NTPC CBT-II 2016 Official Paper (Held On: 19 Jan, 2017 Shift 1) (Previous Year Paper)

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

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FULL TEST

Q1. If the product of two numbers is 2664 and their LCM is 74, then their HCF is:

(a) 34
(b) 36
(c) 64
(d) 35

Q2. Collateral security for a loan is:

(a) a liability of the lender
(b) owned by the lender
(c) an asset of the borrower
(d) a liability of the borrower

Q3. Which one of the following acids is the primary constituent of vinegar?

(a) Nitric
(b) Acetic
(c) Humic
(d) Oxalic

Q4. Based on the 26^(th)January 2002 legislation, what is NOT true with respect to the rules for flying the Indian Tricolour?

(a) The flag cannot be intentionally allowed to touch the ground
(b) The flag cannot be used for communal gains
(c) The tricolour cannot be used as a festoon, rosette or bunting
(d) Private citizens have no right to fly the flag on their premise

Q5. The Arjuna Award for 2016 in the discipline of Athletics was:

(a) Amit Kumar Saroha
(b) Lalita Babar
(c) M. R. Poovamma
(d) Tintu Luka

Q6. Flower : Bud :: Plant : _____

(a) Flower
(b) Twig
(c) Seed
(d) Taste

Q7. Which is the correct ascending order of the given numbers?

(a) 17/24, 3/4, 2/3
(b) 3/4, 2/3, 17/24
(c) 2/3, 3/4, 17/24
(d) 2/3, 17/24, 3/4

Q8. A woman invests Rs. 100 at the start of each year at 5% compound interest per annum. How much will her investment be, at the end of the 2^(nd) year?

(a) Rs. 215.25
(b) Rs. 215.5
(c) Rs. 215
(d) Rs. 215.75

Q9. R. K. Narayan is NOT the author of the book _____.

(a) The Bachelor of Arts
(b) The English Teacher
(c) Two Leaves and a Bud
(d) Waiting for the Mahatma

Q10. Henri Bacquerel was associated with the discovery of _____.

(a) Genetics
(b) Radioactivity
(c) Inductance
(d) Conductivity

Q11. If COME is coded as EMOC, then TRAIN is coded as:

(a) NIRAT
(b) NAIRT
(c) NIART
(d) NRIAT

Q12. _____ became the latest sports person to win four consecutive Olympic gold medals in the same event.

(a) Usain Bolt
(b) Michael Phelps
(c) Larisa Latynina
(d) Dipa Karmakar

Q13. Simplify: x(x - 2) + 3x(x - 3)

(a) $4x^2 + 11x$
(b) $4x^2 - 11x$
(c) $4x^2 + 5x$
(d) $4x^2 - 5x$

Q14. Select the combination of numbers so that letters arranged accordingly will form a meaningful English word.

U T E Y B A

1 2 3 4 5 6

(a) 536124
(b) 563214
(c) 536214
(d) 563124

Q15. Some of the greatest scientists gathered in the 1940s to figure out how to refine uranium and build an atomic bomb. What was their work called?

(a) Manhattan Project
(b) Atomic Heritage

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(c) Pearl Harbour Project
(d) Los Alamos Project

Q16. Read the following set of information and answer the question below:

i. Rekha is younger to Sumitha but elder than Reena.
ii. Reena is elder than Gayathri.
iii. Sharmila is elder to Reena but younger to Rekha.

Who is the youngest of all?

(a) Sumitha
(b) Rekha
(c) Sharmila
(d) Gayathri

Q17. Akshat is twice as good a typist as Lokesh and together they finish a piece of work in 7 days. In how many days will Lokesh alone finish the work?

(a) 14
(b) 10
(c) 28
(d) 21

Q18. Which one of the following is a navigation satellite?

(a) GSLV
(b) PSLV
(c) IRNSS
(d) SLV-3

Q19. 18 men built a tanker in 25 days. How many days would it take for 10 men?

(a) 45.2
(b) 45.1
(c) 46
(d) 45

Q20. Find the similarity among the following:

July, October, January, June

(a) The months preceding them all have 31 days
(b) All of them have 31 days
(c) They have more days than the months succeeding them
(d) There is no clear similarity between them

Q21. There are total 200 students in a school, of which 3/10 th are boys. Find the number of girls in the school.

(a) 60
(b) 140
(c) 40
(d) 120

Q22. Simplify: $(7)^2 \div (7^{(1/2)})^4$

(a) 1
(b) 7
(c) 14
(d) 1/14

Directions

Study the following information carefully and answer the question given below:

Subscription to different Schemes of Mutual Fund Company over the months in year 2008-2009. (Rupees in Crore)

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Month	A	B	C	D	E	Total
Sept'08	200	70	30	290	10	600
Oct'08	120	130	70	150	290	760
Nov'08	45	35	25	125	160	390
Dec'08	160	110	40	115	130	555
Jan'09	80	90	70	100	140	520
Feb'09	130	150	30	40	390	740

Q23. For which of the following type of scheme was there a continuous decrease over the year?

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

Q24. In which of the following months, the total subscription to the Schemes B and C was equal to the subscription to Scheme B in February 2009?

(a) December 2008
(b) January 2009
(c) October 2008
(d) September 2008

Q25. What is the difference in subscription of Scheme A between December and January?

(a) 30 Crores
(b) 60 Crores
(c) 80 Crores
(d) 50 Crores

Q26. If the Subscription to a Scheme is the criterion of popularity, which of the Schemes can be termed as most popular over the month?

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

Q27. A question and two statements labeled (I), (II) are given. You have to decide which statement(s) is/are sufficient to answer the question.

What time did the train leave today?

I. The train normally leaves on time.

II. The scheduled departure is at 15.30 hrs.

(a) Statement I alone is sufficient
(b) Data insufficient
(c) Both the statements together are needed
(d) Statement II alone is sufficient

Q28. Which of the following sports will be included for the first in the Olympic games 2020 onwards?

(a) Polo
(b) Judo
(c) Darts
(d) Karate

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Q29. Which one of the following is the National aquatic animal of India?

(a) Ganges Shark
(b) Indian Star Tortoise
(c) Ganges River Dolphin
(d) Golden Mahseer

Q30. A glass containing water has two holes. The 1^(st) hole alone empties the glass in 9 minutes and 2^(nd) hole alone empties the glass in 3 minutes. If water leaks out a constant rate, how many minutes will it take if both the holes together empty the glass?

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

Q31. _____, 9, 25, 49, 121, 169

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

Q32. If RACE is coded as 4793, FACT is coded as 1795 and FORCE is coded as 16493, then what is the code of REACT?

(a) 43759
(b) 43975
(c) 43579
(d) 43795

Q33. Mr. Ashwani sold a bus for Rs. 510 with a loss of 15 %. At what price should the bus be sold to get a profit of 15 %?

(a) Rs. 700
(b) Rs. 690
(c) Rs. 650
(d) Rs. 680

Q34. What is the standard Windows keyboard, shortcut key combination for 'Redo'?

(a) Control+Y
(b) Control+Minus
(c) Control+Shift+A
(d) Control+Z

Q35. Find the fourth proportional to 14, 28, and 21.

(a) 41
(b) 42
(c) 14
(d) 40

Q36. Which bank's board has approved the scheme of merger of Bharatiya Mahila Bank Limited with itself?

(a) Bank of Baroda
(b) IDBI Bank
(c) State Bank of India
(d) Bank of India

Q37. Murud Janjira Fort situated in Maharashtra, is surrounded on all sides by:

(a) Paddy fields
(b) Trees
(c) Gardens

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(d) Water

Q38. An internet bill costs Rs. 6 for 2 minutes 30 seconds. What is the cost (in rupees) for 3 minutes 20 seconds? (Round up to one decimal)

(a) 8
(b) 7.9
(c) 8.1
(d) 8.2

Q39. The Constitution of India puts a limit on the size of the Lok Sabha to ____ elected members, apart from _____ members nominated by the President to represent the Anglo-Indian community.

(a) 550 and 2
(b) 543 and 2
(c) 541 and 3
(d) 547 and 3

Q40. The number of sides of a regular polygon whose interior angles are each 168° is:

(a) 20
(b) 30
(c) 15
(d) 31

Q41. A monkey sitting on a branch of a tree suddenly falling down towards the ground is an example of _____.

(a) Law of conservation of energy
(b) Kepler's laws
(c) Newton's third law of motion
(d) Law of conservation of mass

Q42. Two cycles start from a house at interval of 10 minutes and travel with a speed of 6km/hr. With how much speed (km/hr) should a woman coming from the opposite direction towards the house travel, to meet the cycles at an interval of 8 minutes?

(a) 1.7
(b) 1.6
(c) 1.5
(d) 1.4

Q43. The cash difference between the selling price of an article at a profit of 8% and 10% is Rs. 3. The ratio of Selling Prices is

(a) 54 : 56
(b) 54 : 55
(c) 54 : 57
(d) 54 : 59

Q44. UN Postal Administration issued a commemorative stamp of _____, the Indian music legend on the 2^(nd) October 2016.

(a) Pandit Ravi Shankar
(b) R.D. Burman
(c) M.S Subbulakshmi
(d) Ustad Bismillah Khan

Q45. TELEX stands for:

(a) Telegram Express
(b) Teleprinter Exchange
(c) Telecommunication Exchange
(d) Telephone Exchange

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Q46. UNDP's report on Human development index does NOT compare countries on the basis of:

(a) Knowledge
(b) Corporate governance
(c) Long and healthy life
(d) Standard of living

Q47. In a class test, a student scored 8 marks out of 25 marks. The student's marks is percentage is:

(a) 32
(b) 35
(c) 29
(d) 30

Q48. If P means 'subtraction', Q means 'division', R means 'addition' and S means 'multiplication', then 15 Q 3 R 24 P 12 S 2 = ?

(a) 7
(b) 5
(c) 29
(d) 9

Q49. Which of the following is celebrated, every year, in the first week of December in Nagaland?

(a) Baneshwar fair
(b) Hornbill festival
(c) Bohaggiyo Bishu tribal festival
(d) Bhagoria festival

Q50. The value of 7.7 ÷ 100 = ?

(a) 0.0077
(b) 77
(c) 0.77
(d) 0.077

Q51. Below are given statements followed by some conclusions. You have to take the given statements to be true even if they seem to be at variance with the commonly known facts and then decide which of the given conclusions logically follow(s) from the given statements.

Statements:

All women are married.

Some women are educated.

Conclusion:

I. Some woman are married

II. Some married are educated

(a) Both I and II follow
(b) Only conclusion II follows
(c) Only conclusion I follows
(d) Either only I or only II follows

Q52. On what date is the 'World Lion Day' celebrated every year?

(a) 10^(th) September
(b) 10^(th) August
(c) 10^(th) July
(d) 10^(th) June

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Q53. _____ island is the only active volcano of India.

(a) Barren
(b) Oyster rock
(c) Viper
(d) Havelock

Q54. If Cot x = 5/12, then Sec x + Cosec x = ?

(a) 216/60
(b) 221/60
(c) 313/156
(d) 209/60

Q55. What is 15% of 38?

(a) 6
(b) 5
(c) 5.5
(d) 5.7

Q56. ACE : FHJ : : OQS : _____

(a) TVX
(b) PRS
(c) TXV
(d) RPS

Directions

A family has 6 members P, Q, R, S, T and U.

Q is the son of R, but R is not the mother of Q. P and R are a married couple. T is the brother of R. S is the daughter of P. U is the sister of Q.

Q57. Who is the son of P?

(a) None of the given options
(b) R
(c) Q
(d) T

Q58. How many brothers does U have?

(a) 3
(b) None
(c) 2
(d) 1

Q59. What is the ratio of Males to Females in this family?

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

Q60. PALE : LEAP : : POSH : _____

(a) HSPO
(b) HSOP
(c) POHS
(d) SHOP

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Q61. The theme of World Environment Day 2016 was:

(a) Green Economy: Does it include you?
(b) Seven Billion Dreams, One Planet, Consume with Care
(c) Zero tolerance for the illegal trade in wildlife
(d) Small Islands and Climate Change

Directions

In a class of 25 students of Mathematics and Computer Science, 12 students have taken Mathematics. Out of this, 8 have taken Mathematics but not Computer Science.

Q62. What is the number of students who have taken both Mathematics and Computer Science?

(a) 4
(b) 17
(c) 2
(d) 1

Q63. What is the number of students who have taken Computer Science but not Mathematics?

(a) 13
(b) 4
(c) 8
(d) 12

Q64. Bhumika takes a total of 8 hours 20 minutes in walking distance and cycling back to same place where she started. She could walk both ways in 12 hours 15 minutes. The time taken by her to cycle both ways is:

(a) 4 hours 25 min
(b) 4 hours 35 min
(c) 4 hours 45 min
(d) 4 hours 15 min

Q65. Which of the following, in general, cannot compute?

(a) Calculator
(b) Computer
(c) Printer
(d) Mobile phone

Q66. Find the HCF of 2616 and 2289

(a) 109
(b) 328
(c) 327
(d) 108

Q67. Which one of the following is the highest peak of the Aravalli mountain?

(a) Achalgarh
(b) Jarga
(c) Guru Shikhar
(d) Ser

Q68. The volume (in cu. cm.) of a right circular cylinder with radius 2.5 cm and height 2 cm is : (Take $\pi = 22/7$)

(a) 275
(b) 275 / 21
(c) 275 / 2
(d) 275 / 7

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Q69. The given information is followed by two statements, Read them carefully and answer the given questions.

Many parents have pleaded with the administration department of School X to discontinue the rule of wearing ties to school.

(A) The school has kept different coloured ties for different academic scorers as part of their uniform. Thus, the low-scoring children of school feel discriminated.

(B) The sports uniform of the school does not have a tie, anyway. It is to be worn only on Wednesdays.

(a) Both Statement A and Statement B strengthens the argument
(b) Statement A weakens but Statement B strengthens the argument
(c) Statement A strengthens the argument and Statement B is a neutral statement.
(d) Statement B weakens but Statement A strengthens the argument

Q70. Dr. Dhrubajyoti Ghosh is associated with _____.

(a) Astronomy
(b) Bengali Literature
(c) Ecology
(d) Politics

Q71. Plasma, which is one of the blood's constituent, is a _____.

(a) Cell
(b) Muscle
(c) Liquid
(d) Tissue

Q72. 'Airlander 10' the World's largest hybrid airship, which had its first test flight in August 2016, was designed and manufactured in _____.

(a) UK
(b) Germany
(c) USA
(d) Russia

Q73. Which of the following is NOT a modifier key in an IBM compatible computer?

(a) Ctrl
(b) Shift
(c) Tab
(d) Windows key

Q74. The winners of the 2016 Kabaddi World Cup (standard style) were:

(a) South Korea
(b) Thailand
(c) Iran
(d) India

Q75. Divide Rs. 162 in the ratio 2 : 3 : 6 : 7. The rupees in the respective ratios are given by:

(a) 18, 27, 53 & 64
(b) 18, 27, 54 & 63
(c) 18, 28, 53 & 63
(d) 18, 27, 55 & 62

Q76. Choose the odd one from the following:

(a) FOOTBALL
(b) CHESS
(c) BASEBALL
(d) HOCKEY

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Q77. 0.1, 0.9, 0.01, 0.09, _____, 0.009

(a) 0.0001
(b) 0.1010
(c) 0.01
(d) 0.001

Q78. Which one does NOT belong to the category of metallic minerals?

(a) Coal
(b) Bauxite
(c) Tin
(d) Nickel

Q79. Where is the World Heritage Site and the Historic Sanctuary of Machu Picchu located in?

(a) China
(b) Japan
(c) Vietnam
(d) Peru

Q80. Who won the 'Man Booker prize 2016' for the book The Sellout?

(a) David Szalay
(b) Paul Beatty
(c) J M Coetzee
(d) Madeleine Thien

Q81. Ms. Ayesha borrowed Rs. 1000 at 5% per annum simple interest. What amount (in rupees) will she pay to clear her debt after 4 years?

(a) 200
(b) 1200
(c) 220
(d) 1300

Q82. Arun is facing North-West. He first turns 90° in the clockwise direction and then another 180° in the anticlockwise direction. Later he turns 90° again in the anticlockwise direction. Which direction is he facing now?

(a) South
(b) West
(c) South-East
(d) South-West

Q83. The main mountain ranges of India do NOT include:

(a) Hindu Kush
(b) Vindhya
(c) Aravalli
(d) Satpura

Q84. The engine _____, is the oldest working steam locomotive in the World.

(a) Fairy Queen
(b) Golden Chariot
(c) Palace on Wheels
(d) Maharaja Express

Q85. If the mean height of 12 men is 1.70 m and the mean height of 8 women is 1.60 m, then the total height of 8 women in meters is:

(a) 12.9
(b) 12.8
(c) 12.4

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(d) 13

Q86. If > denotes '+', < denotes '-', + denotes '÷', - denotes '=', '×' denotes '>' and = denotes '<', choose the correct statement from the following:

(a) 14 + 7 > 3 = 6 + 3 > 2
(b) 6 + 3 > 8 = 4 + 2 < 1
(c) 9 < 6 + 3 = 7 > 4
(d) 4 > 6 + 2 × 32 + 4 < 1

Q87. One day, Ganesh left home and cycled 10 km southwards, turned right and cycled 5 km; turned right and cycled 10 km and finally turned left and cycled 10 km. How many kilometers will he have to cycle to reach his home straight?

(a) 30
(b) 15
(c) 25
(d) 35

Q88. Mr. Kiran buys a toy for Rs. 40 and sells it for Rs. 45. Find the gain percentage.

(a) 10%
(b) 12.5%
(c) 13%
(d) 12%

Q89. 1. On 26^(th) January 1950, Dr. Rajendra Prasad unfurled the National Flag at a stadium that was formerly known as the _____ stadium.

(a) Chhatrasal
(b) Irwin
(c) Talkatora
(d) Harbax Singh

Q90. Who is the authorized publisher and custodian of the 'Gazette of India'?

(a) Controller of Publication
(b) Chief Controller of printing
(c) Secretary Ministry of Home Affairs
(d) Secretary, Department of Publication

Q91. _____ has become a legacy launcher of ISRO.

(a) ASLV
(b) GSLV
(c) Sounding Rockets
(d) PSLV

Q92. Correct expression of 0.065454.... (the bar indicates repeating decimal)

(a) 18/275
(b) 18/277
(c) 654/100
(d) 654/1000

Q93. Consequent to the launch of 'Swachh Bharat Abhiyan', India Railways had launched _____ to achieve the vision of Clean India by 2^(nd)Oct 2014.

(a) Railway Swachhta Abhiyan
(b) Swachh Railways Mission
(c) Swachh Rail-Swachh Bharat Abhiyan
(d) Swachhta Saptah

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Q94. Complete the series.

Q3C, S5E, U8G, W12I, _____

(a) X17K
(b) Y15K
(c) Z15K
(d) Y17K

Q95. Which one of the following dynasties did NOT belong to South India?

(a) Pandya
(b) Pala
(c) Satavahana
(d) Pallava

Q96. Find the odd statement with reference to the Constitution of India.

(a) It is the rule book of the nation
(b) It codifies rule of law
(c) It reflects fundamental political values
(d) It is not a legal document

Q97. A question and two statements labeled (I), (II) are given. You have to decide which statement(s) is/are sufficient to answer the question.

How many brothers does Dinesh have?

I. Dinesh's mother has three children.

II. Dinesh has two sisters.

(a) Statement II alone is sufficient.
(b) Both the statements together are needed.
(c) Statement I alone is sufficient.
(d) Either of I or II alone is sufficient

Q98. The surface area (in sq.cm.) of a sphere with radius 1.5 cm is: (Take $\pi = 22/7$)

(a) 190/21
(b) 190/7
(c) 198/7
(d) 198/21

Q99. Rhinoscope is an instrument for examining the _____.

(a) Brain
(b) Eyes
(c) Nose
(d) Ears

Q100. Apurva travelled equal distances at speeds of 10 km/hr, 20 km/hr, and 6 km/hr, and took a total time of 19 minutes. Find the total distance travelled in km.

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

Q101. Wildlife Institute of India is located at

(a) Nagpur
(b) Gangtok
(c) Dehradun
(d) Itanagar

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Q102. Two numbers are in ratio 3:8 and their HCF is 7. Their LCM is:

(a) 186
(b) 56
(c) 21
(d) 168

Q103. If A denotes 'add', B denotes 'subtract', C denotes 'multiply' and D denotes 'divide', which of the following is correct?

(a) 8 C 8 A 8 D 8 B 8 = 57
(b) 36 C 4 D 8 B 7 A 4 = 10
(c) 32 D 8 C 9 = 160 B 12 C 12
(d) 16 C 12 A 49 D 7 B 9 = 200

Q104. Which one of the following is NOT true regarding the voting rights under the democratic system in India?

(a) Any citizen over the age of 18 can vote, who registered their names in Electoral List
(b) Those who are deemed unsound of mind can also vote
(c) Only people with their names on the electoral roll are allowed to vote
(d) There is no gender discrimination

Q105. In India, Cotton crop is mainly grown in:

(a) Alluvial Soil
(b) Red Soil
(c) Black Soil
(d) Sandy Soil

Q106. An ordinary magnet does not attract _____.

(a) Iron
(b) Nickel
(c) Bronze
(d) Steel

Q107. Georges Lemaitre is related with the _____.

(a) Big Bang theory
(b) Electric current
(c) Deoxyribonucleic acid
(d) Solar system

Q108. If ABSENT = BDVISZ, then SCHOOL will be coded as:

(a) TKESSR
(b) TEKSTR
(c) TKERTS
(d) TEKRRS

Q109. A shopkeeper cheats to the extent of 21% while buying and selling fruits, by using tampered weights. His total gain (in percentage) is:

(a) 53.16
(b) 56.25
(c) 46.75
(d) 46.41

Q110. Complete the series:

AZCXE.....

(a) F
(b) W
(c) V
(d) H

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Q111. Find the missing term of the sequence.

AB, BA, ABC, CBA, ABCD, _____

(a) DABC
(b) DCBA
(c) DBCA
(d) DBAC

Q112. Linux is an example of:

(a) Assembly Language
(b) Application Software
(c) Programming Language
(d) Operating System

Q113. Where is the National Rail Museum located in India?

(a) New Delhi
(b) Shimla
(c) Darjeeling
(d) Kolkata

Q114. Below are given statements followed by some conclusions. You have to take the given statements to be true even if they seem to be at variance with the commonly known facts and then decide which of the given conclusions logically follow(s) from the given statements.

Statements:

I) All lock is book.

II) No book is colored.

Conclusions:

I) All book is lock.

II) No lock is Colored.

(a) Both I and II follow
(b) Only conclusion II follows
(c) Either I or II follows
(d) Only conclusion I follows

Q115. Compute: 3108 ÷ 259 - 10

(a) 1063/83
(b) 2
(c) -2
(d) 1036/83

Q116. Which one of the following is NOT a key vision area under the 'Digital India' programme?

(a) Documentaries on digital awareness
(b) Governance and Services on Demand
(c) Digital Empowerment of Citizens
(d) Digital Infrastructure as a Core Utility to Every Citizen

Q117. Mr. Ayush borrowed Rs. 3000 at 5% per annum compound interest. The compound interest compounded annually for 2 years is:

(a) Rs. 370.5
(b) Rs. 307.5
(c) Rs. 3307.5
(d) Rs. 3370.5

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Q118. The mode of the data 3, 12, 4, 6, 8, 5, 4 is:

(a) 5
(b) 8
(c) 4
(d) 3

Q119. Mr. Akhil invested Rs. 13,500 in FD. How much will he get on maturity, if he invested it at 20% per annum compound interest for 6 months, compounded quarterly?

(a) Rs. 14,883.35
(b) Rs. 14,883.75
(c) Rs. 14,883.5
(d) Rs. 14,883

Q120. Read the following statements carefully and answer the given question.

Cocoa and chocolate products have been used as medicine in various cultures for many centuries. Chocolate is sourced from plants, which contain many of the health benefits of leafy vegetables.

which of the following statements weakens the above argument?

A)Chocolate contains a large number of antioxidants which slows down the aging process.

B)Some studies revealed that regular intake of chocolates increases blood pressure thus lowering the chances of diabetes.

C) Green leafy vegetables have substances That protect skin from UV rays.

D) Chocolates have 3 type of fats, one of which increases the level of 'bad cholesterol'

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

ANSWER KEY

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

SOLUTIONS

Q1. Answer: (b) 36

Given:

The product of two numbers is 2664

LCM is 74

Concept:

Product of two numbers = LCM × HCF

Calculation:

Let HCF be 'h'

Product of two numbers = LCM × HCF

=> 2664 = 74 × h

=> h = 2664/74 = 36

Therefore HCF = 36

Q2. Answer: (c) an asset of the borrower

The correct answer is an asset of the borrower.

Important Points

• Collateral security for a loan is an asset of the borrower.

• Collateral is an asset that a borrower offers to a moneylender as security for a loan. The lender has the right to take the asset used as collateral if the borrower is unable to repay the loan.

• Reserve Bank of India has deregulated interest rates to be charged to borrowers by financial institutions (other than NBFC-Micro Finance Institution).

• The rate of interest to be charged by the company is governed by the terms and conditions of the loan agreement entered into between the borrower and the NBFCs.

Additional Information

• Through the provisions of the Banking Regulation Act, 1949, the banking system in India is regulated by the Reserve Bank of India.

• Shaktikanta Das is the present Governor of the Reserve Bank of India.

Q3. Answer: (b) Acetic

The Correct Answer is Acetic.

Key Points

• Acetic acid is the primary constituent of vinegar.

• Vinegar is an aqueous solution with acetic acid and other trace chemicals.

• Vinegar usually contains 5–8 percent of acetic acid by volume.

• Acetic acid is typically formed by the fermentation of ethanol or sugars by acetic acid bacteria.

• Vinegar is primarily used in the culinary arts: as a flavorful, acidic cooking ingredient or as a pickling ingredient.

• As the most readily produced mild acid, it has traditionally had a wide range of industrial and domestic applications (such as its use as a household cleaner).

Important Points

• The conversion of ethanol(CH_3CH_2OH) and oxygen(O_2) to acetic acid(CH_3COOH) are followed by the following reaction:

• $CH_3CH_2OH + O_2 \rightarrow CH_3COOH + H_2O$

• Vinegar contains various flavonoids, phenolic acids and aldehydes, which vary in content depending on the source material used to produce vinegar, such as orange peel or different fruit juice concentrates.

Q4. Answer: (d) Private citizens have no right to fly the flag on their premise

The Correct Answer is Private citizens have no right to fly the flag on their premise.

Key Points

• According to the Indian flag code, Indian people had no right to lift the Indian flag except for important days such as Republic Day, Independence Day and Mahatma Gandhi's birthday.

• On 26 January 2002, the flag code was changed, granting the Indians the right to proudly fly the national flag wherever and at any time.

• There are also certain laws and regulations regarding how to fly the flag, based on the law of 26 January 2002.

• A member of a public, private association or educational institution can raise/display the National Flag on all days and occasions, whether ceremonial, in accordance with the dignity and honour of the National Flag.

• The national flag or any imitation shall not be used for commercial or technical purposes.

• Nothing, including flowers or garlands, or emblems, maybe put on or above the flag.

Additional Information

• Mrs Bhikaji Rustom Cama was the first person to lift the Indian flag on foreign soil on 22 August 1907 in Stuttgart, Germany.

• The Indian flag was raised on the highest mountain in the world, Mount Everest, on 29 May 1953.

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• The Indian National Flag was flying to space in 1984 when Wing Commander Rakesh Sharma went to space..

Q5. Answer: (b) Lalita Babar

The Correct Answer is Lalita Babar.

Key Points

• Lalita Babar is a long-distance Indian runner from Maharashtra.

• She competes in the 3000-meter steeplechase, the current Indian national record holder and the reigning Asian champion at the same event.

• She was named Sports Person of the Year at the 2015 Indian Sports Awards organized by the Federation of Indian Chambers of Commerce and Industry (FICCI) and the Indian Ministry of Youth and Sports.

• She has won the prestigious Arjuna Award 2016 from the President of India for her contributions to the field of athletics.

• It is currently sponsored by the Anglian Medal Hunt Company.

Important Points

• Amit Kumar Saroha is a Paralympian who won the Arjuna Award in 2013.

• M. R. Poovamma is an Indian sprinter who won the Arjuna Award in 2015.

• Tintu Luka is an Indian track and field athlete who won the Arjuna Award in 2014.

Q6. Answer: (c) Seed

The logic is :

Bud grows into a Flower.

Similarly,

Seed grows into a Plant.

Thus, the correct answer is "Seed".

Q7. Answer: (d) 2/3, 17/24, 3/4

Given:

The given 3 numbers are 17/24, 3/4 and 2/3

Concept:

Make denominator of the 3 numbers same and then compare. Then the number with highest numerator will be largest number.

Calculation:

Here, we can make the denominator of all the numbers = 24

=> 3/4 can be written as 18/24

2/3 can be written as 16/24

Now compare 17/24, 18/24 and 16/24

So, the number with the highest numerator = 18/24 = 3/4

Then 17/24

Then 16/24 = 2/3

(2/3) < (17/24) < (3/4)

Therefore The ascending order is (2/3), (17/24), (3/4)

Q8. Answer: (a) Rs. 215.25

Shortcut Trick

The multiplying factor for a 5% increase is 1.05.

Total amount = (Investment 1 compounded for 2 years) + (Investment 2 compounded for 1 year)

Total amount = $100 \times (1.05)^2 + 100 \times 1.05$

Total amount = $(100 \times 1.1025) + 105 = 110.25 + 105 = 215.25$

Therefore The correct answer is Rs. 215.25.

Alternate Method

Given:

Investment at the start of each year (P) = Rs. 100

Rate of Interest (R) = 5% per annum

Formula Used:

Compound Amount (A) = $P \times (1 + R \div 100)^n$

Start Year 1

Start Year 2

End Year 2

Rs. 100

2 years @ 5% CI

Rs. 110.25

Rs. 100

1 year @ 5% CI

Rs. 105.00

Total: Rs. 215.25

Calculations:

=> Amount of 1^(st) investment (n = 2) = $100 \times (1 + 5 \div 100)^2$

=> Amount of 1^(st) investment = $100 \times (1.05)^2$

=> Amount of 1^(st) investment = $100 \times 1.1025 = 110.25$

=> Amount of 2^(nd) investment (n = 1) = $100 \times (1 + 5 \div 100)^1$

=> Amount of 2^(nd) investment = $100 \times 1.05 = 105$

=> Total Amount at the end of the 2^(nd) year = 110.25 + 105

=> Total Amount = 215.25

Therefore The correct answer is Rs. 215.25.

Additional Information

Effective Rate of Compound Interest

For 2 years at R% per annum, the effective compound interest rate can be calculated directly as $2R + (R^2) \div 100$ %.

Difference Between CI and SI

The exact numerical difference between Compound Interest and Simple Interest over a period of 2 years on a principal P is given by $D = P \times (R \div 100)^2$.

Simple Interest vs Compound Interest

Simple Interest is calculated only on the initial principal (SI = P × R × T ÷ 100), whereas Compound Interest accumulates on both the principal and the interest previously added.

Q9. Answer: (c) Two Leaves and a Bud

The Correct Answer is Two Leaves and a Bud.

Key Points

• Two Leaves and a Bud is a novel by Mulk Raj Anand which first published in 1937.

• This one also deals with the issue of persecution of the oppressed and is about a farmer who is trying to shield his daughter from a British soldier.

• The tale is based on the Assam tea plantations.

• The book was adapted to the Hindi film, Rahi, by Dev Anand and simultaneously published in English as The Wayfarer.

Important Points

• The Bachelor of Arts, The English Teacher and Waiting for the Mahatma books are written by R. K. Narayan.

• R. K. Narayan was an Indian writer known for his work in the fictitious South Indian town of Malgudi.

• Narayan's mentor and friend Graham Greene was influential in bringing publishers of Narayan's first four novels, including the semi-autobiographical trio of Swami and Associates, The Bachelor of Arts, and The English Teacher.

• The fictitious town of Malgudi was first introduced to Swami and Friends.

• Narayan's The Financial Expert was praised as one of the most original works of 1951 and the recipient of the Sahitya Academy Award The Guide was adapted for film (winning the Filmfare Award for Best Film) and Broadway.

• He was honoured with the Padma Vibhushan and the Padma Bhushan.

Q10. Answer: (b) Radioactivity

The Correct Answer is Radioactivity.

Key Points

• Henri Becquerel was a physicist, a Nobel laureate, and the first to find proof of radioactivity.

• Together with Marie Skłodowska-Curie (Marie Curie) and Pierre Curie, he was awarded the 1903 Nobel Prize in Physics for work

in this area.

• The SI radioactivity unit, the becquerel (Bq), is named after him.

• In 1900, Becquerel calculated the properties of Beta Particles and found that they had the same measurements as high-speed electrons leaving the nucleus.

• In 1901, Becquerel discovered that radioactivity could be used for medical purposes. This breakthrough contributed to the invention of radiotherapy that is still used to treat cancer.

Important Points

• In 1903, Henri shared with Pierre Curie and Marie Curie the Nobel Prize in Physics for the discovery of spontaneous radioactivity.

Additional Information

Inventions/Discoveries	Discovered by
Genetics	Gregor Mendel
Inductance	Joseph Henry
Conductivity	Stephen Gray

Q11. Answer: (c) NIART

The logic is :

Similarly,

Thus, the correct answer is "NIART".

Q12. Answer: (b) Michael Phelps

The Correct Answer is Michael Phelps.

Key Points

• Michael Phelps became the sportsperson to win four consecutive Olympic gold medals in the same event.

• He is an American former elite swimmer and the most successful and decorated Olympian of all time, with a total of 28 medals.

• He has an all-time high for Olympic gold medals (23), Olympic gold medals at individual events (13) and Olympic medals at individual events (16).

• When he won eight gold medals at the 2008 Beijing Games, Phelps smashed Mark Spitz's 1972 record of seven first-place finishes at a single Olympic Games.

• At the 2004 Athens Summer Olympics, Phelps had won six gold and two bronze medals for a total of eight medals of any colour at one of the Events.

• He won four gold and two silver medals at the 2012 London Summer Olympics and five gold and one silver medals at the 2016 Rio de Janeiro Summer Olympics.

Important Points

• Usain Bolt is a retired Jamaican sprinter.

• He regarded as the greatest sprinter of all time.

• He is an eight-time Olympic gold medalist, is the first sprinter to win 100 m Olympic and 200 m Olympic titles in three successive Olympic Games (2008, 2012 and 2016).

• Larisa Latynina is a retired Soviet artistic gymnast.

• She won 14 individual Olympic medals and four team medals between 1956 and 1964.

• Dipa Karmakar is an Indian Art Gymnast. Karmakar first gained recognition when she captured the bronze medal at the 2014 Commonwealth Games in Glasgow, becoming the first Indian women's gymnast to do so in the history of the Games.

Q13. Answer: (b) $4x^2 - 11x$

Calculation:

$x(x - 2) + 3x(x - 3)$

$=> x^2 - 2x + 3x^2 - 9x$

$=> 4x^2 - 11x$

Q14. Answer: (a) 536124

Given :

U T E Y B A

1 2 3 4 5 6

1. 536124 → BEAUTY → It is a meaningful word.
2. 563214 → BAETUY → It is not a meaningful word.
3. 536214 → BEATUY → It is not a meaningful word.
4. 563124 → BAEUTY → It is not a meaningful word.

Thus BEAUTY is a meaningful English word.

Thus, the correct answer is "536124".

Q15. Answer: (a) Manhattan Project

The correct answer is the Manhattan Project.

Important Points

• Manhattan Project is the work on which the greatest scientists gathered in the 1940s to figure out how to refine uranium and build an atomic bomb.

• Manhattan Project was started in the year 1939 and completed in 1946. Manhattan project is the code name for the American-led effort to develop a functional nuclear weapon during World War II.

• J. Robert Oppenheimer was the Director of Los Alamos Laboratory and the head of the Manhattan Project. Major General Leslie Groves of the U.S. Army was the leader of this project from 1942 to 1946.

• On 16th July 1945, the Trinity test of the Manhattan Project was the first detonation of a nuclear weapon.

Additional Information

• The Japanese attack on Pearl Harbour of the United States in 1941, during World War II which resulted in the killing of thousands of people.

• For the preservation and interpretation of the Manhattan Project a non-profit organization the Atomic Heritage Foundation was established in the United States in 2002.

Q16. Answer: (d) Gayathri

1. Rekha is younger to Sumitha but elder than Reena.

Sumitha > Rekha > Reena

2. Reena is elder than Gayathri.

Sumitha > Rekha > Reena > Gayathri

3. Sharmila is elder to Reena but younger to Rekha.

Rekha > Sharmila > Reena

Sumitha > Rekha > Sharmila > Reena > Gayathri

Hence, Gayathri is youngest of all.

Thus, the correct answer is "Gayathri".

Q17. Answer: (d) 21

Given:

Akshat is twice as good a typist as Lokesh

Together they finish a piece of work in 7 days

Formula used:

Number of days = Total work/Efficiency

Calculation:

The ratio of efficiency of Akshat and Lokesh = 2 : 1

Together they finish a piece of work in 7 days

=> Total work = 7 × (2 + 1)

=> Total work = 21 unit

Now, to find in how many days Lokesh alone can finish the work:

Number of days = Total work/Efficiency

=> 21/1 = 21

Therefore Lokesh alone can finish the work in 21 days

Q18. Answer: (c) IRNSS

The Correct Answer is IRNSS(Indian Regional Navigation Satellite System).

Key Points

• The IRNSS is an autonomous regional navigation satellite system that India is developing.

• It is planned to provide accurate location information service to users in India as well as to the region extending up to 1500 km from its border, which is its primary service area.

• The Extended Coverage Area is situated between the main service area and the rectangular area from Latitude 30 deg South to 50 deg North, Longitude 30 deg East to 130 deg East.

• IRNSS can offer two types of services, namely the Standard Positioning Service (SPS), which is offered to all users and the Restricted Service (RS), which is an encrypted service provided only to registered users.

• The IRNSS-1A spacecraft provides messaging services to users in the Indian region.

• Signal-in-Space Interface Control Document (ICD Ver. 1.0) for Messaging Services (IRNSS 1A) is published to the public to provide important information to enable the use of IRNSS1A Signal-in-Space for the creation of receivers and related applications.

Important Points

• Geosynchronous Satellite Launch Vehicle(GSLV) is an expendable launch vehicle owned by the Indian Space Research Organization (ISRO).

• GSLV was used for thirteen launches from 2001 to 2018, with more expected launches.

• Polar Satellite Launch Vehicle(PSLV) is India's first launch vehicle to be fitted with liquid phases.

• Satellite Launch Vehicle-3(SLV-3) was India's first experimental satellite launch vehicle, an all-in-one, four-stage 17-tonne, 22-meter-high vehicle capable of placing 40 kg payloads in the Low Earth Orbit (LEO) class.

Q19. Answer: (d) 45

Given:

18 men built a tanker in 25 days

Calculation:

18 men → 25 days

=> 1 man → 18 × 25 = 450 days

=> 10 men → 450/10 = 45 days

Therefore 10 men can build the tanker in 45 days

Q20. Answer: (d) There is no clear similarity between them

1. July --> 7th month (31 days)

2. October --> 10th month (31 days)

3. January --> 1st month (31 days)

4. June --> 6th month (30 days)

There is no clear similarity between them.

Thus, the correct answer is "There is no clear similarity between them".

Q21. Answer: (b) 140

Given:

Total students in school = 200

3/10 of total students are boys

Calculation:

3/10 of total students are boys

=> 1 - (3/10) = 7/10 of total students are girls

Therefore Number of girls in the school = (7/10) × 200 = 140

Q22. Answer: (a) 1

Formula used:

$(a^m)^n = a^{(m \times n)}$

Calculation:

Here,

$(7^{(1/2)})^4 = 7^{((1/2) \times 4)}$

$=>(71/2)4 = 7^2$

Now,

$(7)^2 \div (7^{(1/2)})^4 = 7^2/7^2$

$=> (7)^2 \div (7^{(1/2)})^4 = 1$

Q23. Answer: (a) D

Explanation:

From the given table we can see that, for Scheme D, there is a continuous decrease over the year

Decrease in the order 290 > 150 > 125 > 115 > 100 > 40

Q24. Answer: (a) December 2008

Calculation:

In December 2008,

The total subscription to the Schemes B and C = 110 + 40 = 150 Crores

Subscription to Scheme B in February 2009 = 150 Crores

Therefore The total subscription to the Schemes B and C = Subscription to Scheme B in February 2008

In January 2008,

The total subscription to the Schemes B and C = 90 + 70 = 160 Crores

In October 2008,

The total subscription to the Schemes B and C = 130 + 70 = 200 Crores

In September 2008,

The total subscription to the Schemes B and C = 70 + 30 = 100 Crores

In other months given, Condition doesn't satisfy.

Therefore In December 2008, the total subscription to the Schemes B and C was equal to the subscription to Scheme B in February 2009

Q25. Answer: (c) 80 Crores

Calculation:

Subscription of Scheme A in December = 160 Crores

Subscription of Scheme A in January = 80 Crores

Therefore Required Difference = 160 - 80 = 80 Crores

Q26. Answer: (a) E

Concept:

The Subscription to a Scheme is the criterion of popularity

Calculation:

Total subscription of A = (200 + 120 + 45 + 160 + 80 + 130) = 735 Crores

Total subscription of B = (70 + 130 + 35 + 110 + 90 + 150) = 585 Crores

Total subscription of C = (30 + 70 + 25 + 40 + 70 + 30) = 265 Crores

Total subscription of D = (290 + 150 + 125 + 115 + 100 + 40) = 820 Crores

Total subscription of E = (10 + 290 + 160 + 130 + 140 + 390) = 1120 Crores

Therefore Most popular scheme is E

Q27. Answer: (b) Data insufficient

According to statement I,

The train normally leaves on time.

But, at what time train leaves today is not mentioned.

According to statement II,

The scheduled departure is at 15.30 hrs.

But, today train leaves on time or not is not mentioned.

Thus, the correct answer is "Data insufficient".

Q28. Answer: (d) Karate

The Correct Answer is Karate.

Key Points

• Under the new policies of the IOC(International Olympic Committee), which allow the host organising committee to introduce new sports to the Olympic programme in order to expand permanent core events, the Games will see karate, sport climbing, surfing and skateboarding making their Olympic debut, as well as the return of baseball and softball for the first time since 2008.

• The 2020 Games will see the unveiling of new tournaments, including 3x3 basketball, freestyle BMX and madison cycling.

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• The 2020 Summer Olympics is an international multi-sport event expected to take place in Tokyo, Japan, from 23 July to 8 August 2021.

• Originally scheduled to take place from 24 July to 9 August 2020, the event was postponed as a result of the COVID-19 pandemic in March 2020.

Additional Information

• Tokyo was chosen as the host city at the 125th IOC Session in Buenos Aires, Argentina, on 7 September 2013.

• The 2020 Games will be the second time that Japan and Tokyo, in particular, has hosted the Summer Olympic Games, the first being in 1964, making it the first city in Asia to host the Summer Olympics twice.

Q29. Answer: (c) Ganges River Dolphin

The Correct Answer is Ganges River Dolphin.

Key Points

• The dolphin of the Ganges River was formally discovered in 1801.

• Ganges river dolphins once existed in the Ganges-Brahmaputra-Meghna and Karnaphuli-Sangu river systems in Nepal, India and Bangladesh.

• The dolphin of the Ganges River can only exist in freshwater and is practically blind.

• They hunt by emitting ultrasonic sounds that bounce off fish and other prey, allowing them to "see" a picture in their heads.

• The Ganges River dolphin is significant because it is a reliable indicator of the health of the entire ecosystem of the river.

• It was declared a National Aquatic Animal by the Government of India in 2009.

Additional Information

• The Ganges shark is a critically endangered species of requiem shark found in the Ganges River (Padma River) and the Brahmaputra River in Bangladesh and India.

• Indian star tortoise is an endangered species of tortoise found in dry areas and scrub forests in India, Pakistan, and Sri Lanka.

• Golden Mahseer is an endangered species of cyprinid fish found in rapid streams, river basins and lakes in the Himalayan region.

Q30. Answer: (d) 2 1/4

Given:

The 1st hole alone empties the glass in 9 minutes

The 2nd hole alone empties the glass in 3 minutes

Formula used:

Time = Total work/Efficiency

Calculation:

1st hole → 9 minutes

2nd hole → 3 minutes

Total work done = LCM(9, 3) = 9

=> Efficiency of the 1st hole = 9/9 = 1 unit

=> Efficiency of the 2nd hole = 9/3 = 3 unit

Therefore Efficiency of the 1st hole and 2nd hole = 1 + 3 = 4 unit

Time taken = Total work/Efficiency

=> Time taken = 9/4

=> 2 1/4 minutes

Q31. Answer: (d) 4

Here, the logic is :

All of the numbers are Square of the prime numbers i.e;

$9 = 3^2$

$25 = 5^2$

$49 = 7^2$

$121 = 11^2$

$169 = 13^2$

So, we have to find the first prime number Square i.e: $2^2 = 4$

Thus, the correct answer is "4".

Q32. Answer: (d) 43795

The pattern here is as below-:

Similarly,

Hence, Correct answer is 43795.

Q33. Answer: (b) Rs. 690

Given:

Selling Price = Rs. 510

Loss = 15%

Calculation:

Cost Price = 510 × (100/85) = Rs. 600

To get a profit of 15%, Selling Price should be:

S.P = 600 × (115/100) = Rs. 690

Therefore At Rs 690 should the bus be sold to get a profit of 15 %

Q34. Answer: (a) Control+Y

The Correct Answer is Control+Y

Key Points

• Control+Y shortcut key used in standard Windows keyboard for "Redo".

• The shortcut for the Undo command is Control-Z in most Apple Macintosh applications, and the shortcut for Redo is Control -Shift-Z.

• Undo is the opposite of Redo.

• Undo is an interaction technique used to delete the last alteration made to the text, reverting it to an older state.

• The ability to reverse the process on the computer has been invented many times independently.

Important Points

Commands	Means
Control+Minus	Zoom Out
Control+Shift+A	Find Action
Control+Z	Undo

Q35. Answer: (b) 42

Concept:

Fourth proportional of three numbers a, b, and c = (b × c)/a

Calculation:

Fourth proportional of three numbers 14, 28, and 21 = (28 × 21)/14

=> 42

Therefore The fourth proportional is 42.

Q36. Answer: (c) State Bank of India

The Correct Answer is State Bank of India.

Key Points

• Bharatiya Mahila Bank (BMB) has merged with the country's largest lender State Bank since April 1 to increase women's banking outreach.

• The merger of BMB with the paid-up capital of Rs 1,000 crore was completed three years after its establishment.

• Bharatiya Mahila Bank (BMB) was an Indian financial services bank company based in Mumbai.

• Former Indian Prime Minister Manmohan Singh inaugurated the system on 19 November 2013 on the occasion of the 96th anniversary of the birth of former Indian Prime Minister Indira Gandhi.

• Bharatiya Mahila Bank is wholly owned by the Government of India. Initially, the bank had a board of directors composed of eight women.

• Mrs Usha Ananthasubramanian was Chairman and Managing Director, and SM Swathi was Chief Executive Officer.

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Q37. Answer: (d) Water

The Correct Answer is Water.

Key Points

• This fort is the only fortress left undefeated by Shivaji and Sambhaji Maharaj Murud-Janjira Fort situated on an oval-shaped rock off the Arabian Sea coast near the port town of Murud.

• It is 165 km (103 mi) south of Mumbai.

• The gigantic fort of the 16th century, surrounded by the majestic Arabian Sea on all sides by the Janjira Fort, is situated in the Raigad district of Maharashtra.

• Murud was the capital of the Siddis of Janjira in the 15th-16th century.

• This indomitable fortress inspired Maratha Chief Shivaji to launch many assaults, but the fort remained invincible for the last time.

• The fort, constructed 2 km into the sea, is one of the most important sea fortresses in Maharashtra.

Q38. Answer: (a) 8

Given:

An internet bill costs Rs. 6 for 2 minutes 30 seconds.

Concept:

2 minutes 30 seconds = 150 seconds

3 minutes 20 seconds = 200 seconds

Calculation:

150 seconds → Rs. 6

1 sec →Rs. 6/150

200 seconds → (6/150) × 200 = Rs. 8

Therefore The cost (in rupees) for 3 minutes 20 seconds = 8

Q39. Answer: (a) 550 and 2

The correct answer is 550 and 2.

Important Points

• The Constitution of India puts a limit on the size of the Lok Sabha to 550 elected members, apart from 2 members nominated by the President to represent the Anglo-Indian community.

• The Lok Sabha is composed of representatives of people chosen by direct election on the basis of Universal Adult Suffrage.

• The maximum strength of the House is 552 members - 530 members to represent the States, 20 members to represent the Union Territories, and 2 members to be nominated by the President from the Anglo-Indian Community. At present, the strength of the House is 545.

• Om Birla is the 17th and current speaker of Lok Sabha.

Mistake Points

• Under Article 331, the President use to nominate 2 members of the Lok Sabha from the Anglo-Indians Community.

• In January 2020, the Anglo-Indian reserved seats in the Parliament and State Legislatures of India were abolished by the 104th Constitutional Amendment Act, 2019.

Additional Information

• The Rajya Sabha should consist of not more than 250 members - 238 members representing the States and Union Territories, and 12 members nominated by the President. Each member is elected for a term of six years.

• Jagdeep Dhankhar is the current Chairman of Rajya Sabha and the present Vice-President of India.

Q40. Answer: (b) 30

Given:

Interior angles are 168°

Concept:

For every polygon, the sum of the exterior angles = 360°

Formula used:

Number of sides = 360/Exterior angle

Calculation:

Exterior angle = 180 - Interior angle

=> Exterior angle = 180 - 168 = 12°

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Now,

Number of sides = 360/12 = 30

Q41. Answer: (a) Law of conservation of energy

The Correct Answer is the Law of conservation of energy.

Key Points

• A monkey sitting on a branch of a tree suddenly falling down towards the ground is an example of Law of conservation of energy.

• The law of Conservation of energy states that energy can not be created or destroyed only from one source of energy to another.

• This means that the system still has the same amount of energy unless it is added from the outside.

• This is especially confusing in the case of non-conservative forces, where energy is transferred from mechanical energy to thermal energy, but the total energy remains the same.

• The only way to use energy is to transfer energy from one form to another.

Important Points

Law	Explanation
Kepler's law	Describing the motions of the planets in the solar system.
Newton's third law of motion	Every action (force) in nature there is an equal and opposite reaction.
Law of conservation of mass	any system closed to all transfers of matter and energy, the mass of the system must remain constant over time, as the system's mass cannot change, so the quantity can neither be added nor be removed.

Q42. Answer: (c) 1.5

Given:

Two cycles start from a house at interval of 10 minutes (10/60 hours)

Speed of cycles = 6 km/hr

Women coming from opposite direction meet them at an interval of 8 minutes (8/60 hours)

Calculation:

Distance between the cycles = (10/60) × 6 = 1 km

Let the speed of woman be x km/hr

=> The speed of cycle and woman = (x + 6) km/hr

=> [1/(x + 6)] = 8/60

=> x + 6 = 60/8 = 7.5

=> x = 7.5 - 6

=> x = 1.5 km/hr

Q43. Answer: (b) 54 : 55

Given:

The cash difference between the selling price of an article at a profit of 8% and 10% is Rs. 3

Calculation:

Let C.P be x

S.P for 8% profit = x + (x × 8/100)

=> 1.08x

S.P for 10% profit = x + (x × 10/100)

=> 1.1x

Now,

1.1x - 1.08x = 3

=> 0.02x = 3

=> x = 150

=> S.P for 8% profit = 1.08x

=> 1.08 × 150 = 162

=> S.P for 10% profit = 1.1x

=> 1.1 × 150 = 165

Therefore The ratio of Selling Prices = 162 : 165

=> 54 : 55

Q44. Answer: (c) M.S Subbulakshmi

The correct answer is M.S Subbulakshmi.

Important Points

• UN Postal Administration issued a commemorative stamp of M.S Subbulakshmi, the Indian music legend on the 2nd October 2016.

• M.S Subbulakshmi was an Indian Carnatic singer from Madurai, she is the first Indian singer to receive the Bharat Ratna in 1998.

• M.S Subbulakshmi has won the Ramon Magsaysay award in 1974 and Padma Bhushan in 1954.

• M.S Subbulakshmi became the first Indian in 1966 who performed in the United Nations General Assembly.

Additional Information

• António Guterres is the present Secretary-General of the United Nations.

• Ustad Bismillah Khan was an Indian musician and he was famous for his Shehnai. He was awarded Bharat Ratna in the year 2001.

Q45. Answer: (b) Teleprinter Exchange

The correct answer is Teleprinter Exchange.

Important Points

• TELEX stands for Teleprinter Exchange.

• The telex is similar to a telephone network it was a customer-to-customer switched network of teleprinters that was used to send written messages electronically.

• Telex network was used during the post-World War II period, by the 1980s fax machines grew in popularity that resulted in a decline in the usage of the telex network.

• As a research and development program in 1926, telex began in Germany. By the year 1933, it became an operational service.

Additional Information

• In the public switched telephone network or in large enterprises, a telecommunications system central office or telephone exchange is used.

• Majorly, the telephone exchange is used in the public switched telephone network (PSTN) and in large enterprises.

Q46. Answer: (b) Corporate governance

The Correct Answer is Corporate governance.

Key Points

• The Human Development Index (HDI) was developed to emphasize that people and their skills should be the overarching criterion for evaluating the development of a nation, not economic growth alone.

• It can also be used to challenge national policy decisions by questioning how two countries with the same GDP per capita would end up with different human development outcomes.

• These contrasts will encourage discussion on government policy objectives.

• The Human Development Index (HDI) is a summary indicator of average achievement in main dimensions of human development: long and healthy living, educated and decent living standards.

• The HDI is the geometric mean of the uniform indices for each of the three dimensions.

Important Points

• India ranks 129 out of 189 countries in the Human Development Index(HDI) of 2019, up to one in 2018 from 130.

• The highest HDI score is 1.0. Norway is the top nation on this ranking, with a score of 0.954. Switzerland is second, with a score of 0.946. Ireland is in third place with a score of 0.942.

• India has been positioned at 131 out of 189 countries and territories, according to the report.(dec, 2020)

Q47. Answer: (a) 32

Given:

A student scored 8 marks out of 25 marks

Calculation:

The student's marks is percentage = (8/25) × 100

=> 32%

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Q48. Answer: (b) 5

Letter	P	Q	R	S
Symbol	•	÷	•	×

15 Q 3 R 24 P 12 S 2

Putting the signs as per the table

15 ÷ 3 + 24 - 12 × 2

= 5 + 24 - 24

= 29 - 24

= 5

Hence, correct answer is 5.

Q49. Answer: (b) Hornbill festival

The Correct Answer is the Hornbill festival.

Key Points

• The Hornbill Festival is held every year in Nagaland, India.

• It celebrated every year from 1st to 10 December.

• In order to encourage inter-tribal interaction and promote the cultural heritage of Nagaland, the Government of Nagaland is organizing this Festival every year in the first week of December.

• This festival first took place in 2000.

• The festival is named after the Indian hornbill which is a large and colourful forest bird.

• President Ram Nath Kovind inaugurated the 18th Hornbill Festival and State Formation Day in Naga Heritage Village in Kisama on 1 December 2017.

Important Points

Festivals	States
Baneshwar fair	Rajasthan
Bohaggiyo Bishu tribal festival	Assam
Bhagoria festival	Madhya Pradesh & Maharashtra

Q50. Answer: (d) 0.077

Explanation:

When dividing by 100, move 2 points to the left and add zeroes in the moved places after the number.

7.7 ÷ 100 = 0.077

Q51. Answer: (a) Both I and II follow

Concept:

If "All A are B" is true, then "some A are B" is always true.

Least possible Venn diagram:

1) Some women are married → Follows (As all women are married. So some women are married is definitely true.)

For example: If All buses are cars, Then some buses are definitely cars.

2) Some married are educated → Follows (As all women are married and Some women are educated. So some married are educated is definitely true.)

Hence, both conclusions 1 and 2 follow is correct answer.

Q52. Answer: (b) 10^(th) August

The Correct Answer is 10th August.

Key Points

• World Lion Day is held annually on 10 August.

• Its aim is to raise awareness and encourage the conservation of lions.

• The big cat is listed as an endangered species on the IUCN(International Union for Conservation of Nature) Red List.

• Asian lion is one of the five big cats present in India.

• The remaining four are the Royal Bengal Tiger, the Indian leopard, the clouded leopard and the snow leopard.

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• Lions are found in the protected areas and agro-pastoral landscape of Gujarat's Saurashtra region in India.

• According to the latest estimates, India has reported the highest ever rise, 29 percent, in its lion population, from 523 in 2015 to 674 in 2020. Of the 674, 206 males, 309 females, 137 males, and the remainder are unidentified.

Q53. Answer: (a) Barren

The Correct Answer is Barren.

Key Points

• Barren Island is an island located in the Andaman Sea.

• It is an active volcano in South Asia and along the volcano chain from Sumatra to Myanmar.

• It is part of the Territory of Andaman and Nicobar Islands of the Indian Union and lies about 138 km northeast of the capital of the territory, Port Blair.

• The first recorded volcano eruption dates back to 1787.

• The volcano has erupted more than ten times, with the most recent erupting in 2017.

• This volcanic island lies in the center of a volcanic belt on the edge of the Indian and Burmese tectonic plates.

Important Points

• Oyster Rock is an island in Mumbai Harbor, Mumbai, India.

• It is heavily fortified and is owned by the Indian Navy.

• Viper Island is an island in the Andaman Islands.

• It belongs to the Southern Andaman district of the Andaman and Nicobar Islands.

• Havelock Island (Swaraj Island) is one of the largest islands in the Ritchie Archipelago, east of the Great Andaman Islands.

Q54. Answer: (b) 221/60

Given:

Cot x = 5/12

Concept:

For a triangle,

Cot x = Adjacent side/Opposite side

Sec x = Hypotenuse/Adjacent side

Cosec x = Hypotenuse/Opposite side

Calculation:

Cot x = 5/12 = b/p

=> b = 5 and p = 12

Hypotenuse = $\sqrt{(5^2 + 12^2)} = 13$

Now,

Sec x = h/b = 13/5

Cosec x = h/p = 13/12

=> Sec x + Cosec x = (13/5) + (13/12)

=> Sec x + Cosec x = [(13 × 12) + (13 × 5)]/(5 × 12)

=> Sec x + Cosec x = 221/60

Therefore The value of Sec x + Cosec x is 221/60.

Q55. Answer: (d) 5.7

Calculation:

15% of 38 = (15/100) × 38

=> (3/20) × 38

=> 5.7

Q56. Answer: (a) TVX

The pattern followed here is-:

Similarly,

Each letter is replaced by the fifth succeeding letters of English alphabetical series.

Hence, OQS is coded as TVX.

Q57. Answer: (c) Q

Family Chart:-

According to given information, family tree is as follows-:

From the above arrangement, Son of P is Q.

Hence, The correct answer is Q.

Q58. Answer: (d) 1

Family Chart:-

According to given information, family tree is as follows-:

From the above arrangement, U has only one brother Q.

Hence, the correct answer is 1.

Q59. Answer: (c) 1 : 1

Family Chart:-

According to given information, family tree is as follows-:

From the above arrangement, Total Males = 3, Total Females = 3

So Ratio of Males : Female = 1 : 1

Hence, the correct answer is option 3.

Q60. Answer: (d) SHOP

The pattern followed here is,

Similarly,

Hence, correct answer is "SHOP".

Q61. Answer: (c) Zero tolerance for the illegal trade in wildlife

The correct answer is Zero tolerance for the illegal trade in wildlife.

Important Points

• The theme of World Environment Day 2016 was "Zero tolerance for the illegal trade in wildlife".

• World Environment Day (WED) is a flagship campaign started by the United Nations to raise awareness on environmental issues and for the protection of the environment.

• Every year on 5 June the World Environment Day is celebrated to encourage awareness for the Environmental issues. The first time World Environment Day was celebrated in 1974.

• "Time for Nature" was the theme of World Environment Day for the year 2020.

Additional Information

• “Air pollution” was the theme of World Environment Day for the year 2019.

• "Support nurses and midwives" was the theme of World Health Day for the year 2020.

Q62. Answer: (a) 4

We can draw Venn diagram as below-:

In a class of 25 students of Mathematics and Computer Science, 12 students have taken Mathematics.

Out of 12 students who have taken Mathematics, 8 students have taken only Mathematics.

So, Students who have taken both subjects are = (12 - 8) = 4

Hence, correct answer is "4".

Q63. Answer: (a) 13

We can draw the Venn diagram as below-:

In a class of 25 students of Mathematics and Computer Science, 12 students have taken Mathematics.

Out of 12 students who have taken Mathematics, 8 students have taken only Mathematics.

Students who have taken both subjects are = (12 - 8) = 4

So, Students who have taken only Computer Science= (25 - 12)=13

Hence, correct answer is "13".

Q64. Answer: (a) 4 hours 25 min

Given:

Bhumika takes a total of 8 hours 20 minutes in walking distance and cycling back

Walk both ways in 12 hours 15 minutes

Calculation:

W + C = 8 hours 20 minutes --(1)

W + W = 12 hours 15 minutes

=> 2W = 12 hours 15 minutes --(2)

Multiply equation (1) by 2

=> 2W + 2C = 16 hours 40 minutes --(3)

Now,

(3) - (2)

=> 2C = 4 hours 25 minutes

Therefore The time taken by her to cycle both ways = 4 hours 25 min

Q65. Answer: (c) Printer

The correct answer is Printer.

Important Points

• In general, the Printer cannot compute. A printer is used for the representation of texts or graphics on paper.

• Different types of printers include laser printer, inkjet printer, 3D printer, thermal printer, etc.

• The first electronic printer was released in 1968 by Japanese company Epson. The name of the printer was EP-101.

• In the 19th century, Charles Babbage designed the first computer printer.

Additional Information

• A calculator is a small hand-held computer use to operate some arithmetic and complex mathematics.

• Calculators also have the capability to store numbers into computer memory, solar cells and batteries are the main power source of the calculators.

Q66. Answer: (c) 327

Concept:

Express the numbers as the product of prime factors. Then HCF will be the common number with least power

Calculation:

$2616 = 109 \times 2^3 \times 3$

$2289 = 109 \times 7 \times 3$

Here Common factor with least power = 109 x 3 = 327

Therefore HCF = 327

Q67. Answer: (c) Guru Shikhar

The correct answer is Guru Shikhar.

Important Points

• Guru Shikhar is the highest peak of the Aravalli mountain.

• Guru Shikhar is located in the Arbuda Mountains of Rajasthan. The highest peak of the Aravalli Range at Guru Shikhar is at the elevation of 1,722 meters (5,650 ft).

• Aravalli hills one of the oldest ranges of the world borders the Peninsular plateau on the north-west side. Aravalli range starts near Delhi and crosses Haryana and Rajasthan, then ends at Gujarat.

Additional Information

• Achalgarh is a fort situated near Mount Abu in Rajasthan. The fort was built by the rulers of the Paramara dynasty.

• Mount Tirich Mir located in the Chitral District of Pakistan is the highest mountain of the Hindu Kush range.

• Dhupgarh, located in Pachmarhi is the highest point of the Satpura Range.

Q68. Answer: (d) 275 / 7

Given:

Radius, R = 2.5 cm

Height, H = 2 cm

Formula used:

Volume of Cylinder = $\pi r^2 H$

=> $(22/7) \times (2.5)^2 \times 2$

=> 275/7 cu. cm

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Q69. Answer: (c) Statement A strengthens the argument and Statement B is a neutral statement.

Many parents have pleaded with the administration department of School X to discontinue the rule of wearing ties to school.

(A) The school has kept different coloured ties for different academic scorers as part of their uniform. Thus, the low-scoring children of school feel discriminated → this statement says that the low scoring children feel discriminated due to wearing different coloured tie, so feeling discriminated is the reason why their parents pleaded the school to discontinue the rule of tie. This statement strengthens the information.

(B) The sports uniform of the school does not have a tie, anyway. It is to be worn only on Wednesdays → This statement does not strengthen or weakens the information.

Hence, option 3 is the correct answer.

Q70. Answer: (c) Ecology

The correct answer is Ecology.

Important Points

• Dr. Dhrubajyoti Ghosh is associated with Ecology. He died in the year 2018.

• Dr. Dhrubajyoti Ghosh was a UN Global 500 laureate, part of the Commission on Ecosystem Management, special advisor on agricultural ecosystems.

• Dr. Dhrubajyoti Ghosh devoted his life to the survival of the East Kolkata Wetlands and creating it as the world's only organic sewage management system.

• Dr. Dhrubajyoti Ghosh was the first engineer of the university to graduate with a Ph.D. in ecology for the University of Calcutta.

Additional Information

• Rohini Balakrishnan, Ajit Kumar Banerjee, Kamaljit S. Bawa, Dilip K. Biswas are some of the well-known ecologists of India.

• Mamata Banerjee is the Chief Minister of West Bengal since 2011 and the present Governor of West Bengal is Jagdeep Dhankhar.

Q71. Answer: (c) Liquid

The correct answer is Liquid.

Important Points

• Plasma, which is one of the blood's constituent, is a liquid.

• Plasma is a straw-coloured, viscous fluid constituting nearly 55 per cent of the blood. 90-92 per cent of plasma is water and proteins contribute 6-8 per cent of it.

• Fibrinogen, globulins, and albumins are the major proteins. Fibrinogens are needed for clotting or coagulation of blood. Globulins primarily are involved in defense mechanisms of the body and the albumins help in osmotic balance.

• Plasma also contains small amounts of minerals like Na^+, Ca^(++), Mg^(++), HCO3, Cl^–, etc. Glucose, amino acids, lipids, etc., are also present in the plasma as they are always in transit in the body.

Additional Information

• Blood is a special connective tissue consisting of a fluid matrix, plasma, and formed elements. Erythrocytes, leucocytes, and platelets are collectively called formed elements.

• Erythrocytes or red blood cells (RBC) are the most abundant of all the cells in the blood. RBCs are formed in the red bone marrow in adults.

• Leucocytes are also known as white blood cells (WBC) as they are colorless due to the lack of hemoglobin. They are nucleated and are relatively lesser in number which averages 6000-8000 mm–3 of blood.

• Platelets also called thrombocytes, are cell fragments produced from megakaryocytes (special cells in the bone marrow).

Q72. Answer: (a) UK

The correct answer is the UK.

Important Points

• 'Airlander 10' the World's largest hybrid airship, which had its first test flight in August 2016, was designed and manufactured in the United Kingdom.

• Hybrid Air Vehicles HAV 304/Airlander 10 is a hybrid airship built in the United Kingdom by the British manufacturer Hybrid Air Vehicles (HAV) in 2012.

• On its second test flight after a successful 30-minute maiden voyage, the Airlander 10 crashed in southern England.

• The Airlander 10 or HAV 304 was originally built for the United States Army's for their Long Endurance Multi-intelligence Vehicle (LEMV) programme, but the US Army cancelled the LEMV project in 2013.

Additional Information

• The present Prime Minister of the United Kingdom is Boris Johnson of Conservative Party.

• Hybrid Air Vehicles is a hybrid airship manufacture company of the United Kindom. HAV is headquartered in Bedford, United

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Kingdom and the founder of the company is Roger Munk.

Q73. Answer: (c) Tab

The correct answer is Tab.

Important Points

• Tab key is not a modifier key in an IBM compatible computer.

• A modifier key is a key on a computer's keyboard used in conjunction with another key or the one that temporarily modifies the normal action of another key when pressed simultaneously.

• A modifier key in an IBM compatible computer includes Alt, Ctrl, Shift, and the Windows key.

• In an Apple macintosh computer, the modifier key includes Control, Option, shift, and command.

Additional Information

• The International Business Machines (IBM) Corporation is an American Management consulting company founded by Charles Ranlett Flint in the year 1911.

• Arvind Krishna is the present CEO of International Business Machines Corporation.

Q74. Answer: (d) India

The correct answer is India.

Important Points

• The winners of the 2016 Kabaddi World Cup (standard style) were India. India has won all six Kabaddi world cups played till now.

• The 2016 Kabaddi World Cup (standard style) was held in Ahmedabad, India from 7 to 22 October 2016.

• Kabaddi is a contact team sport, Kabaddi consists of 2 teams with 7 players in each.

• A total of 12 teams participated in the 2016 Kabaddi World Cup (standard style). India won the world cup final by defeating Iran.

• The Kabaddi world cup is governed by the International Kabaddi Federation, Janardan Singh Gahlot is the current President of the International Kabaddi Federation.

Additional Information

• The 2020 Kabaddi World Cup (Circle style) was host by Pakistan and the winner of the world cup was Pakistan.

• Deepak Niwas Hooda is the current captain of the Indian national Kabaddi team.

Q75. Answer: (b) 18, 27, 54 & 63

Calculation:

Given, the ratio is 2 : 3 : 6 : 7

Total = 2 + 3 + 6 + 7 = 18

Now,

162 × (2/18) = 18

162 × (3/18) = 27

162 × (6/18) = 54

162 × (7/18) = 63

Therefore The rupees in the respective ratios are 18, 27, 54 & 63

Q76. Answer: (b) CHESS

FOOTBALL, BASEBALL, HOCKEY are outdoor games.

But,

CHESS is Indoor game.

Hence, CHESS is the correct answer.

Q77. Answer: (d) 0.001

The logic follows here is

Here, we can see this is an alternate series where every number is divided by 10

Hence ,0.001 is the correct answer.

Q78. Answer: (a) Coal

The correct answer is Coal.

Important Points

• Coal is one that does not belong to the category of metallic minerals.

• Coal and petroleum are an example of mineral fuels and they are non-metallic minerals. Coal is therefore referred to as Buried Sunshine.

• Coal is the most abundantly found fossil fuel. It is used as a domestic fuel, in industries such as iron and steel, steam engines and to generate electricity. Electricity from coal is called thermal power.

• Metallic minerals contain metal in raw form. Metals are hard substances that conduct heat and electricity and have a characteristic lustre or shine. Iron ore, bauxite, manganese ore are some examples.

• Non-metallic minerals do not contain metals. Limestone, mica, and gypsum are examples of such minerals.

Additional Information

• The process of taking out minerals from rocks buried under the earth's surface is called mining.

• Minerals that lie near the surface are simply dugout, by the process known as quarrying.

Q79. Answer: (d) Peru

The correct answer is Peru.

Important Points

• The World Heritage Site and the Historic Sanctuary of Machu Picchu is located in Peru.

• Machu Picchu is the most visited tourist destination in Peru, it was built around 1450 AD by the ruler of the Inca empire Pachacuti Inca Yupanqui.

• Machu Pichhu was named one of the New Seven Wonders of the World in 2007 and in 1983 it was designated a UNESCO World Heritage Site.

Additional Information

• The United Nations Educational, Scientific, and Cultural Organization (UNESCO) is a specialized agency of the United Nation founded in 1945 that governs protected bodies and promotes world peace.

• UNESCO is headquartered in Paris, France.

• The present Director-General of the UNESCO is Audrey Azoulay.

• Peru is a country located in South America, Lima is the capital city of Peru.

Q80. Answer: (b) Paul Beatty

The correct answer is Paul Beatty.

Important Points

• Paul Beatty won the 'Man Booker prize 2016' for the book The Sellout.

• Paul Beatty is an author and an associate professor of writing from America. He was the first American writer to won the Man Booker Prize in the year 2016.

• The Man Booker Prize or Booker–McConnell Prize or Booker Prize is a literary award given each year to the writers of the best original novel written in the English language and published in the United Kingdom.

• Margaret Atwood for the book "The testaments" and Bernardine Evaristo for the book "girl, woman, other" has won the Man Booker prize 2019.

Additional Information

• The International Booker Prize is an international literary prize and it is a lifetime achievement award that honors a novelist or short story writer's entire body of work. International Booker Prize is hosted in the United Kingdom.

• Marieke Lucas Rijneveld and Michele Hutchison have won the International Booker Prize of 2020 for their novel "the discomfort of evening".

Q81. Answer: (b) 1200

Given:

Principal = 1000

Rate of Interest = 5%

Number of years = 4

Formula used:

S.I = (P × N × R)/100

Amount = P + SI

Calculation:

S.I = (1000 × 4 × 5)/100 = 200

Therefore The amount she will have to pay to clear her debt after 4 years = 1000 + 200

=> 1200 Rs

Q82. Answer: (c) South-East

From the diagram lets take P as the initial position of Arun, first he goes 90 ° clockwise direction and reaches Q, then from Q he goes 180 ° anticlockwise and reaches R. From R he goes again anticlockwise direction and reaches S, which is the final position and he is facing southeast.

Hence, "South-East" is the correct answer.

Q83. Answer: (a) Hindu Kush

The correct answer is the Hindu Kush.

Important Points

• The main mountain ranges of India do not include the Hindu Kush range.

• The Hindu Kush is a mountain range that is 800 kilometers long and stretches through Afghanistan, Northern Pakistan, and Tajikistan.

• Mount Tirich Mir located in the Chitral District of Pakistan is the highest mountain of the Hindu Kush range.

Additional Information

• The Vindhya Range is a chain of broken range of hills and highlands and plateau escarpments in west-central India.

• The Vindhya Range is extended in Gujarat, Uttar Pradesh, Bihar, and Chhattisgarh.

• Aravalli hills one of the oldest ranges of the world borders the Peninsular plateau from the north-west side.

• Guru Shikhar is the highest peak of the Aravalli range. Aravalli range starts near Delhi and crosses Haryana and Rajasthan, then ends at Gujarat.

• The Satpura Range is a range of hills in central India that stars from Gujarat then crosses Maharashtra and Madhya Pradesh and ends in Chhattisgarh.

• Dhupgarh, located in Pachmarhi is the highest point of the Satpura Range.

Q84. Answer: (a) Fairy Queen

The correct answer is the Fairy queen.

Key Points

• The engine of the Fairy Queen is the oldest working steam locomotive in the World.

• The Fairy Queen, also known as the East Indian Railway Nr. 22, is the oldest working steam locomotive engine in the World. It was built in 1855 by Kitson and Company.

• The Fairy Queen was restored by Loco Works Perambur, Chennai in 1997. Occasionally, the Fairy Queen runs between New Delhi and Alwar.

• The Fairy Queen is currently kept in Rewari Railway Heritage Museum.

Additional Information

• On 16th April 1853, the first passenger train of India covered a distance of 34 kilometers between Bori Bunder (Bombay) and Thane.

• The Golden Chariot is a luxury tourist train in India that connects Goa, Karnataka, Kerala, and Tamil Nadu. Golden Chariot was started in the year 2008.

Q85. Answer: (b) 12.8

Given:

The mean height of 8 women = 1.60 m

Concept:

Total height = Average height × Number of women

Calculation:

Total height = 1.6 × 8

=> 12.8 m

Note: Mean height of men don't have to taken (Because The question is to find total height of women)

Q86. Answer: (c) 9 < 6 + 3 = 7 > 4

Symbols represent here:-

	•
<	•
•	÷

•	=
×	
=	<

Now, check the options,

option 1) 14 + 7 > 3 = 6 + 3 > 2

=> 14 ÷ 7 + 3 = 6 ÷ 3 +2

=> 2 + 3 = 2 +2

=> 5 ≠ 4

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

=> 6 ÷ 3 + 8 = 4 ÷ 2 -1

=> 2 + 8 = 2 - 1

=>10 = 1 (does not follow)

option 3) 9 < 6 + 3 = 7 > 4

=> 9 - 6 ÷ 3 < 7 + 4

=> 9 - 2 < 7 + 4

=> 7 < 11 Follow.

So, option 3 is correct then no need to check the remaining option.

Hence, the correct answer is option3.

Q87. Answer: (b) 15

We can see from the above diagram that Ganesh has to cycle (10 + 5) or 15 km to reach to his starting point if he wants to go straight.

Hence, 15 is the correct answer.

Q88. Answer: (b) 12.5%

Given:

Cost Price of the toy, C.P = Rs. 40

Selling Price of the toy, S.P = Rs. 45

Formula used:

Gain (Profit) = S.P - C.P

Gain% = (Gain/C.P) × 100

Calculation:

Gain = 45 - 40 = 5

Gain% = (5/40) × 100

=> 12.5 %

Q89. Answer: (b) Irwin

The correct answer is Irwin.

Important Points

• On 26th January 1950, Dr. Rajendra Prasad unfurled the National Flag at a stadium that was formerly known as the Irwin stadium.

• Dr. Rajendra Prasad, took oath as the first President of India at the Durbar Hall in the Government House and this was followed by the Presidential drive along a five-mile route to the Irwin Stadium, where he unfurled the National Flag.

• A salute of 21 guns and the unfurling of the Indian National flag by Dr. Rajendra Prasad heralded the historic birth of the Indian Republic on January 26, 1950.

• Lord Irwin was the 30th Viceroy and Governor-General of India, he was appointed in the year 1926.

Additional Information

• With 395 Articles and eight Schedules, the Indian Constitution is the largest written constitution in the world.

• Though India became a free nation on August 15, 1947, it enjoyed the true spirit of Independence on January 26, 1950, when the Constitution of India finally came into force.

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Q90. Answer: (a) Controller of Publication

The correct answer is the Controller of Publication.

Important Points

• Controller of Publication is the authorized publisher and custodian of the 'Gazette of India'.

• Gazette of India notifications are published by the Department of Publication and are printed by the Government of India Printing Presses regularly. This is an authorized legal document of the Government of India.

• Controller of publication is the authorized seller of Government of India Publications and periodicals including Gazette of India and Delhi Gazette with its copyright.

Additional Information:

• The Directorate of Printing is an attached office of the Ministry of Urban Development.

• The present Minister of Housing and Urban Affairs is Hardeep Singh Puri.

• Piyush Goyal is the present Minister of Commerce and Industry, and Minister of Consumer Affairs, Food and Public Distribution.

Q91. Answer: (a) ASLV

The correct answer is ASLV.

Important Points

• Augmented Satellite Launch Vehicle (ASLV) has become a legacy launcher for ISRO.

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

• Under the ASLV programme, four developmental flights were conducted in 1987, 1988, 1992, and 1994.

• Launchers or Launch Vehicles are used to carry spacecraft to space. India has two operational launchers: Polar Satellite Launch Vehicle (PSLV) and Geosynchronous Satellite Launch Vehicle (GSLV).

Additional Information

• Indian Space Research Organisation (ISRO), formed in 1969, superseded the erstwhile INCOSPAR. ISRO is headquartered in Bengaluru.

• S. Somanath assumed the charge of Secretary, Department of Space and Chairman, Space Commission on 14 January 2022.

Q92. Answer: (a) 18/275

Calculation:

Let x = 0.065454...

=> x = 0.065454

=> 100x = 6.5454

=> 100x - x = 6.5454 - 0.0654

=> 99x = 6.48

=> x = 6.48/99

=> 18/275

Q93. Answer: (c) Swachh Rail-Swachh Bharat Abhiyan

The correct answer is Swachh Rail-Swachh Bharat Abhiyan.

Important Points

• Consequent to the launch of 'Swachh Bharat Abhiyan', India Railways had launched Swachh Rail-Swachh Bharat Abhiyan.

• Swachh Rail, Swachh Bharat program was launched on Indian Railways on 2nd October 2014.

• To accelerate the efforts to achieve universal sanitation coverage and to put the focus on sanitation, Prime Minister Narendra Modi had launched the Swachh Bharat Mission on 2nd October 2014.

• Under the mission, all villages, Gram Panchayats, Districts, States and Union Territories in India declared themselves "open-defecation free" (ODF) by 2 October 2019, the 150th birth anniversary of Mahatma Gandhi, by constructing over 100 million toilets in rural India.

Additional Information

• Piyush Goyal is the present Minister of Food and Public Distribution, Minister of Commerce and Industry, Minister of Consumer Affairs, and Minister of Railways.

• The present Minister of Culture and Tourism is Prahlad Singh Patel.

Q94. Answer: (d) Y17K

The logic follows here is

Here, we can see every digit is increasing by 2, 3, ... and every alphabet is increasing by 2.

Hence, Y17K is the correct answer.

Q95. Answer: (b) Pala

The correct answer is Pala.

Key Points

• The Pala dynasty did not belong to South India. A major portion of the Pala kingdom lies in Bengal.

• Gopala was the founder of the Pala dynasty, he ruled in the mid-8^(th)century during a period of anarchy.

• Dharmapala, the son of Gopala was the second emperor of the Pala empire. Dharmapala greatly expanded the boundaries of the empire.

• Devpala, the son of Dharmapala further expanded the empire. Devpala defeated Utkala present-day Orissa.

Additional Information

• Pandya dynasty is a dynasty of South India that was founded by Kadungon in the 6^(th) century AD.

• Pallava dynasty is a dynasty of South India that existed from 275 CE to 897 CE. Kanchipuram was the capital of the Pallava dynasty. The Pallava dynasty was founded by Simha Vishnu.

• The Satavahana kingdom mainly comprised the present-day Telangana, Andhra Pradesh, and Maharashtra.

Q96. Answer: (d) It is not a legal document

The correct answer is It is not a legal document.

Important Points

• The Constitution of India is the supreme law of India, and it is the rule book of the nation.

• India, also known as Bharat, is a Union of States. It is a Sovereign Socialist Secular Democratic Republic with a parliamentary system of government. The Republic is governed in terms of the Constitution of India which was adopted by the Constituent Assembly on 26th November 1949 and came into force on 26th January 1950.

• The constitutional head of the Executive of the Union is the President.

• As per Article 79 of the Constitution of India, the council of the Parliament of the Union consists of the President and two Houses are known as the Council of States (Rajya Sabha) and the House of the People (Lok Sabha).

• Article 74(1) of the Constitution provides that there shall be a Council of Ministers with the Prime Minister as its head to aid and advise the President, who shall exercise his/her functions in accordance with the advice.

• Dr. Rajendra Prasad, President of the Constituent Assembly, signed the Constitution of India, as passed by the Constituent Assembly on 24 January 1950.

Q97. Answer: (b) Both the statements together are needed.

Family Chart:-

I. Dinesh's mother has three children → we can say Dinesh has two siblings, but can't say if they are male or female.

II. Dinesh has two sisters → we can't say Dinesh has any brother or not.

combining the above two statements we can say that Dinesh's mother has three children and they are Dinesh and his two sisters. Dinesh does not have any brother.

Family Tree:-

Hence, both the statements together are needed.

Q98. Answer: (c) 198/7

Given:

Radius, r = 1.5 cm

Formula used:

Surface area of sphere = $4\pi r^2$

Calculation:

Surface area = $4 \times (22/7) \times (1.5)^2$

=> 198/7 sq. cm.

Q99. Answer: (c) Nose

The correct answer is the Nose.

Important Points

• Rhinoscope is an instrument for examining the Nose.

• A Rhinoscope has a lens and a light for observing the nasal passage, it may have a tool to remove tissue.

• The two procedures to perform Rhinoscopy are Posterior Rhinoscopy and Anterior Rhinoscopy.

Additional Information

• Magnetic Resonance Imaging (MRI) is one of the most common procedures to capture the structures of the Brain.

• An ophthalmoscope is an instrument for examining the eyes.

• An otoscope is an instrument for examining the ears.

Q100. Answer: (a) 3

Given:

Travelled equal distance at 10 km/hr, 20 km/hr, and 6 km/hr speeds

Total time = 19 minutes = 19/60 hours

Formula used:

Time = Distance/Speed

Calculation:

Let the equal distance be 'x' km

=> (x/10) + (x/20) + (x/6) = 19/60

=> 19x/60 = 19/60

Therefore x = 1

Because Apurva travels 3 equal distance (x) at different speeds,

Total distance = 3x

=> 3 × 1 = 3 km

Q101. Answer: (c) Dehradun

The correct answer is Dehradun.

Important Points

• Wildlife Institute of India is located in Dehradun, Uttarakhand.

• Established in 1982, the Wildlife Institute of India (WII) is an internationally acclaimed Institution, which offers a training program, academic courses, and advisory in wildlife research and management.

• Wildlife Institute of India has celebrated a two-day event (23rd and 24th October 2020) on World Fish Migration Day, 2020 in Rudraprayag, situated at the confluence of the Alaknanda and Mandakini rivers.

• The current Union Minister of Environment, Forest and Climate Change is Bhupender Yadav.

Additional Information

• The National Institute of Nutrition is located in Secunderabad, Telangana.

• The National Cancer Institute is located in Badsa, Haryana.

Q102. Answer: (d) 168

Given:

Two numbers are in ratio 3:8

Their HCF is 7

Concept:

Product of numbers = HCF × LCM

Calculation:

Let the two numbers be 3x and 8x respectively

Here 'x' is the HCF (x = 7)

Therefore Numbers are:

3 × 7 = 21

8 × 7 = 56

Now,

Product of numbers = HCF × LCM

=> 21 × 56 = 7 × LCM

=> LCM = 1176/7

=> LCM = 168

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Q103. Answer: (a) 8 C 8 A 8 D 8 B 8 = 57

letter	Symbols
A	•
B	•
C	×
D	÷

We have to check the options by given the equation:- (Using Bodmas):

Option.1) 8 C 8 A 8 D 8 B 8 = 57

= 8 × 8 + 8 ÷ 8 - 8

= 8 × 8 + 1 - 8

= 64 + 1 - 8

= 65 - 8

= 57 = 57

Option.2) 36 C 4 D 8 B 7 A 4 = 10

= 36 × 4 ÷ 8 - 7 + 4

= 36 × 0.5 - 7 + 4

= 18 - 7 + 4

= 22 - 7

= 15 ≠ 10

Option.3) 32 D 8 C 9 = 160 B 12 C 12

= 32 ÷ 8 × 9 = 160 - 12 × 12

= 4 × 9 = 160 - 144

=36 = 26 (36 ≠ 26)

Option.4) 16 C 12 A 49 D 7 B 9 = 200

= 16 × 12 + 49 ÷ 7 - 9

= 16 × 12 + 7 - 9

= 192 + 7 - 9

= 199 - 9

= 190 ≠ 200.

Hence, option 1 is the correct answer.

Q104. Answer: (b) Those who are deemed unsound of mind can also vote

The correct answer is Those who are deemed unsound of mind can also vote.

Important Points

• Those who are deemed unsound of mind can also vote is not true regarding the voting rights under the democratic system in India.

• The Election Commission of India is an autonomous constitutional authority responsible for administering Union and State election processes in India.

• Section 16 of the Representation of the People Act, 1950 deals with 'Disqualification for Registration in an electoral roll'.

• Under Section 16 (b) a person may be disqualified as a voter if the person, 'is of unsound mind and stands so declared by a competent court'.

• Shri Rajiv Kumar is the current and 25th Chief Election Commissioner of India since 15 May 2022.

• According to the voting rights under the democratic system in India: Any citizen over the age of 18 can vote, Only people with their names on the electoral roll are allowed to vote, and there is no gender discrimination for voting.

Additional Information

• The Election commission of India was established in 1950 and the organization is headquartered in New Delhi.

• Sukumar Sen was the first Chief Election Commissioner of India.

Q105. Answer: (c) Black Soil

The correct answer is Black Soil.

Important Points

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• Cotton crop is mainly grown in Black Soil in India. The sowing season of cotton varies considerably from tract to tract and is generally early (April-May) in northern India and is delayed as we proceed to down south (monsoon based in the southern zone).

• Cotton is one of the most important fibers and a cash crop of India and plays a dominant role in the industrial and agricultural economy of the country. It provides the basic raw material (cotton fiber) to the cotton textile industry.

• There are four cultivated species of cotton viz. Gossypium arboreum, G.herbaceum, G.hirsutum, and G.barbadense.

• A few of the major cotton-producing states of India are Maharastra, Gujarat, Punjab, Telangana, Haryana, and Rajasthan.

Additional Information

• In India, the Jute crop is mainly grown in clay loam soil. Laterite and gravel soils are not suitable for Jute crop.

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

Q106. Answer: (c) Bronze

The correct answer is Bronze.

Important Points

• An ordinary magnet does not attract Bronze.

• Bronze is a metal alloy, it primarily consists of Copper and other metals and sometimes non-metals like zinc, phosphorus, silicon, etc.

• Generally, Iron and Nickel are used for making permanent magnets. Iron is considered one of the strongest ferromagnetic metals.

Additional Information

• Paramagnetic substances are those which get weakly magnetized when placed in an external magnetic field. They have a tendency to move from a region of the weak magnetic field to a strong magnetic field.

• Ferromagnetic substances are those which get strongly magnetized when placed in an external magnetic field. They have strong tendency to move from a region of the weak magnetic field to a strong magnetic field.

• Diamagnetic substances are those which have a tendency to move from stronger to the weaker part of the external magnetic field. In other words, unlike the way a magnet attracts metals like iron, it would repel a diamagnetic substance.

Q107. Answer: (a) Big Bang theory

The correct answer is the Big Bang theory.

Important Points

• Georges Lemaitre is related to the Big Bang theory.

• The Big Bang Theory is a cosmological model and the leading explanation about how the universe began. It says the universe as we know it started with a small singularity, then blown up over the next 13.8 billion years to the cosmos that we observe today.

• Georges Lemaitre was a mathematician, physicist, and astronomer from Belgium. He is known as the father of the 'Big Bang Theory'.

• Georges Lemaitre is also known for his theory on the Expansion of the universe. He means that the universe has been growing ever since its beginning with the Big Bang.

Additional Information

• An American polymath Benjamin Franklin in the year 1752 discovered electricity for the first time.

• Italian astronomer Galileo Galilei discovered the physical details of the individual bodies of the Solar System in 1552.

Q108. Answer: (b) TEKSTR

The solution figure is

Similarly,

Here we can see that first alphabet is increasing by 1, second is increasing by 2, and so on.

Hence, TEKSTR is the right answer.

Q109. Answer: (a) 53.16

Given:

Cheat % while buying = 21%

Cheat% % while selling = 21%

Formula used:

Profit = SP – CP

Profit % = (Profit/CP) × 100

Calculation:

At the time of buying,

The shopkeeper bought 1210 grams instead of 1000 grams
In other words, He pays for 1000 grams and buys 1210 grams
At the time of selling,
The shopkeeper sells 790 grams instead of 1000 grams
In other words, Buyer pays for 1000 grams but received only 790 grams
In the above scenario,
The CP of the shopkeeper = 1000 × 790 = 790000
The SP of the shopkeeper = 1210 × 1000 = 1210000
Profit = 1210000 – 790000 = 420000
Profit % = (420000/790000) × 100 = 53.16%
Therefore The total gain is 53.16%
Note:- According to Railway 46.1% answer, but this answer is wrong, accepted by RRB. The correct answer is 53.16%.

Q110. Answer: (c) V

Given series: AZCXE?
The logic followed here is:
A opposite Z
C opposite X
Similarly,
E opposite V
Hence, the correct answer is "V".

Q111. Answer: (b) DCBA

Given series: AB, BA, ABC, CBA, ABCD,?
The logic followed here is :
Hence, DCBA is the answer.

Q112. Answer: (d) Operating System

The correct answer is the Operating system.
Important Points
• Linux is an open-source Unix-like operating system, Linux is based on the Linux kernel.
• Linux was developed by Linus Torvalds, Linux was released in September 1991.
• Linux was written in C and assembly language. The user interface of Linux is KDE plasma, LXDE, elementary OS, etc.
Additional Information
• Database programs, web browsers, word processors, image editors, etc are some of the examples of application software.
• Java, C, Python, C++, JavaScript are some of the examples of Programming languages.
• IBM PC DOS operating systems, the Turbo Pascal compiler are some of the examples of assembly languages.

Q113. Answer: (a) New Delhi

The correct answer is New Delhi.
Important Points
• National Rail Museum is located in Chanakyapuri, New Delhi.
• National Rail Museum was established in the year 1977 is a unique museum that has a fascinating and exotic collection of over 100 real size exhibits of Indian Railways.
• The National Rail Museum was inaugurated by Kamalapati Tripathi, the minister for public transportation. The line-up of old coaches includes the handsome Prince of Wales Saloon, built-in 1875.
Additional Information
• The present Union Railway Minister of India is Ashwini Vaishnav.
• The first passenger train in India was started in 1853, the train covered the journey of 34 kilometres between Bori Bunder (Bombay) to Thane.
• There are a total of six rail museums in India.

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Q114. Answer: (b) Only conclusion II follows

The least possible Venn diagram for the given statement is as follows,

Conclusions:-

I) All book is lock → False (some lock are book)

II) No lock is Colored → True (some lock are book and no book is colored)

Hence, only conclusion II follows.

Q115. Answer: (b) 2

Concept:

Follow the BODMAS rule given below:

Calculation:

3108 ÷ 259 - 10

=> (3108/259) - 10

=> 12 - 10 = 2

Q116. Answer: (a) Documentaries on digital awareness

The correct answer is Documentaries on digital awareness.

Key Points

• Documentaries on digital awareness is NOT a key vision area under the 'Digital India' program.

• Digital India is a campaign launched by the Government of India on July 1, 2015, under the visionary leadership of Hon'ble Prime Minister, Shri Narendra Modi.

• Digital India is a flagship program of the Government of India with a vision to transform India into a digitally empowered society and knowledge economy.

• The Digital India program is centered on three key vision areas: Digital Infrastructure as a Core Utility to Every Citizen, Governance & Services on Demand, and Digital Empowerment of Citizens.

• The Digital India program comes under the Ministry of Electronics & IT, Communications, and Law & Justice. The current Union Minister of Electronics & IT, Communications of India is Shri Ravi Shankar Prasad.

Q117. Answer: (b) Rs. 307.5

Given:

Principal, P = 3000

Rate of Interest, R = 5%

Number of years, N = 2

Formula used:

Amount, A = P[1 + (R/100)]^N

C.I = A - P

Calculation:

A = P[1 + (R/100)]N

=> A = 3000[1 + (5/100)]²

=> A = 3307.5

C.I = A - P

=> C.I = 3307.5 - 3000

Therefore C.I = Rs. 307.5

Q118. Answer: (c) 4

Concept:

Arrange the numbers in an order. Then the number which appears most often is the mode

Calculation:

Arrange the numbers:

3, 4, 4, 5, 6, 8, 12

Here only 4 repeats

=> 4 is the number which appears most often (2 times)

Therefore Mode = 4

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Q119. Answer: (b) Rs. 14,883.75

Given:

Principal, P= 13500

Rate of interest, R= 20% per annum

Number of years, N = 6/12 = 1/2 years (or 6 months)

Formula used:

In compounded quarterly

Then

A = P[1 + (R/4 × 100)]^(4N)

Calculation:

A = 13500[1 + (20/400)]^(4 × (1/2))

=> A = 13500 × (21/20)²

=> A = 13500 × (441/400)

=> A = 14883.75

Therefore The amount he got after 6 months is Rs. 14,883.75.

Q120. Answer: (d) Only D

Cocoa and chocolate products have been used as medicine.

Chocolate is sourced from plants.

Chocolate many of the health benefits of leafy vegetables.

From the given statements,

This statement "Chocolates have 3 type of fats, one of which increases the level of 'bad cholesterol" weakness the argument.

Hence, option 4 is the answer.

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