization
(b) Affordable medical care
(c) Abolition of medical insurance
(d) Free medical care

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Q30. Car P covers a certain distance in 11 hours at a speed of 66 kmph. Car Q covers 242 km more than car P in the same time. Find the average speed of Car Q.

(a) 718 kmph
(b) 77 kmph
(c) 88 kmph
(d) 83 kmph

Q31. 'YouthSat' refers to a _____

(a) Youth website
(b) Satellite
(c) Weekend party
(d) Motion picture

Q32. Japan's 'Fukuoka prize-2016' for outstanding contribution towards South Asian traditional fusion music was awarded to:

(a) Amit Trivedi
(b) Shankar Mahadevan
(c) Yasmeen Lari
(d) A.R. Rahman

Q33. Find the mean of the distribution:

130, 90, 25, 77, 250, 100

(a) 25
(b) 77
(c) 100
(d) 112

Q34. An assertion (A) and a reason (R) are given below.

Assertion (A): Urban India is sicker than rural India in spite of better healthcare facilities.

Reason (R): Urban life is facing the problems of increasing pollution levels, unhygienic garbage dumping, and a fast food culture.

Choose the correct option.

(a) Both A and R are true, but R is not the correct explanation of A
(b) A is true, but R is false
(c) A is false, but R is true
(d) Both A and R are true and R is the correct explanation of A

Q35. Solve for 'a' : 7/(a-2)=5/(a+4)

(a) -19
(b) 38
(c) 19
(d) -38

Q36. A statement followed by some conclusions is given below.

Statement: Eating nutritious food is the only way to keep the doctor away.

Conclusion:

I. Doctors will be out of job soon.

II. Nutritious food does not keep doctor away.

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

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Q37. Which number will replace (?) in the following series?

4, 5, 8, 10, 12, 15, 16, 20, ?, 25

(a) 24
(b) 21
(c) 20
(d) 22

Q38. What is the fourth proportional to 15, 12 and 20.

(a) 14
(b) 12
(c) 18
(d) 16

Q39. The Government conferred Dronacharya Award 2016 for Gymnastics to:

(a) Sagar Mal Dhayal
(b) Raj Kumar Sharma
(c) Nagpuri Ramesh
(d) Bishweshwar Nandi

Q40. Rearrange the jumbled letters to make a meaningful English word and then select the one which is different.

(a) OLYGBOI
(b) AEVLTR
(c) YCEIHRTSM
(d) HISCYPS

Q41. B and C are husband and wife respectively. M is the father of K and C. How is B related to M?

(a) Uncle
(b) Son
(c) Son-in-law
(d) Brother

Q42. _____ is the "work done in moving a unit charge between two points in an electric circuit".

(a) Potential
(b) Current
(c) Power
(d) Resistance

Q43. The 'Rann Utsav' is a festival celebrated in:

(a) Gujarat
(b) Himachal Pradesh
(c) Rajasthan
(d) Madhya Pradesh

Directions

Direction: Consider the following information and answer the question based on it.

In a building, 30 people drink only coffee, 40 drink only tea, 25 drink only tea and coffee, 20 drink only tea and milk and 15 drink all the three - tea, coffee and milk.

Q44. The number of people who drink only coffee is _____ than those who drink all the three (milk, tea & coffee).

(a) 15 less
(b) 20 less
(c) 5 more
(d) 15 more

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Q45. What is the difference between the number of people who drink tea and those who drink coffee?

(a) 70
(b) 10
(c) 30
(d) 40

Q46. 250 grams of a sweet has 20 grams of cashew and 30 grams of almonds. How many grams of cashew and almonds, respectively, will be there in 350 grams of the same sweet?

(a) 28 and 42
(b) 21 and 28
(c) 40 and 60
(d) 25 and 45

Q47. A question and three statements labeled (I), (II) and (III) are given.

You have to decide which statement(s) is / are sufficient to answer the question.

Question: What is 40% of the number?

I. 25% of the number is 60 less than the number.

II. 20% of the number is an even number.

III. 5% of twice the number is 1/10th of the number.

(a) Only I is sufficient
(b) Both II and III are sufficient
(c) Statement II and either I or III are sufficient
(d) Only III is sufficient.

Q48. _____ is NOT a mode of heterotrophic nutrition.

(a) Parasitic
(b) Holozoic
(c) Automatic
(d) Saprotrophic

Q49. Find next two letters that follow in the series:

A B B D E E E H I I I _ _ .....

(a) I I
(b) J J
(c) I J
(d) I M

Q50. The headquarters of the Indian Council of Agricultural Research (ICAR) is located at:

(a) New Delhi
(b) Bengaluru
(c) Dehradun
(d) Mumbai

Q51. A chemical reaction is called _____ reaction when heat is given out.

(a) exothermic
(b) combination
(c) endothermic
(d) decomposition

Q52. The contraction and expansion of the walls of food pipe is called _____ movement.

(a) Peristalsis
(b) Gastric
(c) Oscillatory
(d) Diastolic

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Q53. Which of the following is not a cause of air pollution?

(a) Mining operations
(b) Acid Rain
(c) Agricultural activities
(d) Burning of fossil fuels

Q54. The Supreme Court of India came into being on _____.

(a) 26^(th) of January, 1950
(b) 28^(th) January, 1950
(c) 15^(th) of August, 1949
(d) 26^(th) of November, 1949

Q55. The process of splitting water molecule by light energy is called _____.

(a) Radiolysis
(b) Electrolysis
(c) Photolysis
(d) Thermolysis

Q56. The maturity values of an amount in 5 and 6 years at 8% simple interest p.a. are Rs. 1120 and Rs. 1184 respectively. Find the amount.

(a) Rs. 560
(b) Rs. 800
(c) Rs. 160
(d) Rs. 600

Q57. Which one of the following names is NOT related to economic theory?

(a) Thomas Robert Malthus
(b) David Ricardo
(c) John Maynard Keynes
(d) Niels Henrik David Bohr

Q58. An article was sold for Rs. 2500 at a profit of 25%. What was the amount of profit?

(a) Rs. 1000
(b) Rs. 500
(c) Rs. 250
(d) Rs. 2000

Q59. 15 men can do a work in 20 days. How many days will 10 men take to do double the same work?

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

Q60. An assertion (A) and a reason (R) are given below.

Assertion (A): The sale of mobile phones has increased manifold in recent times.

Reason (R): The craze for e-commerce drives mobile sales.

Choose the correct option.

(a) Both A and R are true and R is the correct explanation of A
(b) A is true, but R is false
(c) A is false, but R is true
(d) Both A and R are true, but R is not the correct explanation of A

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Q61. Who was sworn in as the governor of Odisha on the 21st of March 2013?

(a) Shri Keshari Nath Tripathi
(b) Dr. S.C. Jamir
(c) Shri Ram Naik
(d) Shri Ram Nath Kovind

Q62. X is the son of Z. Y is not a son of Z. K is Z's wife. X is the brother of Y. How is Y related to K?

(a) Daughter
(b) Niece
(c) Son
(d) Grandson

Q63. In economics, a very deep, long and painful recession is called as?

(a) Depression
(b) Deflation
(c) Inflation
(d) Depreciation

Q64. Silicon is a commonly used as a _____.

(a) Semi-conductor
(b) Conductor
(c) Amplifier
(d) Insulator

Q65. Find the mode of the following data:
110, 80, 70, 90, 120, 90, 80, 70, 60, 80

(a) 80
(b) 110
(c) 90
(d) 120

Q66. Complete the analogy.
If D = 17, F = ?

(a) 33
(b) 37
(c) 27
(d) 23

Q67. From the given options, find the rational number between the range 2/4 and 0.6

(a) 11/25
(b) 21/40
(c) 3/4
(d) 11/4

Q68. 'Sahitya Akademi' is mainly dedicated to the promotion of:

(a) Drama
(b) Music
(c) Literature
(d) Dance forms

Q69. The areas of two similar triangles are 121 sq.m and 64 sq.m. If the median of the 1^(st) triangle = 12.1 m, then the median of the 2^(nd) triangle will be

(a) 6.4 m
(b) 8.4 m
(c) 8.8 m

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(d) 9.2 m

Q70. 'Biosphere Reserves' are most appropriately described as:

(a) Bio-gas production sites
(b) Mineral deficient reserves
(c) Learning sites for sustainable development
(d) Sites affected by deforestation

Q71. The 'Kud dance' is a famous dance form of:

(a) Madhya Pradesh
(b) Jammu & Kashmir
(c) Odisha
(d) Rajasthan

Q72. If 1/43.21=0.02314 then 1/0.0004321=?

(a) 23.14
(b) 2314
(c) 0.0002314
(d) 231.4

Q73. Two varieties of salt, T and S, costing Rs. 25 and Rs. 35 per kg respectively are mixed in the ratio of 4 : 6. The mixed variety is sold at Rs. 37 per kg. What is the approximate profit percentage?

(a) 20%
(b) 33%
(c) 25%
(d) 38%

Q74. What is 7/8 th of 60% of 80?

(a) 42
(b) 48
(c) 28
(d) 56

Q75. _____ is a semi-luxury tourist train.

(a) Royal Rajasthan on Wheels
(b) Maharaja's Express
(c) Deccan Odyssey
(d) Desert Circuit

Q76. 3.0 × 0.3 × 0.03 × 0.003 = ?

(a) 81 × 10^(-4)
(b) 81 × 10^(-7)
(c) 81 × 10^(-5)
(d) 81 × 10^(-6)

Q77. _____ soils are also known as 'regur'.

(a) Alluvial
(b) Black
(c) Desert
(d) Mountain

Q78. A wheel has a diameter of 84 cm. How many revolutions should it make to cover a distance of 792 m? (π = 22/7)

(a) 298
(b) 300
(c) 312

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(d) 256

Q79. GDP is the total value of _____ during a specific period.

(a) all goods and services produced or sold
(b) all the finished goods and services produced within a country
(c) all intermediate goods and services produced or sold
(d) both intermediate and final goods and services produced within a country.

Q80. The idea of non-cooperation movement during freedom struggle did not envisage:

(a) the boycott of civil services.
(b) the boycott of foreign goods.
(c) popular violence
(d) the surrender of British titles

Q81. If the mathematical operators -, +, × and ÷ are represented by G, P, U and S respectively, then find the value of 48 S 8 P 7 U 2 G 21.

(a) 0
(b) -1
(c) 20
(d) -21

Q82. 12 men or 24 boys can do a work in 20 days. In how many days, will 24 men and 12 boys together complete the same work?

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

Q83. The Buddhist shrine 'Temple of Tooth' is located in:

(a) Malaysia
(b) Sri Lanka
(c) Nepal
(d) China

Q84. The number of boys in a bus at the starting point is twice the number of girls. On the way, when 15 boys got down and 10 girls entered the bus, the number of boys and girls became equal. How many boys were there at the start of the journey?

(a) 45
(b) 40
(c) 50
(d) 55

Q85. What will be the value of the expression if the signs '-' and '÷' are interchanged?

38 - 2 + 1 × 6 ÷ 6

(a) 37
(b) 20
(c) 0
(d) 19

Directions

Directions: Consider the following information and answer the questions based on it.

Y is a housewife and her husband is an Inspector. Their sons J, a teacher and K, a banker are married to a nurse and teacher respectively. J's son P, an Inspector is married and has 2 sons. K's daughter Q, a software engineer is married and has two sons. All of them live in a joint family.

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Q86. What is the male : female ratio?

(a) 4 : 8
(b) 1 : 1
(c) 8 : 4
(d) 9 : 5

Q87. Which of the following combinations is a couple, from the given information?

(a) Teacher - Teacher
(b) Teacher - Inspector
(c) Housewife - Banker
(d) Nurse - Teacher

Q88. Q's grandmother is a _____.

(a) Housewife
(b) Nurse
(c) Banker
(d) Teacher

Q89. Which one of the following belongs to India's inter-planetary mission?

(a) SARAL
(b) Jugnu
(c) Mangalyaan
(d) ANUSAT

Q90. Workbook, in a computer application, is basically related to

(a) MS Excel
(b) Adobe Reader
(c) MS Power Point
(d) MS Word

Q91. If $\cos\theta = 4/5$, $\sec\theta + \tan\theta = ?$

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

Q92. A person is called computer literate if he/she is just able to

(a) Run need-based applications
(b) Create anti-virus software
(c) Write programs
(d) Hack other computer

Q93. If HIJACK is coded as UVWNPX, then what is SPOON coded as:

(a) GQPPO
(b) FCBBA
(c) EONNM
(d) PSNNO

Q94. In the famous book, Hind Swaraj (1909), Mahatma Gandhi declared that the British rule in India was established:

(a) With the co-operation of Indians
(b) by using force.
(c) without the co-operation of Indians
(d) by other foreign powers

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Q95. The name of the famous tigress of Ranthambore National Park, Rajasthan that died in august 2016, was _____.

(a) Sita
(b) Machali
(c) Sundari
(d) Jhumroo

Q96. A father gives money to three of his sons, Ramu, Shamu and Dhamu, in the ratio 7 : 5 : 9 respectively. If Dhamu gets 120 more than Shamu, how much does Ramu get?

(a) 150
(b) 300
(c) 420
(d) 210

Q97. _____ is the highest legislative body of India.

(a) The Cabinet of Ministers
(b) The Supreme Court
(c) The Election Commission
(d) The Parliament

Q98. While editing a text document in MS Word, the combination keys used for copying and pasting text are respectively:

(a) Ctrl + c, Ctrl + z
(b) Ctrl + c, Ctrl + v
(c) Ctrl + x, Ctrl + v
(d) Ctrl + v, Ctrl + c

Q99. A worker's salary was increased by 30%, so that his salary became Rs. 910. How much did he earn before the increase?

(a) 1300
(b) 880
(c) 700
(d) 810

Q100. A statement followed by some conclusions is given below.

Statement: ABC Tuitions promise excellent teaching by excellent teachers for sure success.

Conclusions:

I. All students got success by joining ABC Tutions.

II. No other Tutions provides excellent teaching as ABC Tutions.

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

Q101. Amjad Ali Khan is an Indian classical musician who plays the:

(a) Tabla
(b) Mandolin
(c) Sitar
(d) Sarod

Q102. Under the Railways' dynamic fare pricing, the fare component may _____ with the subsequent bookings.

(a) may increase or decrease
(b) be scrapped
(c) decrease
(d) increase

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Q103. Kabaddi is NOT the state game of _____.

(a) Rajasthan
(b) Tamil Nadu
(c) Telangana
(d) Punjab

Q104. The Netaji Subhas National Institute of Sports is located in _____

(a) New Delhi
(b) Patiala
(c) Dehradun
(d) Kolkata

Q105. Rekha reads 15 pages in 25 minutes. How many pages will she complete in 45 minutes?

(a) 30
(b) 27
(c) 25
(d) 35

Q106. Complete the analogy.

If MGE = 25, then LJF = ?

(a) 28
(b) 16
(c) 22
(d) 18

Q107. After how many years, will Rs. 1,728 become Rs. 2,197 at 8 1/3% p.a. compound interest?

(a) 2 yeas
(b) 1 1/2 years
(c) 3 years
(d) 2 1/2

Q108. How much will Sangita get, if she deposits Rs. 37,000 at a simple rate of interest of 4.5% p.a. after two years?

(a) Rs. 40330
(b) Rs. 3330
(c) Rs. 39960
(d) Rs. 2960

Q109. ICR stands for _____.

(a) Intelligent Character Recognition
(b) Information and Communication Reader
(c) Integrated Computer Research
(d) Institute for Cyber Research

Q110. The quorum to constitute a sitting of the Lok Sabha is _____ of the total number of members of the house.

(a) One-half
(b) Two-thirds
(c) One-sixth
(d) One-tenth

Q111. Which alphabet will replace the (*)?

A, D, I, *, Y

(a) L
(b) T
(c) N
(d) P

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Q112. World Sparrow Day is observed every year, on March 20 to:

(a) Celebrate the increasing number of sparrows
(b) Show superiority of sparrows over other birds
(c) Increase awareness for conservation of sparrows
(d) Commemorate the birthday of Dr. Salim Ali

Q113. _____ is an irrational number.

(a) √(2 × 3)
(b) √9
(c) 2/3
(d) 11/8

Q114. In a certain code, if rat is called cat, cat is called bird, bird is called elephant, elephant is called fish and fish is called rat, then who can fly in the sky?

(a) Rat
(b) Elephant
(c) Cat
(d) Fish

Q115. What will be the next number in the following series?

0, 7, 26, 63, 124, ?

(a) 147
(b) 199
(c) 215
(d) 187

Q116. The 'Fountain of Wealth' is located in:

(a) Singapore
(b) Thailand
(c) Saudi Arabia
(d) London

Q117. The LCM of two numbers is 114 times their HCF. If the sum of LCM and HCF is 2300 and one of the numbers is 380, find the other number.

(a) 140
(b) 160
(c) 120
(d) 190

Q118. The ozone molecule is made up of _____ atoms of oxygen.

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

Q119. Which of the following is different from the other three?

(a) Crocodile
(b) Sea Horse
(c) Turtle
(d) Frog

Q120. Which of the following is NOT a threat to the tiger population in India?

(a) Reduction in available prey
(b) Connecting Wildlife Corridors
(c) Cattle Grazing

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(d) Habitat Fragmentation

ANSWER KEY

1	c	2	a	3	b	4	d	5	a	6	c	7	b	8	b	9	b	10	a
11	c	12	b	13	c	14	b	15	b	16	c	17	a	18	a	19	c	20	b
21	b	22	c	23	d	24	a	25	c	26	c	27	d	28	b	29	b	30	c
31	b	32	d	33	d	34	d	35	a	36	c	37	c	38	d	39	d	40	b
41	c	42	a	43	a	44	d	45	c	46	a	47	a	48	c	49	d	50	a
51	a	52	a	53	b	54	a	55	c	56	b	57	d	58	b	59	b	60	b
61	b	62	a	63	a	64	a	65	a	66	b	67	b	68	c	69	c	70	c
71	b	72	b	73	a	74	a	75	d	76	d	77	b	78	b	79	b	80	c
81	b	82	d	83	b	84	c	85	d	86	d	87	d	88	a	89	c	90	a
91	a	92	a	93	b	94	a	95	b	96	d	97	d	98	b	99	c	100	a
101	d	102	d	103	a	104	b	105	b	106	a	107	c	108	a	109	a	110	d
111	d	112	c	113	a	114	b	115	c	116	a	117	c	118	a	119	b	120	b

SOLUTIONS

Q1. Answer: (c) NPOM

Given series: BDCA, FHGE, JLKI,?

The logic followed here is:

Hence, "NPOM" is the answer.

Q2. Answer: (a) NMRAEEPNT

The pattern followed here is:

Similarly,

Hence, the answer is "NMRAEEPNT"

Q3. Answer: (b) Time

The logic follows here is :-

Clock is a device that measures time.

Similarly,

Thermometer is a device that measures Temperature.

Thus, the correct answer is "Time".

Q4. Answer: (d) Sundarbans

The correct answer Sundarbans.

Key Points

• The World's largest area of mangrove forests is Sunderbans.

• The Sundarbans is a UNESCO World Heritage Site and located at the Southeastern tip of the 24 Paraganas district about 110 km from Kolkata.

• Sunderbans got its name from one of the mangrove plants known as Sundari (Heritiera Minor).

• Sundarbans are a part of the world's largest delta, formed by the mighty rivers Ganga, Brahmaputra, and Meghna.

• It is situated on the lower end of Gangetic West Bengal, the Sundarbans is crisscrossed by hundreds of creeks and tributaries.

• The Sundarbans is the largest single block of tidal, halophytic mangrove forests in the world.

Additional Information

• The present Chief Minister of Bengal is Mamata Banerjee and the Governor is Dr. C.V. Ananda Bose.

• Namdapha National Park is a large protected area in Arunachal Pradesh, Noa-Dihing River flows through this National Park.

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Q5. Answer: (a) 126

Given:

The numbers are 4, 6, 9, 12 and 14

Concept used:

The least number which when doubled becomes exactly divisible by numbers will be half of the L.C.M

Calculation:

L.C.M by prime factorization of Numbers

4 = 2 × 2

6 = 2 × 3

9 = 3 × 3

12 = 2 × 2 × 3

14 = 2 × 7

Combine them, using the maximum number of occurence of each factor

L.C.M = 2 × 2 × 3 × 3 × 7

=> L.C.M = 252

Now, Half of the L.C.M = 252/2 = 126

Therefore The least number which when doubled, will be exactly divisible by 4, 6, 9, 12 and 14 is 126

Q6. Answer: (c) Statement II and either I or III are sufficient

We have to find the shortest person,

According to the statements:-

I. P is taller than T but shorter than S → (P > T, but P < S)

II. Q is shorter than R but taller than T → (Q < R, but Q > T)

III. S is taller than R and P is taller than Q → (S > R, but P > Q)

On combining statement I and II:-

(S > P > T < Q < R)

On combining statement II and III:-

(S > R > Q > T < P)

Hence, From statements the order follows is :-

S > R > P > Q > T

Thus, the correct answer is "Statement II and either I or III are sufficient".

Q7. Answer: (b) Thiruvananthapuram

The correct answer is Thiruvananthapuram.

Key Points

• The International Tourist Bureau facility of Indian Railways is not available at Thiruvananthapuram.

• The International Tourist Bureau facility of Indian Railways is available in 11 cities across India namely Kolkata, Chennai, Mumbai, AGRA-CANTT, Jaipur, Delhi, Jodhpur, Bangalore, Varanasi, Secunderabad, and Ahmedabad.

• New Delhi & Varanasi offices are known as International Tourist Bureau.

• International Tourist Bureau at New Delhi has started functioning round the clock.

• These provide assistance to foreign tourists and NRIs regarding inquiries, booking, reservation, and travel planning, etc.

Additional Information

• The present Union Minister of Railways is Ashwani Vaishnav.

Q8. Answer: (b) Tejas

The correct answer is Tejas.

Important Points

• Tejas is the name of an Indian Light Combat Aircraft.

• Tejas-Indian Light Combat Aircraft (LCA), is the smallest and lightest Multi-Role Supersonic Fighter Aircraft of its class.

• This single-engine, Compound-Delta-Wing, Tailless Aircraft Tejas is designed and developed by ADA with HAL as the principal partner along with DRDO, CSIR, BEL, DGAQA, and IAF to meet the diverse needs of the Indian Air Force (IAF).

• The light combat aircraft was named 'Tejas', which means 'radiance', by former prime minister Atal Bihari Vajpayee.

• Tejas incorporates a distinctive 'glass cockpit' in which information is displayed real-time to the pilot.

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• The current Air Chief Marshal of IAF is VR CHAUDHARI.

Additional Information

• Sukhoi Su-30 is a two-seater, twin-engine fighter aircraft developed by Russia's Sukhoi Aviation Corporation in the Soviet Union.

• The Indian Air Force has nearly 360 SU 30 fighter aircraft.

• Rudra is the Weaponised version of the Advanced Light Helicopter (Dhruv) designed and developed by Hindustan Aeronautics Limited (HAL) to meet the requirements of the Indian Army & Air Force.

• The indigenously designed and developed Advanced Light Helicopter (ALH-DHRUV) is a twin-engine, multi-role, multi-mission new generation helicopter in the 5.5-ton weight class.

Q9. Answer: (b) mining

The correct answer is mining.

Key Points

• Data mining is the process of examining large, pre-existing databases in order to generate new useful information.

• The application of data mining could be seen in multiple fields, like science and research.

• Data mining is also known as Knowledge Discovery in Data (KDD).

• A few examples of top data mining software companies are Sisense, Oracle Data Mining, IBM Cognos.

• Data mining tools predict behaviors and future trends, allowing businesses to make proactive, knowledge-driven decisions.

Additional Information

• The generation of random numbers from a random process that is described by a series of distributional statements is referred to as the simulation of data.

• A data processing technique that merges the data from multiple different data sources into a single data store is known as data integration.

• A technique that is used in order to remove the noisy data and correct the instability in data is called data cleaning.

Q10. Answer: (a) 18 × 16 ÷ 12 - 11 + 13

The correct answer is 18 × 16 ÷ 12 - 11 + 13.

Important Points

• To solve this question we will be applying the BODMAS rule according to which we should calculate in the order Bracket, Order, Division, Multiplication, Addition, and Subtraction.

• In option number one, first, solve 16÷12, we get 1.33.

• Now, multiply 1.33 by 18, we get 24.

• Now, solve -11+13, we get 2.

• Now, add 24+2, we get 26 which is the required answer.

• The steps of the question are:

• Step 1: 18×1.33 - 11 + 13

• Step 2: 24 - 11 + 13

• Step 3: 24+2 = 26

Q11. Answer: (c) 30 kmph

Given:

Initial Time = 8 hours

Speed = 50 kmph

Formula used:

Distance = Time × Speed

Calculation:

Distance = (8 × 50) km

=> 400 km

Now, if distance to be covered in 5 hours

Then, New Speed = 400/5 kmph

=> 80 km/hr

Increase in speed = New Speed - Original speed

=> (80 - 50) kmph

=> 30 kmph

Therefore The increase in speed is 30 kmph

Q12. Answer: (b) 200 km

Given:

Speed of bus X = 20 kmph

Speed of bus Y = 50 kmph

Bus Y leaves 6 hours after bus X has left

Concept used:

Time = Distance/Speed

Time taken to meet is always equal

Calculation:

Distance travelled by bus X in 6 hours = 20 × 6 = 120 km

Now, bus X will travel some kms ahead of 120 km before both the buses meet

so, Let distance travelled more by bus X before they meet be x km

so, Distance travelled by bus Y before they meet = (120 + x) km

Time taken to meet by bus X = x/20 hr ----(i)

Time taken to meet by bus Y = (120 + x)/50 hr ----(ii)

As we know that, time taken to meet is always equal

So, x/20 = (120 + x)/50

=> 5x = 2x + 240

=> 3x = 240

Therefore x = 80 km

Total distance travelled from starting before they meet = (120 + 80) km

=> 200 km

Therefore The buses will meet 200 km far from the starting

Q13. Answer: (c) (iii)

The correct option is (iii).

Important Points

• The most profitable in percentage terms is (iii) Rs. 8.

• According to the question, the article was sold at Rs. 2 above the purchase price. Therefore, the lower the price of the article, the higher would be the percentage of profit.

• Rs.2 is 18.18% of Rs. 11, Rs.2 is 20% of Rs. 10, Rs.2 is 22.22% of Rs. 9, and Rs.2 is 25% of Rs.8.

• Hence, the highest profit in terms of percentage comes with Rs.8 i.e. 25%.

Q14. Answer: (b) Scattering

The correct answer is scattering.

Additional Information

• The Tyndall effect is related to the scattering of light.

• The Tyndall effect is the phenomenon of scattering of light by particles in a colloid solution or in a very fine suspension.

• The amount of scattering depends on the frequency of the light and the density of the particles.

• The scattered light is inversely proportional to the fourth power of the wavelength, so blue light is scattered much more strongly than red light.

• The Tyndall effect can be observed when sunlight passes through the canopy of a dense forest.

• In the forest, mist contains tiny droplets of water, which act as particles of colloid dispersed in the air.

• When white light is passed through a prism, the white light is separated into its component colors - red, yellow, green, orange, blue, and violet this phenomenon is known as the dispersion of light.

• Between two different media, the change in direction of a wave at a boundary is known as the reflection of light.

• A change in the direction of light when it enters a medium with a different density from the one through which it has been traveling is known as the refraction of light.

Q15. Answer: (b) 40

Given:

L.C.M of two numbers = 48

Ratio of numbers = 1 : 2/3
Concept used:
L.C.M of fractional numbers is always L.C.M of the numerator and H.C.F of the denominator
Calculation:
Let the two numbers be x and 2x/3
L.C.M of x and 2x/3 = 2x
And, L.C.M given = 48
So, 2x = 48
=> x = 24
& 2x/3 = (2 × 24/3) = 16
First number = 24
Second number = 16
Sum of numbers = (24 + 16) = 40
Therefore The sum of numbers is 40

Q16. Answer: (c) Z

Solution:
Given:
Combined sale in 2011 and 2013 in division W = 130 + 86 = 216
Combined sale in 2011 and 2013 in division X = 134 + 112 = 246
Combined sale in 2011 and 2013 in division Y = 114 + 76 = 190
Combined sale in 2011 and 2013 in division Z = 108 + 80 = 188
Now, we can clearly observe the above and from this in division Z is show the lowest combined sale in 2011 and 2013.
Therefore Division Z shows the lowest combined sale in 2011 and 2013.

Q17. Answer: (a) X

Solution:
Given:
Total sales in 2011 from division W = 130
Total sales in 2011 from division X = 134
Total sales in 2011 from division Y = 114
Total sales in 2011 from division Z = 108
So, we can see that division X is showing better performance among them.
Therefore In 2011 division X will be performed better than W, Y and Z

Q18. Answer: (a) 15 : 11

Solution:
Given:
Total item sold by division Y in 2012 = 164
Total item sold by division Y in 2013 = 76
Total item sold by division Z in 2012 = 96
Total item sold by division Z in 2013 = 80
Total sum of item which is sold by division Y in 2012 and 2013 = 164 + 76 = 240
Total sum of item which is sold by division Z in 2012 and 2013 = 96 + 80 = 176
According to question ratio between total item sold by division Y and Z in 2012 and 2013 is = 240/176 = 15/11
Therefore The required ratio will be 15 : 11.

Q19. Answer: (c) 114

Solution:
Concept:
Average = (Total sum of result)/(Total number of result)
Given:
Total sale by division W in 2010 = 100

Total sale by division W in 2011 = 130
Total sale by division W in 2012 = 140
Total sale by division W in 2013 = 86
Total sum of sales in all the given years by division W = 100 + 130 + 140 + 86 = 456
Total number of year is = 4
Then average sales of division W in all the given years = 456/4 = 114
Therefore Average sale of W in all the given years is 114.

Q20. Answer: (b) Brother

The correct answer is Brother.
Important Points
• Arun is the brother of Sonali.
• According to the question, it is given that Sarda is the wife of Arjun and Arun is the son of Sarda.
• According to the question, it is given that Sonali is the daughter of Arjun. So, Sonali is also the daughter of Sarda.
• Hence, Arun is the brother of Sonali.

Q21. Answer: (b) Rs. 3000

Solution:
Given:
Time = 5 years in both case
Interest = I
Amount = P in both case (Let be assume)
Rate = R (Before increment of rate)
Rate = R + 2 (After increment of rate)
Difference between Interest = 300
Formula Used:
Interest = (Principle × Rate × Time)/100
Calculation:
Interest = (P × R × T)/100
In first condition Interest I1 = (P × R × 5)/100 = (PR)/20
In second condition Interest I2= [P × (R + 2) × 5]/100 = (5PR + 10P)/100 = (PR + 2P)/20
Now, I2 - I1 = 300
When we will solve this then we get P = 3000
Therefore The amount is invested 3000.

Q22. Answer: (c) Director

The logic follows here is :-
Author writes Books.
Similarly,
Director directs the Movies.
Thus, the correct answer is "Director".

Q23. Answer: (d) 7 1/5 days

Solution:
Given:
P is 4 times efficient than Q it means
Let be assume Q can complete the work in = A days
P will complete the work in = A/4 days
Q takes 27 days more than P take.
=> A/2 + 27 = A
=> A = 36 Days
=> A/4 = 9 Days
Q can work in = 36 Days

P can work in = 9 Days.
Concept:
Work = Efficiency × Days
Calculation:
Q's one day work is = 1/36
P's one day work is = 1/9
Both can complete the work in days
=> (1/36) + (1/9) = 5/36
So, they can complete the work in 36/5 Days or 7 + (1/5) days.
Therefore Both can complete the work in 7 + (1/5) Days.

Q24. Answer: (a) 18 sq. cm

Solution:
Given:
Diagonal of the square = 12/2 = 6 cm
Concept:
Diagonal of the square = √2 × Side of the Square
Area of square = (Side of the Square)²
Calculation:
=> Diagonal of square = √2 × Side of the Square
=> Side of square = Diagonal of square/√2
=> Side of square = 6/√2
=> Area of square = (Side of the Square)2
=> Area of square = (6/√2)² = 36/2 = 18 cm
Therefore Area of the square is 18 cm.

Q25. Answer: (c) Michael Bevan

The correct answer is Michael Bevan.
Important Points
• Among the following Michael Bevan is not an international golfer.
• Michael Bevan is a former Australian cricketer.
• Michael was a left-handed batsman and a spin bowler.
• Michael has played 232 ODIs and he was a scholarship holder at the Australian Cricket Academy in 1989.
Key Points
• Shiv Chawrasia is an Indian international golfer, Shiv has won six Asian Tour events.
• He was awarded the Arjuna award for Golf in the year 2017.
• Jason Day is an Australian golfer, he was a former World Number 1 in the World Golf Ranking.
• He won the PGA Championship in 2015.
• Anirban Lahiri is an Indian international golfer, Anirban currently plays on the PGA Tour and Asian Tour.

Q26. Answer: (c) 185.71%

Given:
Cost price = 35% of Selling price
Cost price = 0.35 × Selling price
Concept:
Profit gained = (Selling price - Cost price)/Cost price
Calculation:
Profit gained = (Selling price - 0.35 × Selling price)/(0.35 × Selling price)
=> Profit gained = 0.65/0.35
=> Profit percentage = 0.65/0.35 × 100
=> Profit percentage = 185.71%
Therefore Profit margin in percentage is 185.71%.

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Q27. Answer: (d) Ownership

The correct answer is Ownership.

Key Points

• Ownership is the criteria for the classification of the Public or Private sector.

• In public sector enterprises, all the functions are under the direct control of the government.

• In private sector enterprises, the functioning and segment of the economy are owned by organizations and individuals trying to generate profit.

• In India, the Department of Public Enterprises is the nodal department for all the Central Public Sector Enterprises (CPSEs) and formulates policy pertaining to CPSEs.

Additional Information

• Department of Public Enterprises is headed by the Secretary to the Government of India who is assisted by an establishment with an overall sanctioned strength of 122 officers/personnel.

• The present Minister of Heavy Industries and Public Enterprises is Prakash Javadekar.

Q28. Answer: (b) both AIR and Doordarshan

The correct answer is both AIR and Doordarshan.

Important Points

• Prasar Bharati is an autonomous body that comprises both All India Radio (AIR) and Doordarshan.

• Prasar Bharati is the Public Service Broadcaster of the country.

• It is a statutory autonomous body established under the Prasar Bharati Act and came into existence in 1997.

• The present CEO of Prasad Bharti is Shashi Shekhar Vempati, Prasad Bharti is headquartered in New Delhi.

• The present Minister of Information and Broadcasting is Anurag Singh Thakur.

Additional Information

• All India Radio is India’s Public Service Radio Broadcaster and the Radio vertical of Prasar Bharati.

• Serving its mandate to inform, educate, and entertain its listeners.

• Doordarshan is India's Public Service Television Network and the television vertical of Prasar Bharati.

• It is one of the largest broadcasting organizations in the world in terms of studios and transmitters.

Q29. Answer: (b) Affordable medical care

The correct answer is Affordable medical care.

Key Points

• Affordable medical care describes ObamaCare.

• The Patient Protection and Affordable Care Act, commonly known as ObamaCare is a law approved to ensure that all Americans have access to affordable health insurance.

• The Patient Protection and Affordable Care Act was approved by the 111th United States Congress and signed into law by President Barack Obama.

• The act was passed in the year 2010. After the law came into effect, overall healthcare spending slowed, and a decrease in premiums for employer-based insurance plans has been observed.

Additional Information

• Joe Biden was elected as the 46th President of the United States of America in November 2020.

• In the year 1789, George Washington was the First President of the United States of America.

Q30. Answer: (c) 88 kmph

Given:

Speed of car P = 66 km/h

Time the car P takes to cover a distance = 11 hours

Distance covered by Car Q = 242 km more than Car P at the same time

Concept:

Speed = Distance traveled/Time taken

Calculation:

Distance traveled by car P in 11 hours = 66 × 11

=> Distance traveled by car P = 726 Km

Then, distance traveled by Q = 242 + 726

=> Distance traveled by Q = 968 km

The average speed of car Q = Distance traveled/ Time taken

=> The average speed of car Q = 968/11

=> The average speed of car Q = 88 km/hr

Therefore The average speed of car Q is 88 km/hr.

Q31. Answer: (b) Satellite

The correct answer is Satellite.

Key Points

• 'YouthSat' refers to a satellite.

• Youthsat was launched in the year 2011.

• YOUTHSAT is a joint Indo-Russian stellar and atmospheric satellite mission with the participation of students from Universities at graduate, postgraduate, and research scholar level.

• With a lift-off mass of 92 kg, Youthsat is a mini satellite and the second in the Indian Mini Satellite (IMS) series.

• Youthsat mission intends to investigate the relationship between solar variability and thermosphere-Ionosphere changes.

• The satellite carries three payloads, of which two are Indian and one Russian.

Additional Information

• The two Indian payloads used in Youthsat are:

• 1. RaBIT (Radio Beacon for Ionospheric Tomography)

• 2. LiVHySI (Limb Viewing Hyper Spectral Imager)

• The Russian payload is SOLRAD - To study temporal and spectral parameters of solar flare X and gamma-ray.

Q32. Answer: (d) A.R. Rahman

The correct answer is A.R. Rahman.

Key Points

• A.R. Rahman was awarded Japan's 'Fukuoka prize-2016' for outstanding contribution towards South Asian traditional fusion music.

• A.R. Rahman is an Indian music composer and producer, he mostly works in Tamil and Hindi movies. Indian Government awarded him with the Padma Bhushan in the year 2010.

• Fukuoka Prize was started in the year 1990 to honor the outstanding work of individuals or organizations in creating Asian culture.

• The award was started by the city of Fukuoka and the Fukuoka City International Foundation.

• Indian folk artist from Chhattisgarh Teejan Bai was awarded the Fukuoka Prize in 2018.

Additional Information

• Yasmeen Lari is an architect from Pakistan, she was the first female architect of Pakistan.

• Shankar Mahadevan is an Indian music composer and singer. He was awarded the Padma Shri by the Indian Government in 2019.

Q33. Answer: (d) 112

Given:

The given distribution is,

130, 90, 25, 77, 250, 100

Concept used:

Mean of the given distribution = sum of distribution/ number of terms

Calculation:

Sum of the distribution = 130 + 90 + 25 + 77 + 250 + 100

=> Sum = 672

Number of terms = 6

=>Then, mean of the distribution = 672/6

=> Mean = 112

Therefore Mean of the distribution is 112.

Q34. Answer: (d) Both A and R are true and R is the correct explanation of A

The logic follows here is :-

Assertion (A) → True (Rural India has lot of plants so that there will be less or no pollution and there will be no fast food culture.

There will be fresh water resources and there will be less CO2 and compare to Urban in Rural there will be more oxygen so there will be less health issues in Rural India compare to Urban India).

Reason (R) → True (Urban life is facing the problems of increasing pollution levels, unhygienic garbage dumping, and a fast food culture).

Hence, "Both A and R are true and R is the correct explanation of A".

Thus, the correct answer is "Both A and R are true and R is the correct explanation of A".

Q35. Answer: (a) -19

Calculation:

Cross-multiplying we get,

=> 7× (a + 4) = 5 × (a – 2)

=> 7 × a + 7 × 4 = 5 × a – 5 × 2

=> 2 × a = -10 – 28

=> a = -38/2

=> a = -19

Therefore The value of a is (-19).

Q36. Answer: (c) Neither I nor II follows

The statement given here is :-

Eating nutritious food will keep a person healthy so there will be no health issues so that it will keep doctor away.

I. Doctors will be out of job soon → False (There is no definite relation that eating nutritious food keeps doctor away but there is no information that doctors will be out of job soon).

II. Nutritious food does not keep doctor away → False (It is clear that from statement eating nutritious food keeps doctor away but from this conclusion eating Nutritious food does not keep doctor away).

Hence, Both conclusions are 1,2 are Complimentary pairs.

Thus, the correct answer is Neither I nor II follows.

Q37. Answer: (c) 20

The logic follows here is :-

From the given series the logic follows here to find missing term is:

4 × 1 = 4

5 × 1 = 5

4 × 2 = 8

5 × 2 = 10

4 × 3 = 12

5 × 3 = 15

4 × 4 =16

5 × 4 = 20

Similarly,

4 × 5 = 20

5 × 5 = 25.

Thus, the correct answer is "20".

Q38. Answer: (d) 16

Given:

The fourth proportion to be found for 15, 12, and 20.

Concept used:

When four numbers a, b, c, and d are in the following relation, a : b = c : d

Then, the fourth proportion of a, b and c is d.

Fourth proportion, d = (b × c)/a

Calculation:

Here, a = 15

b = 12

and, c = 20

Thus, fourth proportion, d = (12 × 20)/15

\Fourth proportion, d = 16

Therefore The fourth proportion to 15, 12 and 20 is 16.

Q39. Answer: (d) Bishweshwar Nandi

The correct answer is Bishweshwar Nandi.

Important Points

• The Government conferred Dronacharya Award 2016 for Gymnastics to Bishweshwar Nandi.

• Bishweshwar Nandi is an Indian gymnastics coach from Tripura, he was the coach of Indian gymnast Dipa Karmakar who won a bronze medal at the 2014 Commonwealth Games in Glasgow.

• Dipa has also represented India in the 2018 summer Olympics 2016.

• Dronacharya Award is an award for brilliant coaches in sports and games, the award is named after "Guru Drona", a character from the Sanskrit epic Mahabharata.

• The award was started in the year 1985.

• In the year 2016, the Dronacharya award was given to 6 coaches including the India Test team captain Virat Kohli's mentor Raj Kumar Sharma (Cricket), PV Sindhu's coach Pullela Gopichand.

Additional Information

• In the year 2020, the Dronacharya award was given to 13 coaches, a few of them are Shiv Singh, Dharmendra Tiwari, Naresh Kumar.

• Nagpuri Ramesh is the coach of Indian professional sprinter Dutee Chand.

• He received the Dronacharya award for athletics in 2016.

Q40. Answer: (b) AEVLTR

The correct option is AEVLTR.

Important Points

• After rearranging AEVLTR, a meaningful English word we get is Travel. So, the correct option is number 2.

• Travel means going from one place to another by covering some distance.

• A person who travels is called a traveller. Synonyms of traveller are visitors, tourists, passenger, etc.

Additional Information

• After rearranging option number one we would get Biology.

• After rearranging option number three we would get Chemistry.

• After rearranging option number four we would get Physics.

Q41. Answer: (c) Son-in-law

The logic follows here is :-

Family chart :-

Family tree :-

Here the relation given in question is B and C are husband and wife respectively. M is the father of K and C.

Hence, "B is Son-in-law for M".

Thus, the correct answer is 'Son-in-law'.

Q42. Answer: (a) Potential

The correct answer is Potential.

Key Points

• Electric potential is the "work done in moving a unit charge between two points in an electric circuit".

• It is measured in Volts.

• While electric potential energy has a dependency upon the charge of the object experiencing the electric field, an electric potential is purely location depend.

• The movement from the negative terminal to the positive terminal would require work, thus increasing the potential energy of every Coulomb of charge that moves along this path.

Important Points

• The flow of electrons in a complete circuit of conductors is known as electric current.

• Ampere is the SI unit of electric current.

• The rate, per unit time, at which work is being done on an electric circuit is known as electric power. Power is measured in Watts.

• Electrical resistance is the measure of the opposition to current flow in an electrical circuit, it is measured in ohms.

Additional Information

• Kirchhoff's two rules of the electric current states that –

(a) Junction Rule: At any junction of circuit elements, the sum of currents entering the junction must equal the sum of currents leaving it.

(b) Loop Rule: The algebraic sum of changes in potential around any closed loop must be zero.

Q43. Answer: (a) Gujarat

The correct answer is Gujarat.

Key Points

• Rann Utsav is a festival in Kutch, Gujarat, India.

• Rann Utsav is a 3 month-long Carnival of Music, Dance, nature beauty of White Rann, and much more than that when visiting under the full Moon.

• The Rann festival proudly showcases the myriad arts and crafts of Gujarat, its folk songs and dance, and the Rann's natural beauty.

• The Rann festival dates run from October till the third week of February each year.

• The Rann Utsav festival of Gujarat state was inaugurated by Gujarat Tourism Minister Saurabh Patel in the year 2013.

• The present tourism minister of Gujarat is Jawahar Chavda.

Additional Information

• The present Chief Minister of Gujarat is Bhupendra Patel and the Governor is Acharya Devvrat.

• The present Union Minister of tourism and culture is Prahlad Singh Patel.

Q44. Answer: (d) 15 more

The least possible Venn diagram is :-

The number of people who drink only coffee is = 30

The number of people who drink all the three (milk, tea & coffee) =15

Here, (The number of people who drink only coffee is) - (The number of people who drink all the three (milk, tea & coffee)) = 30 - 15 = 15

Hence, The number of people who drink only coffee is 15 than that of those who drink all the three (milk, tea & coffee).

Thus, the correct answer is '15'.

Q45. Answer: (c) 30

The least possible Venn diagram is :-

The number of people who drink tea = 40 + 25 + 20 + 15 = 100.

The number of people who drink coffee = 30 + 25 + 15 = 70.

Hence, the difference between the number of people who drink tea and those who drink coffee is :-

(The number of people who drink tea) - (The number of people who drink coffee) = 100 -70 = 30.

thus, the correct answer is '30'.

Q46. Answer: (a) 28 and 42

Given:

Amount of sweet = 250 g

Amount of cashew in it = 20 g

Amount of almonds in it = 30 g

Amount of sweet in which we need to find the amount of cashew and almonds = 350 g

Concept:

The percentage of cashew and almond will remain the same in 250 g and in 350 g.

Calculation:

Percentage of cashew in 250 gram sweet = 20/250 × 100

=> Percentage of cashew in 250 gram sweet = 8%

Percentage of almond in 250 gram sweet = 30/250 × 100

=> Percentage of almond in 250 gram sweet = 12 %

Now, to find the amount of cashew and almond in 350 gram of sweet,

Amount of cashew in 350 gram sweet = 350 × 8/100

=> Amount of cashew in 350 gram sweet = 28 g

Amount of almond in 350 gram sweet = 350 × 12/100

=> Amount of almond in 350 gram sweet = 42 g

Therefore The amount of cashew and almond in 350 grams sweet is 28 grams and 42 grams respectively.

Q47. Answer: (a) Only I is sufficient

Let the number be x

Statement I:

25% of x = x - 60

=> (25/100) × x = x - 60

=> (1/4) × x = x - 60

=> x = 4x - 240

=> 4x - x = 240

=> 3x = 240

=> x = 80

Now, 40% of x = 80 × (40/100) = 32

So, without even evaluating the other options we can see that we got the number.

Hence, Statement I alone is sufficient to answer the question

Statement II:

=> 20% of x = even number

Since, we do not have any information about even number we cannot solve it further

Hence, Statement II alone is insufficient to answer the question

Statement III:

5% of twice the number is 1/10th of the number

=> 5% of 2x = 1/10 of x

=> 1/20 × 2x = x/10

=> x/10 = x/10

Hence, Statement III alone is insufficient to answer the question

Therefore, the correct answer is Only I is sufficient.

Q48. Answer: (c) Automatic

The correct answer is Automatic.

Key Points

• Automatic is not a mode of heterotrophic nutrition.

• Heterotrophic is a type of nutrition that involves the intake of complex material prepared by other organisms.

• Different types of heterotrophic nutrition are saprophytic, parasitic, and holozoic.

• Autotrophic nutrition involves the intake of simple inorganic materials from the environment and using an external energy source like the Sun to synthesize complex high-energy organic material.

• The word “autotroph” comes from the root words “auto” for “self” and “troph” for “food.”

• An autotroph is an organism that feeds itself, without the assistance of any other organisms.

Additional Information

• A type of nutrition in which an organism lives inside the body or at the body surface of another type of organism is known as Parasitic nutrition.

• Nutrition takes place in organisms that take solid or liquid food inside their body is known as Holozoic nutrition.

Q49. Answer: (d) I M

The logic follows here is :-

Thus, the correct answer is "IM".

Q50. Answer: (a) New Delhi

The correct answer is New Delhi.

Key Points

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• The headquarters of the Indian Council of Agricultural Research (ICAR) is located in New Delhi.

• The Indian Council of Agricultural Research (ICAR) is an autonomous organization under the Department of Agricultural Research and Education (DARE), Ministry of Agriculture and Farmers Welfare, Government of India.

• Formerly ICAR was known as the Imperial Council of Agricultural Research, it was established on 16 July 1929 as a registered society under the Societies Registration Act, 1860 in pursuance of the report of the Royal Commission on Agriculture.

• The Ministry of Agriculture & Farmers' Welfare is headed by Narendra Singh Tomar.

Additional Information

• The headquarters of the Board of Control for Cricket in India (BCCI) is in Mumbai.

• The headquarters of the Insurance Regulatory and Development Authority (IRDA) is in Hyderabad.

Q51. Answer: (a) exothermic

The correct answer is Exothermic.

Key Points

• An exothermic reaction is a chemical reaction that releases energy in the form of light or heat.

• It is the opposite of an endothermic reaction.

• Expressed in a chemical equation: reactants → products + energy.

• Exothermic Reaction means "Exo" meaning releases and "thermic" means heat.

• So the reaction in which there is a release of heat with or without light is called an exothermic reaction.

• An exothermic reaction is a chemical reaction that releases heat. It gives net energy to its surroundings.

• That is, the energy needed to initiate the reaction is less than the energy released.

• When the medium in which the reaction is taking place collects heat, the reaction is exothermic.

• When using a calorimeter, the total amount of heat that flows into (or through) the calorimeter is the negative of the net change in energy of the system.

• Examples of exothermic reactions

• Combustion reactions of fuels or a substance ex: Burning of natural gas: CH4 + 2O2 → CO2 + 2H2O CH4 + 2O2 -> CO2 + 2H2O

• The thermite reaction

• The Haber process of ammonia production

Additional Information

Endothermic Reaction:

• Endothermic reactions are chemical reactions in which the reactants absorb heat energy from the surroundings to form products.

• These reactions lower the temperature of their surrounding area, thereby creating a cooling effect.

• When a chemical bond is broken, it is usually accompanied by a release of energy.

• Similarly, the formation of chemical bonds requires an input of energy.

• The energy supplied/released can be of various forms (such as heat, light, and electricity).

• When ammonium chloride (NH4Cl) is dissolved in water, an endothermic reaction takes place.

• The salt dissociates into ammonium (NH4^+) and chloride (Cl^–) ions.

• The chemical equation can be written as follows: NH4Cl (s) + H2O (l) → NH4Cl (aq) – Heat

Combination reaction:

• A Combination reaction is one in which two or more reactants combine to form a single product.

• Examples are the formation of calcium oxide by the combination of calcium and oxygen.

• Calcium Hydroxide is formed by adding water to quicklime.

• Combustion of coal and combustion of hydrogen are examples of combination reactions.

• Coal burns in air to form carbon dioxide gas.

• Hydrogen burns in the presence of oxygen to form water.

Decomposition reaction:

• A Decomposition reaction is a type of chemical reaction in which a single compound breaks down into two or more new compounds.

• When Limestone is heated strongly it decomposes to form calcium oxide and carbon dioxide.

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Q52. Answer: (a) Peristalsis

The correct answer is Peristalsis.

Key Points

• Peristalsis is a type of wave-like movement occurring in the alimentary canal which involves contraction and relaxation of the muscles.

• It begins in the esophagus and helps to move the food along the alimentary canal for the process of digestion.

Additional Information

Gastric:

• The Gastric Glands secrete the enzyme Pepsin.

• Gastric glands are found in the stomach. They secrete enzymes like Pepsin, Rennin which act upon the Proteins.

• Glands in the mucous-membrane which line the stomach make and store an inactive protein known as pepsinogen. When pepsinogen is released into the stomach and mixed with gastric juice, it is converted into pepsin.

• The pH of the gastric juice which is involved in the process of digestion is about 1.5 - 3.5.

• This is because the gastric juice comprises of hydrochloric acid which activates pepsinogen into enzyme pepsin that is responsible for the subsequent breakdown of proteins.

Diastolic:

• Blood pressure is measured using two numbers.

• The first number, called systolic blood pressure, measures the pressure in your blood vessels when your heartbeats.

• The second number, called diastolic blood pressure, measures the pressure in your blood vessels when your heart rests between beats.

• If the measurement reads 140 systolic and `100 diastolic, you would say, “140 over 100,” or write, “140/100 mmHg.”

Q53. Answer: (b) Acid Rain

The correct answer is Acid Rain.

Key Points

• Acid rain refers to the ways in which acid from the atmosphere is deposited on the earth’s surface.

• Oxides of nitrogen and sulphur which are acidic in nature can be blown by the wind along with solid particles in the atmosphere and finally settle down either on the ground as dry deposition or in water, fog and snow as wet deposition.

• Acid rain is a byproduct of a variety of human activities that emit the oxides of sulphur and nitrogen in the atmosphere. As mentioned earlier, burning of fossil fuels (which contain sulphur and nitrogenous matter) such as coal and oil in power stations and furnaces or petrol and diesel in motor engines produce sulphur dioxide and nitrogen oxides.

• It may cause corrosion in many buildings bridges, monuments, fencing etc

• SO2 and NO2 after oxidation and reaction with water are major contributors to acid rain because polluted air usually contains particulate. the matter that catalyses the oxidation.

$2SO_2 (g) + O_2 (g) + 2H_2O (l) \rightarrow 2H_2SO_4 (aq)$

$4NO_2 (g) + O_2 (g) + 2H_2O (l) \rightarrow 4HNO_3 (aq)$

Important Points

• Mining operations, Agricultural activities, and Burning of fossil fuels are the example of Air pollution.

Q54. Answer: (a) 26^(th) of January, 1950

The correct answer is 26th January 1950.

Key Points

• The Supreme Court in India was established under the Regulating Act, of 1773.

• The Regulating Act of 1773 established a Supreme Court at Fort William, Calcutta.

• Harilal Jekisundas Kania was the first Chief Justice of India.

• The Supreme Court came into existence on 26 January 1950 with the coming into force of the Constitution. The Supreme Court initially functioned from the old Parliament House till it moved to the present building located on Tilak Marg, New Delhi in 1958.

• On 28 January 1950, two days after India became a Sovereign Democratic Republic, the Supreme Court was inaugurated. The inauguration took place in the Chamber of Princes in the old Parliament building where the Federal Court of India sat for 12 years from 1937 to 1950.

• The inauguration took place in the Chamber of Princes in the Parliament building which also housed India's Parliament, consisting of the Council of States and the House of the People.

• In the Chamber of Princes, the Federal Court of India had sat for 12 years between 1937 and 1950.

• This was to be the home of the Supreme Court for years that were to follow until the Supreme Court acquired its own present premises.

• It replaced both the Federal Court of India and the Judicial Committee of the Privy Council.

• The First proceedings took place on 28 January 1950 at 9:45 am.

Confusion PointsPlease go through this Official Link for a better understanding.

Link: https://bit.ly/2UuGyOB

Q55. Answer: (c) Photolysis

The correct answer is Photolysis.

Key Points

• John Turner and Oscar Khaselev at the US National Renewable EnergyLaboratory in Golden, Colorado created a water-splitting device by combining photovoltaic and photoelectrochemical technology.

• It did the job, producing hydrogen four times more efficiently than photosynthesis. Unlike photosynthesis, however, their system used rare metals and wasn't stable even for a day.

Q56. Answer: (b) Rs. 800

Given: The maturity values of an amount in 5 and 6 years at 8% simple interest p.a. are Rs. 1120 and Rs. 1184 respectively.

Concept used: Simple interest

Calculation: simple interest for 5 years at 8% = Rs. 1120

and simple interest for 6 years at 8% = Rs. 1184

=> The difference in the interest for one year = Rs. 64

=> SI = PRT/100

=> principal = (SI × 100)/(time × rate)

=> P = (64 × 100)/(1 × 8)

Therefore P = Rs. 800

Q57. Answer: (d) Niels Henrik David Bohr

The correct answer is Niels Henrik David Bohr.

Important Points

• Niels Henrik David Bohr was a physicist who made foundational contributions to understanding atomic structure and quantum theory. So, option 4 is NOT correct.

• He also won Nobel Prize in Physics in 1922.

• Thomas Robert Malthus was an economist who works in the fields of political economy and demography.

• David Ricardo was a British political economist.

• John Maynard Keynes was a British economist, who gave ideas and modify the macroeconomics and the economic policies of governments.

Q58. Answer: (b) Rs. 500

Given:

An article was sold for Rs. 2500 at a profit of 25%

Concept used:

Profit and loss, calculating the profit.

Calculation:

SP = Rs. 2500 and profit % = 25%

=> the ratio of 25% profit is 4 : 5

=> CP : SP = 4 : 5

=> Let the CP and SP be 4x and 5x respectively.

=> 5x = 2500

=> x = 500

Gain = 5x - 4x = x = 500

Q59. Answer: (b) 60

Given: 15 men can do a work in 20 days

Concept used: m1d1h1/w1 = m2d2h2/w2

Calculation: m1 = 15, d1= 20, w1 = 1

=> m2 = 10, w2 = 2 and d2 = ?

Now applying the formulae : m1d1h1/w1 = m2d2h2/w2

=> (15 × 20)/1 = (10 × d2)/2

Therefore d2 = 60

Q60. Answer: (b) A is true, but R is false

The assertion is true, as the sale of mobile phones has increased numerously in recent times. The reason for this is digitalization.

However, the reason mentioned is false, as retail sale of mobile phones is more than that of online sale.

Thus, the correct option is "A is true, but R is false".

Q61. Answer: (b) Dr. S.C. Jamir

The correct answer is Dr. S.C. Jamir.

Important Points

Senayangba Chubatoshi Jamir:

• He is an Indian politician and former Governor of Odisha.

• He has served as the Chief Minister of Nagaland, Governor of Maharashtra, Governor of Gujarat, Governor of Goa, and Governor of Odisha.

Additional Information

• Utkala Divas- 1 April

• Odisha:

• Capital- Bhubaneshwar

• Chief Minister- Shri Naveen Patnaik

Q62. Answer: (a) Daughter

Family Chart:-

Family Tree according to the statement:-

X is the son of Z.

K is Z's wife.

X is the brother of Y.

Y is not a son of Z.

Y is the daughter of K.

Thus, the correct answer is "daughter".

Q63. Answer: (a) Depression

The correct answer is Depression.

Important Points

• Depression is a significant decrease in the economic cycle marked by a sharp decrease in industrial production, widespread unemployment, extreme decreases or cessation in growth in construction activity, and a sharp decrease in foreign trade and capital movements.

• Deflation is a general decrease in the prices of goods and services, usually related to a reduction in the economy's supply of capital and credit. The currency's purchasing power rises overtime during deflation.

• Inflation is a nominal indicator of the rate at which an economy's average price level of a basket of selected products and services rises over time.

• Owing to use, wear and tear or obsolescence, the monetary value of assets declines over time.

• This reduction is calculated as depreciation.

Q64. Answer: (a) Semi-conductor

The correct answer is Semi-conductor.

Important Points

Semiconductor:

A semiconductor material has an electrical conductivity value falling between that of a conductor, such as metallic copper, and an insulator, such as glass. Its resistivity falls as its temperature rises; metals are the opposite.

Additional Information

• The substance which allows heat and electricity to pass through it is called the Conductor. e.g- Steel, Iron, Copper

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• The substance which does not allow heat and electricity to pass through it is known as Insulator. e.g- wood, Plastic

• The electrical conductivity value of a semiconductor material lies between that of a conductor and an insulator.

Q65. Answer: (a) 80

Given:

110, 80, 70, 90, 120, 90, 80, 70, 60, 80

Concept used:

In the given series of numbers, the number which gets repeated maximum times is Mode.

Calculation:

Here in the given series of numbers, we see that number 80 is getting repeated thrice.

So, the mode in the series is 80.

Q66. Answer: (b) 37

The logic is :

(Square of the place value + 1)

D = $(4)^2$+ 1 = 16 + 1 = 17

Similarly,

F = $(6)^2$ + 1 = 36 + 1 = 37

Thus, the correct answer is "37".

Q67. Answer: (b) 21/40

Given: Two rational numbers 2/4 and 6/10

Concept used: convert these rational numbers into percentage values.

Calculation: 2/4 × 100 = 50%

=> 6/10 × 100 = 60%

Now, we need to see through the options that which value falls between these two percentage values.

Go through the options checking all the values.

option (a) = 11/25 × 100 = 44%

option (b) = 21/40 × 100 = 105/2 = 52.5%

option (c) = 3/4 × 100 = 75%

option (d) = 11/4 × 100 = 275%

so from all these values we can see that 52.5% which is the third option satisfies the given relation.

21/40 lies between 2/4 and 6/10.

Q68. Answer: (c) Literature

The correct answer is Literature.

Important Points

• Sahitya Akademi was established by the Government of India in 1954.

• Sahitya Akademi is the central institution for literary dialogue, publication, and promotion in the country and the only institution that undertakes literary activities in 24 Indian languages, including English.

• Akademi also gives 24 awards annually to literary works in the languages.

Q69. Answer: (c) 8.8 m

Given: The areas of two similar triangles are 121 sq.m and 64 sq.m.

and median of the 1st triangle = 12.1 m.

Concept used: Median of two similar triangles are proportional to square root of ratio of their Areas.

Calculation: Let two triangle be Δ ABC and Δ PQR

=> Δ ABC and Δ PQR are similar triangles.

=> Areas of these two similar triangles are 121 and 64 sq.m. respectively.

=> median of the 1st triangle = 12.1 m. Let the median of the second triangle be x cm.

=> √(121/64) = 12.1/x

=> 11/8 = 12.1/x

Therefore x = 8.8

Q70. Answer: (c) Learning sites for sustainable development

The correct answer is Learning sites for sustainable development.

Important Points

• Biosphere reserves are terrestrial and coastal habitat areas that facilitate ways to balance biodiversity conservation with sustainable use.

• The Biosphere Conference was organized by UNESCO in 1968, which saw the beginning of the idea of a 'Biosphere Reserve'.

• The world's first biosphere reserve was established in 1979.

Q71. Answer: (b) Jammu & Kashmir

The correct answer is Jammu & Kashmir.

Important Points

• Kud dance is one of the major dance forms of Jammu &Kashmir.

• It is performed to honor the gods ‘Lok Devtas’ as a thanksgiving ritual and is mostly done in nights.

Additional Information

• Lt. Governor of J&K- Shri Manoj Sinha.

Q72. Answer: (b) 2314

Given: 1/43.21=0.02314

Concept used: Simple calculation.

Calculation: 1/43.21=0.02314

=> 43.21 × 10^(-5) = 1/0.0004321

=> 1/43.21 × 10^(-5)

= 0.02314 × 10^5

Therefore 2314

Q73. Answer: (a) 20%

Formula used -

Profit = selling price - cost price

profit percentage = (profit × 100)/cost price

Given -

Two types of salt T and S are mixed in the ratio 4 : 6.

Let quantity be 4x and 6x for T and S respectively.

For T,

cost price = Rs. 25 per kg

For S,

cost price = Rs. 35 per kg

Selling price of mixed variety = Rs. 37 per kg

Solution -

Quantity for T and S be 4x and 6x respectively.

=> total cost price = 4x × 25 + 6x × 35 = 310x

=> total selling price = 10x × 37 = 370x

=> profit = 370x - 310x = 60x

=> profit percentage = 60x × 100/310x = 19.35% ≈ 20%

Therefore profit percentage = 20% (approximate)

Q74. Answer: (a) 42

Given -

(7/8) of 60% of 80

Solution -

(7/8) of 60% of 80

=> (7/8) × (60/100) × 80

=> 42

Therefore answer = 42.

Q75. Answer: (d) Desert Circuit

The correct answer is Desert Circuit.

Important Points

Desert Circuit:

• It is a semi-luxury train that runs between Jaipur-Bikaner-Jaisalmer-Jodhpur via Ajmer- Pushkar.

• It is managed and handled by IRCTC.

• Current Minister of Railways- Ashwini Vaishnaw

Q76. Answer: (d) 81 × 10^(-6)

Concept used -

0.1 = (1/10) = 10^(- 1)

0.01 = (1/100) = 10^(- 2)

0.001 = (1/1000) = 10^(- 3)

a^m × a^n = a^((m + n))

Solution -

3.0 × 0.3 × 0.03 × 0.003

=> 3 × (3/10) × (3/100) × (3/1000)

=> 81 × 10^(- 1) × 10^(- 2) × 10^(- 3)

=> 81 × 10^(- (1 + 2 + 3))

=> 81 × 10^(- 6)

Therefore answer = 81 × 10^(- 6)

Q77. Answer: (b) Black

The correct answer is Black.

Important Points

Black Soil:

• The black soils are also called regur (from the Telugu word Reguda) and black cotton soils because cotton is the most important crop grown on these soils.

• Several theories have been put forward regarding the origin of this group of soils but most pedologists believe that these soils have been formed due to the solidification of lava spread over large areas during volcanic activity in the Deccan Plateau, thousands of years ago.

Additional Information

• The soil is a mixture of rock debris and organic materials that grow on the surface of the earth.

• The key variables that decide the characteristics of soils are parent material, climate, relief, vegetation, time, and some other life forms.

• Soil Survey of India was established in 1956.

• Major types of soil are Alluvial, Black, Red, Laterite soil etc.

Q78. Answer: (b) 300

Formula used -

radius of wheel is r cm

circumference = 2πr

radius = diameter/2

If a wheel revolves n times

distance = n × 2πr

1 meter = 100 cm

Given -

diameter = 84 cm, distance = 792 m = 79200 cm

Solution -

radius = 84/2 = 42 cm

=> distance = n × 2πr

=> 79200 = n × 2 × (22/7) × 42

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=> n × 264 = 79200

=> n = 300

Therefore number of revolution = 300

Q79. Answer: (b) all the finished goods and services produced within a country

The correct answer is all the finished goods and services produced within a country.

Important Points

Gross domestic product (GDP):

• The total monetary or consumer value of all finished goods and services produced within the boundaries of a country over a particular period of time is the Gross domestic product (GDP).

• GDP offers a country's economic snapshot, used to measure the size of an economy and the pace of growth.

• GDP can be measured using expenditure, production, or income in three ways.

Q80. Answer: (c) popular violence

The correct answer is popular violence.

Important Points

• As the Indian National Congress (INC) revoked its support for British reforms following the Rowlatt Act of 21 March 1919 and the Jallianwala Bagh massacre of 13 April 1919, the Non-Cooperation Movement was launched on 5 September 1920 by Mahatma Gandhi with the goal of self-governance and complete independence.

• A massacre took place in Chauri Chaura, a small town in the Gorakhpur district of Uttar Pradesh, on 4 February 1922.

• After this violence, Gandhi Ji withdraws the Non-cooperation movement.

Q81. Answer: (b) -1

Sign	Meaning
G	•
P	•
U	×
S	÷

Given equation is :

48 S 8 P 7 U 2 G 21

Interchanging the signs with given mathematical operators, we get :

48 ÷ 8 + 7 × 2 - 21

= 6 + 7 × 2 - 21

= 6 + 14 - 21

= 20 - 21

= -1

Thus, the correct answer is "-1".

Q82. Answer: (d) 8

Formula used -

If x number of people can do W1 work, in D1 days, working T1 hours each day and the number of people can do W2 work, in D2 days, working T2 hours each day, then the relation between them will be

Given -

12 men or 24 boys can do work in 20 days.

Solution -

Let the work be completed in d days.

12 men or 24 boys

=> 12 men = 24 boys

=> 1 men = 2 boys.....(1)

=> total work = 24 × 20

=> 24 men + 12 boys

=> from equation (1)

=> 24 × 2 boys + 12 boys = 60 boys

=> 60 × d = 24 × 20

=> d = 8 days

Therefore they complete their work in 8 days.

Q83. Answer: (b) Sri Lanka

The correct answer is Sri Lanka.

Important Points

Temple of the Sacred Tooth:

• It is a Buddhist temple in the city of Kandy, Sri Lanka.

• It is located in the royal palace complex of the former Kingdom of Kandy, which houses the relic of the tooth of the Buddha.

• Since ancient times, the relic has played an important role in local politics because it is believed that whoever holds the relic holds the governance of the country.

• Kandy was the last capital of the Sri Lankan kings and is a World Heritage Site mainly due to the temple.

Additional Information

• Sri Lanka is an island country situated in the south of India's mainland in the Indian Ocean.

• Capital of Sri Lanka is Sri Jayewardenepura Kotte.

• Currency- Sri Lankan Rupee

• President- Anura Kumara Dissanayake

• PM- Dinesh Gunawardena

Q84. Answer: (c) 50

Solution -

Let the number of the girls be G.

=> Number of boys = 2G

According to question;

=> 2G - 15 = G + 10

=> G = 25

=> number of boys = 2G = 50

Therefore number of boys at starting is 50.

Q85. Answer: (d) 19

38 - 2 + 1 × 6 ÷ 6

Interchanging the signs '-' and '÷', we get :

38 ÷ 2 + 1 × 6 - 6

= 19 + 1 × 6 - 6

= 19 + 6 - 6

= 25 - 6

= 19

Thus, the correct answer is "19".

Q86. Answer: (d) 9 : 5

Family Chart:-

Family Tree according to the statement:-

Y is a housewife and her husband is an Inspector.

Their sons J, a teacher and K, a banker are married to a nurse and teacher respectively.

J's son P, an Inspector is married and has 2 sons (son 1 and son 2).

K's daughter Q, a software engineer is married and has two sons (son 3 and son 4).

Number of male in joint family = 9

Number of female in joint family = 5

Male : Female = 9 : 5

Thus, the correct answer is "9 : 5".

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Q87. Answer: (d) Nurse - Teacher

Family Chart:-

Family Tree according to the statement:-

Y is a housewife and her husband is an Inspector.

Their sons J, a teacher and K, a banker are married to a nurse and teacher respectively.

J's son P, an Inspector is married and has 2 sons (son 1 and son 2).

K's daughter Q, a software engineer is married and has two sons (son 3 and son 4).

Married couples are :

Housewife - Inspector

Nurse - Teacher

Banker - Teacher

Thus, the correct answer is "Nurse - Teacher".

Q88. Answer: (a) Housewife

Family Chart:-

Family Tree according to the statement:-

Y is a housewife and her husband is an Inspector.

Their sons J, a teacher and K, a banker are married to a nurse and teacher respectively.

J's son P, an Inspector is married and has 2 sons (son 1 and son 2).

K's daughter Q, a software engineer is married and has two sons (son 3 and son 4).

Q's grandmother is Y and she is a housewife.

Thus, the correct answer is "housewife".

Q89. Answer: (c) Mangalyaan

The correct answer is Mangalyan.

Important Points

The Mars Orbiter Mission (MOM), or Mangalyaan, is a space probe launched on November 5, 2013 by the Indian Space Research Organization.

• The mission made India the first Asian nation and the fourth in the world to reach the planet, after Roscosmos, NASA, and the European Space Agency.

• ISRO chairman- S. Somnath

• ISRO spent $75 million to launch the mission.

Q90. Answer: (a) MS Excel

The correct answer is MS Excel.

Important Points

A workbook is another word for your Excel file. When you start Excel, click Blank workbook to create an Excel workbook from scratch.

Additional Information

• The computer was invented by Charles Babbage.

• Different Generations of Computer-

• First Generation- 1946-1959, Vacuum tube-based

• Second Generation- 1959-1965, Transistor-based

• Third Generation- 1965-1971, Integrated Circuit based

• Fourth Generation- 1971-1980, VLSI microprocessor-based

• Fifth Generation- 1980-onwards, ULSI microprocessor-based

Q91. Answer: (a) 2

Formula used -

$\cos\theta = B/H$, $\tan\theta = P/B$, $\sec\theta = H/B$

Where, B = Base, P = Perpendicular, H = Hypotenuse

By Pythagoras theorem,

$H^2 = P^2 + B^2$

Solution -

$\cos\theta = 4/5$

$\Rightarrow B = 4, H = 5$

$\Rightarrow P = \sqrt{(5^2 - 4^2)} = 3$

$\Rightarrow \sec\theta + \tan\theta = (H/B) + (P/B) = (H + P)/B$

$\Rightarrow \sec\theta + \tan\theta = (5 + 3)/4$

$\Rightarrow \sec\theta + \tan\theta = 2$

Therefore $\sec\theta + \tan\theta = 2$.

Q92. Answer: (a) Run need-based applications

The correct answer is Run need-based applications.

Important Points

Computer literacy is defined as the knowledge and ability to use computers and related technology efficiently, with skill levels ranging from elementary use to computer programming and advanced problem-solving.

Additional Information

• Different Generations of Computer-

• First Generation- 1946-1959, Vacuum tube-based

• Second Generation- 1959-1965, Transistor-based

• Third Generation- 1965-1971, Integrated Circuit based

• Fourth Generation- 1971-1980, VLSI microprocessor-based

• Fifth Generation- 1980-onwards, ULSI microprocessor-based

• The Computer was invented by Charles Babbage

Q93. Answer: (b) FCBBA

The logic is :

Similarly,

Thus, the correct answer is "FCBBA".

Q94. Answer: (a) With the co-operation of Indians

The correct answer is With the co-operation of Indians.

Important Points

Mahatma Gandhi wrote a book, Hind Swaraj in 1909 in which he stated that the British rule in India was established with the co-operation of Indians.

• Mahatma Gandhi Was born on 2nd October 1869 In Porbandar, Gujarat

• He started the first Satyagraha movement at Champaran in Bihar in 1917.

• Mahatma Gandhi became the president of the congress in 1924.

Q95. Answer: (b) Machali

The correct answer is Machali.

Important Points

She was also known as Queen Mother of Tigers, Tigress Queen of Ranthambore, and Lady of the Lakes.

• The Government of India initiated the 'Project Tiger' on 1 April 1973 to save the slowly decreasing population of tigers in India.

• It was started at the Jim Corbett National Park in Uttarakhand.

• In 1972, the government also passed the Wildlife Protection Act to protect and conserve various species of flora and fauna in the country.

• The tiger population had risen from 2,226 in 2014 to 2,967 in 2018 in India.

Q96. Answer: (d) 210

Given:

Ratio 7 : 5 : 9

Calculation:

Assume

Ramu gets = 7x

Shamu gets = 5x

Dhamu gets = 9x

Because Dhamu gets 120 more than Shamu ...(Given)

Therefore 9x - 5x = 120

=> 4x = 120

=> x = 30

Therefore Ramu gets = 7x

=> 7 × 30

=> 210 Rs.

Therefore Ramu gets 210 Rs.

Q97. Answer: (d) The Parliament

The correct answer is Parliament.

Key Points

Indian Parliament is the supreme legislative body of India.

• It consists of the President and the two Houses - Rajya Sabha (Council of States) and Lok Sabha (House of the People)

• The President has the right to summon or extend either the House of Parliament or the dissolution of Lok Sabha.

• During the year 1951-52, the first general elections under the new Constitution were held.

• Currently, Seventeenth Lok Sabha since May 2019 is going on.

Q98. Answer: (b) Ctrl + c, Ctrl + v

The correct answer is Ctrl + c, Ctrl + v.

Important Points

Ctrl + c is used to copy text and Ctrl + v is used to paste it.

Additional Information

Some other shortcuts-

• Ctrl+Z- undo

• Ctrl+X- Cut

• Ctrl+F- Find

• Ctrl+P- Print

Q99. Answer: (c) 700

Assume salary = x

Given :

After increased by 30%, it became 910 Rs.

Therefore x × 130/100 = 910

=> x = 700 Rs.

Q100. Answer: (a) Neither I nor II follows

Clearly conclusion I do not follow as it is not mandatory that only by excellent teaching by excellent teachers can give success but the hard work done by students is also important to get success.

Clearly, conclusion II does not follow because it is irrelevant to the context. Nothing is stated by other Tutions.

Thus, the correct answer is "Neither I nor II follows".

Q101. Answer: (d) Sarod

The correct answer is Sarod.

• Amjad Ali Khan is an Indian classical sarod player.

• He was born at Gwalior in Madhya Pradesh.

• India's second-highest civilian award, Padma Vibhushan was also awarded to him in 2001.

Q102. Answer: (d) increase

The correct answer is Increase.

Ministry of Railway has decided to introduce the dynamic fare system for many express and superfast trains across the country.

• Dynamic fare pricing increased as the number of seats gets booked day by day.

• The Ministry of Railways is the Government of India's ministry responsible for rail transport in the country.

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• Minister of Railways - Ashwini Vaishnaw

• Chairman of Railway Board of India- V K Tripathi

Q103. Answer: (a) Rajasthan

The correct answer is Rajasthan.

Important Points

Kabaddi is a contact sport in which two teams are required to participate in a match. As it was first conceptualized in South India, the game has its roots in ancient Indian history.

• It is the national sport of Bangladesh.

• It is the state game of the Indian states of Andhra Pradesh, Bihar, Haryana, Karnataka, Kerala, Maharashtra, Odisha, Punjab, Tamil Nadu, Telangana, and Uttar Pradesh.

• Within the Indian format, there are 4 main styles of Kabaddi i.e Sanjeevani, Gaminee, Amar, and Punjabi.

• Each team must have a minimum of 10 (ten) Players and a maximum of 12 (twelve) Players in its match-day playing squad. 7 (seven) Players shall take the ground at a time and the remaining 3 (three) to 5 (five) Players shall be substitutes.

• The International Kabaddi Federation was founded in 2004.

• The Kabaddi Federation of India (KFI) serves as the governing authority in India.

Q104. Answer: (b) Patiala

The correct answer is Patiala.

Important Points

• Netaji Subhas National Institute of Sports, Patiala is Asia's largest Sports Institutes.

• It was built by the erstwhile Maharaja of Patiala whose descendants dedicated this complex for the promotion of sports to the people of India.

• It is also known as the "Mecca" of Indian Sports.

Q105. Answer: (b) 27

Given:

Rekha reads 15 pages in 25 minutes

calculation:

By one - one rule :

Because in 25 minutes Rekha reads pages = 15

Therefore in 1 minute she reads pages = 15/25

Therefore in 45 minutes she will complete the number of pages = 15/25 × 45

=> 27 pages

Q106. Answer: (a) 28

The logic follows here is:-

Sum the place value of the alphabet:

M = 13, G = 7, E = 5

13 + 7 + 5 = 25

Similarly,

L = 12, J = 10, F = 6

12 + 10 + 6 = 28

Hence, 28 is the correct answer.

Q107. Answer: (c) 3 years

Given :

Principal = 1728 Rs.

Amount = 2197 Rs.

Rate = 8 1/3%

= 25/3%

= 1/12

For compound interest

Amount = principal(1 + r%)--time

=> 2197 = 1728(1 + 1/12)time

=> 2197/1728 = (13/12)time

=> (13/12)3 = (13/12)time

=> time = 3 years

Q108. Answer: (a) Rs. 40330

Given :

Principal = 37000 Rs.

Rate = 4.5%

Time = 2 years

Calculation :

simple interest = (principal × rate × time)/100

=> simple interest = (37000 × 4.5 × 2)/100

=> simple interest = 3330 Rs.

Sangita will get after 2 years = principal + simple interest

=> 37000 + 3330

=> 40330 Rs.

Q109. Answer: (a) Intelligent Character Recognition

The correct answer is Intelligent Character Recognition.

Important Points

• Intelligent Character Recognition Software captures handwriting from image files.

• It is an advanced version of OCR technology that captures printed characters.

Q110. Answer: (d) One-tenth

The correct answer is One-tenth.

For both Lok Sabha and Rajya Sabha, the quorum for the establishment of a House sitting is one-tenth of the total number of House members.

• The minimum number of members required to be present before a meeting is permitted to begin is a quorum.

• If the quorum is not complete, it is the responsibility of the Speaker to adjourn the House until there is a quorum or to postpone the meeting.

• Lok Sabha is composed of representatives of the people chosen by direct election on the basis of adult suffrage.

• The maximum strength of the House is 552.

• The current speaker of the Lok Sabha is Shri Om Birla.

Q111. Answer: (d) P

The logic used here is:-

A + 3 = D,

D + 5 = I,

Similar,

I + 7 = P,

P + 9 = Y

Thus, "P" is the correct answer.

Q112. Answer: (c) Increase awareness for conservation of sparrows

The correct answer is Increase awareness for conservation of sparrows.

• World Sparrow Day is celebrated on 20 March by many countries in the world.

• The theme for World Sparrow Day 2020 is "I LOVE Sparrows".

• For different causes, ranging from the loss of its habitat to the lack of insect food for the young and even the rising microwave emissions from cell phone towers, the house sparrow is thought to be declining.

Q113. Answer: (a) √(2 × 3)

The correct answer is √(2 × 3)

Important Points

An Irrational Number is a real number that cannot be written as a simple fraction.

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Q114. Answer: (b) Elephant

The logic follows here is:-

Birds can flu in the sky,

And, bird is coded as Elephant,

Thus, the correct answer is "Elephant".

Q115. Answer: (c) 215

The logic follows here is:-

$1^3 - 1 = 0$

$2^3 - 1 = 7$

$3^3 - 1 = 26$

$4^3 - 1 = 63$

$5^3 - 1 = 124$

Similarly,

$6^3 - 1 = 215$

Hence, the correct answer is 215.

Q116. Answer: (a) Singapore

The correct answer is Singapore.

• Since 1998, the Fountain of Riches has been recognized as the largest fountain in the world by the Guinness Book of World Records.

• It is located at one of Singapore's largest shopping malls, Suntec City.

Additional Information

Country	Capital	Currency
Singapore	Singapore	Singapore dollar
Thailand	Bangkok	Thai baht
Saudi Arabia	Riyadh	Saudi Riyal
England	London	Pound

Q117. Answer: (c) 120

LCM = 114 × HCF … (1)

LCM + HCF = 2300 … (2)

By equating (1) and (2)

114 × HCF + HCF = 2300

=> 115 × HCF = 2300

=> HCF = 20

Now

LCM = 114 × 20

=> LCM = 2280

One of the numbers is (A) = HCF × (a)

=> 380 = 20 × (a)

=> (a) = 19

Let

Other number (B) = HCF × (b)

LCM = HCF × (a) × (b)

=> 2280 = 20 × 19 × (b)

=> (b) = 6

So other number (B) = HCF × (b)

=> other number(B) = 20 × 6

Therefore other number = 120

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Q118. Answer: (a) Three

The correct answer is Three.

Important Points

• Ozone is a molecule composed of three atoms of oxygen, also referred to as O3.

• When heat and sunlight cause chemical reactions between Oxides of Nitrogen (NOX) and volatile organic compounds (VOC), which are also known as hydrocarbons, ozone is produced. This reaction may occur near the ground as well as high in the atmosphere.

• It is found in the stratosphere around 15–30km above the earth's surface.

• It covers the entire world and by absorbing harmful ultraviolet-B (UV-B) radiation from the sun, protects life on earth.

Q119. Answer: (b) Sea Horse

The correct answer is Sea Horse.

Important Points

• Crocodiles, Turtles, and Frogs can live both in water and on the land but Seahorses are a kind of fish that lives only inside the water.

• Seahorses live in water, breathe through gills, and have a swim bladder.

• Seahorses can change colour very quickly and match any surroundings in which it finds itself.

Additional Information

• Scientific Names-

Crocodile	Crocodylinae
Sea Horse	Hippocampus
Turtle	Testudines
Frog	Anura

Q120. Answer: (b) Connecting Wildlife Corridors

The correct answer is Connecting Wildlife Corridors.

• The main long-term threats to the survival of the declining tiger population in the country are large-scale habitat loss, the decimation of prey species, and cattle grazing.

• The Government of India initiated the 'Project Tiger' on 1 April 1973 to save the slowly decreasing population of tigers in India.

• It was started at the Jim Corbett National Park in Uttarakhand.

• In 1972, the government also passed the Wildlife Protection Act to protect and conserve various species of flora and fauna in the country.

• The tiger population had risen from 2,226 in 2014 to 2,967 in 2018 in India.

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