NTPC CBT-II 2016 Official Paper (Held On: 17 Jan, 2017 Shift 1) (Previous Year Paper)

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

Take this paper as a timed mock test

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

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

1 question is in Hindi and not printed here. Each one links to the online version, where you can read it.

FULL TEST

Q1. Each exterior angle of a regular polygon measures 9°. How many sides does the polygon have?

(a) 30
(b) 40
(c) 45
(d) 36

Q2. Which of the following is equivalent to 0.5656... ? (the bar indicates repeating decimal)

(a) 56/100
(b) 56/1000
(c) 56/99
(d) 56/90

Q3. Select the related number from the given alternatives.

3 : 11 : : 7 : ?

(a) 29
(b) 18
(c) 24
(d) 51

Q4. Which is the correct ascending order of the given numbers?

(a) 1/3, 4/15, 0.33
(b) 1/3, 0.33, 4/15
(c) 4/15, 0.33, 1/3
(d) 0.33, 4/15, 1/3

Directions

Study the following table carefully and answer the questions given below:

Year	TYPE I	TYPE II	TYPE III	TYPE IV	TYPE V
2000	26	64	232	153	340
2001	45	60	242	172	336
2002	72	79	248	210	404
2003	81	93	280	241	411
2004	107	112	266	235	442
TOTAL	331	408	1268	1011	1933

Q5. If the same percentage increase in the sales of Type I vehicles in 2004 over 2003 is expected in 2005, approximately how many Type I vehicles will be sold in 2005?

(a) 141
(b) 139
(c) 144
(d) 131

Q6. The number of Type I vehicles sold in 2003 was approximately what percentage of the total number of vehicles sold in 2002?

(a) 8
(b) 9
(c) 10
(d) 11

Q7. In which of the following years was the Sales of Type II vehicles approximately 25% of the Type V vehicles?

(a) 2000
(b) 2002
(c) 2004
(d) 2003

Q8. The percentage increase in sales in 2003 over the previous year was maximum for which Type of vehicles.

(a) Type II
(b) Type I
(c) Type III
(d) Type V

Q9. Optical fibre works on the principle of _____.

(a) Diffusion
(b) Total Internal Reflection
(c) Scattering
(d) Refraction

Q10. In October 2015, more than 350 landmarks in more than 90 countries were lit blue, the official colour of the United Nations. What was the occasion?

(a) 70^(th) Anniversary of United Nations
(b) 90^(th) Anniversary of United Nations
(c) 50^(th) Anniversary of United Nations
(d) 60^(th) Anniversary of United Nations

Q11. The volume (in cu.cm.) of a right circular cylinder with radius 1 cm and height 2 cm is : (Take π = 22/7)

(a) 22/7
(b) 22
(c) 44
(d) 44/7

Q12. 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:

Some kings are queens.

All queens are beautiful.

Conclusions:

I: All kings are beautiful.

II: All queens are kings.

(a) Only Conclusion II follows.

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(b) Neither Conclusion I nor II follows.
(c) Only Conclusion I follows.
(d) Either Conclusion I or II follows.

Q13. If × stands for addition, ÷ stands for subtraction, + stands for multiplication and - stands for division, then what is the value of 20 × 8 ÷ 8 - 4 + 2 = ?
(a) 24
(b) 1
(c) 20
(d) 0

Q14. The mean deviation of the data 3, 10, 10, 4, 7, 10, 5 from mean is :
(a) 7
(b) 19/7
(c) 50/7
(d) 18/7

Q15. Pointing to a man in a photograph, Anitha said, “His mother’s only daughter is my mother.” How is Anitha related to that man?
(a) Aunt
(b) Niece
(c) Mother
(d) Sister

Q16. The Environment (Protection) Act of India was enacted in the year _____.
(a) 1997
(b) 1986
(c) 2004
(d) 2012

Q17. Vishnu travelled equal distances at speeds of 10 km/hr., 30 km/hr., and 8 km/hr., and took a total of 15.5 minutes to complete. Find the total distance he travelled, in km.
(a) 1
(b) 3
(c) 4
(d) 2

Q18. In February, 2016, which city topped the ‘Swachh Survekshan-2016’ ranking of 73 cities in India with minimum open defecation and extensive adoption of solid waste management practices?
(a) Navi Mumbai
(b) Mysore
(c) Gangtok
(d) Vishakapatnam

Q19. Ehsaan is twice as good a worker as Kamal and together they finish a piece of work in 29 days. In how many days will Kamal, working alone, finish the work?
(a) 58
(b) 70
(c) 87
(d) 116

Q20. In 2015, a special semi-luxury train covering Jaisalmer, Jodhpur & Jaipur was launched by the IRCTC. What is the name of this train?
(a) Rajasthan Darshan
(b) Rajasthan Queen
(c) Desert Circuit

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(d) Desert Queen

Q21. Diksha borrowed Rs. 500 at 5% per annum simple interest. What amount (in rupees) will she pay to clear her debt after 4 years?

(a) 150
(b) 650
(c) 600
(d) 750

Q22. How many Indian States and Union Territories share the Indian coastline?

(a) 9 States and 4 Union Territories
(b) 12 States and 3 Union Territories
(c) 7 States and 5 Union Territories
(d) 5 States and 3 Union Territories

Q23. A water tank has two holes. The 1^(st) hole alone empties the tank in 9 minutes and 2^(nd) hole alone empties the tank in 6 minutes. If water leaks out at a constant rate, how many minutes does it take if both the holes together empty the tank?

(a) 33/5
(b) 3/5
(c) 31/5
(d) 32/5

Q24. The Mahabodhi Temple Complex, which is one of the four holy sites related to the life of the Lord Buddha, is located in -

(a) Bihar
(b) Tamil Nadu
(c) Karnataka
(d) Delhi

Q25. In 2004, NASA launched the Messenger Spacecraft to study _____.

(a) Saturn
(b) Jupiter
(c) Pluto
(d) Mercury

Q26. Mount St. Helens is an ‘active stratovolcano’ located in _____.

(a) Japan
(b) India
(c) United States of America
(d) Chile

Q27. A woman invests Rs. 2000 at the start of each year at 5% compound interest per annum. How much will her investments be at the end of the 2^(nd) year?

(a) Rs. 4305
(b) Rs. 4300
(c) Rs. 2355
(d) Rs. 4350

Q28. Deepak introduced Raju saying, “He is the husband of the granddaughter of the father of my father. “How is Raju related to Deepak?

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

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Q29. A tank, filled partially with a liquid, is subjected to uniform horizonal acceleration. Which of the following is true about the surface of the liquid in the tank?

(a) The liquid surface falls down on the direction of motion and rises up on the back side of the tank
(b) The liquid surface falls down only at the center of the tank
(c) The surface of liquid remains horizontal
(d) None of the above

Q30. Find the fourth proportional to 2, 3, 6.

(a) 9
(b) 10
(c) 7
(d) 8

Q31. If A denotes ÷, B denotes ×, C denotes + and D denotes -, then which of the following statements is true?

(a) 11 B 34 A 17 D 8 A 3 = 38/3
(b) 6 B 18 D 26 A 13 C 7 = 173/13
(c) 32 C 8 A 16 D 4 = -3/4
(d) 9 C 9 A 9 D 9 B 9 = -71

Q32. Mr. Murthy invested Rs. 16,000 in a scheme. Find the compound interest, if he invested it at 20% per annum for 9 months, Compounded quarterly?

(a) Rs. 2523
(b) Rs. 2552
(c) Rs. 2524
(d) Rs. 2522

Q33. The cash difference between the selling price of an article at a profit of 4% and 6% is Rs. 3. The ratio of two selling prices is :

(a) 51 : 53
(b) 55 : 53
(c) 52 : 53
(d) 54 : 53

Q34. Find the HCF of 3341 and 3328.

(a) 257
(b) 337
(c) 13
(d) 31

Q35. Mr. Kiran sold a bus for Rs. 18,700 at a loss of 15%. At what price should the bus be sold to get a profit of 15%?

(a) Rs. 25,523
(b) Rs. 25,522
(c) Rs. 25,300
(d) Rs. 25,521

Q36. Which Schedule of the Constitution of India lists the States and Union Territories of India?

(a) First Schedule
(b) Second Schedule
(c) Third Schedule
(d) Fourth Schedule

Q37. Who among the following is the current Lokayukta of Delhi?

(a) Justice Manmohan Sarin
(b) Justice Reva Khetrapal
(c) Justice Mohd. Shamim

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(d) Justice Rajendra Nath Aggarwal

Q38. In a Window-based computer, two files cannot be in the same folder if

(a) they have different names, but same creation date
(b) they have different names, but are of same file type
(c) they have the same name, and are of the same file type
(d) they have the same name, but are of different file type

Q39. A mobile plan costs Rs. 32 for 6 minutes. What is the approximate cost, in rupees, for 4 minutes?

(a) 21.30
(b) 21.40
(c) 21.20
(d) 21.50

Q40. The Gandhara art – a style of Buddhist visual art that developed between 1^(st) century BCE and the 7^(th) century CE, flourished largely during the _____ dynasty.

(a) Kushan
(b) Gupta
(c) Pallava
(d) Maurya

Q41. Compute :

1112 ÷ 139 – 5

(a) 557/67
(b) -3
(c) 556/67
(d) 3

Q42. A question and two statements labeled (I), (II) are given. You have to decide which statement(s) is/are sufficient to answer the question.

Gowtham ranks eighteenth in a class. What is his rank from the last?

I. There are 47 students in the class.

II. Jegan who ranks 10^(th) in the same class, ranks 38^(th) from the last.

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

Q43. 3 men dig a hole in 10 days. How many days would it take for 5 men to dig the same hole?

(a) 50/3
(b) 7
(c) 5
(d) 6

Q44. In 2015, the United Nations Climate Change Conference was held at –

(a) Paris
(b) Doha
(c) Montreal
(d) Copenhagen

Q45. Which of the following is NOT a form of Monosaccharide Sugar?

(a) Galactose
(b) Glucose
(c) Fructose
(d) Maltose

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Directions

Read the following information and answer the questions given below:
A has 28 elements, B has 32 elements and (A U B) has 40 elements.

Q46. How many elements does A ∩ B have?

(a) 12
(b) 8
(c) 10
(d) 20

Q47. How many elements are present only in B?

(a) 28
(b) 18
(c) 12
(d) 10

Q48. UNITAR stands for -

(a) United Nations Institute for Transport and Agriculture Research
(b) United Nations Initiative for Total Agricultural Readiness
(c) United Nations Institute for Training and Research
(d) United Nations Initiative for Transport Readiness

Q49. Which State hosted the 12^(th) National Ice-Skating championship in India?

(a) Sikkim
(b) Himachal Pradesh
(c) Uttarakhand
(d) Jammu and Kashmir

Q50. How much time does a Geostationary satellite take to complete one orbit, at the height of 35790 km?

(a) 30 days
(b) 24 hours
(c) 365 days
(d) 12 hours

Q51. What will be the next set of alphabets in the series?

AZ, BY, CX, _____

(a) DU
(b) DW
(c) DV
(d) DY

Q52. What is the value of (0.55 × 4.5)/0.81 ?

(a) 3.555
(b) 55/18
(c) 3.5
(d) 55/81

Q53. Simplify: $(2x)^2 - (2y)^2 - (4x)^2$

(a) $-12x^2 + 4y^2$
(b) $12x^2 - 4y^2$
(c) $-12x^2- 4y^2$
(d) 12x2 + 4y2

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Q54. 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.

Statement:

Fortune favours the brave.

Conclusions:

I: Risks are necessary for success.

II: Cowards die many times before their death.

(a) Either Conclusion I or II follows.
(b) Neither conclusion I nor II follows.
(c) Only Conclusion II follows.
(d) Only conclusion I follows

Q55. If sin x = 4/5, then Cosecx + cot x =

(a) 31/12
(b) 35/12
(c) 2
(d) 1/2

Q56. In which Indian State is the Nanda Devi peak located?

(a) Uttarakhand
(b) Arunachal Pradesh
(c) Himachal Pradesh
(d) Sikkim

Q57. Find the similarity among the following:

Makar Sankranti, Pongal, Lohri, Baisakhi.

(a) All are festivals of North India
(b) All are names of harvest festivals
(c) All are festivals celebrated in the month of January
(d) There is no similarity at all

Q58. What is 15% of 34?

(a) 5.1
(b) 5
(c) 5.2
(d) 4.9

Q59. A liquid drop, contracts because of the attraction of its particles and occupies the smallest possible area. This phenomenon is known as -

(a) Surface Tension
(b) Buoyancy
(c) Cavitation
(d) Viscosity

Q60. As envisaged in the Constitution of India with respect to the 'Supreme Court (Number of Judges) Amendment Act, 2008 (11 of 2009)', there shall be a Supreme Court of India consisting of a Chief Justice of India, and not more than _____ other judges.

(a) Forty
(b) Ten
(c) Twenty
(d) Thirty

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Q61. If the signs '+' and '÷' and the numbers '2' and '4' are interchanged, which one of the following four equations would be correct?

(a) 4 ÷ 2 + 3 = 6
(b) 2 + 4 ÷ 3 = 3
(c) 4 + 2 ÷ 6 = 1.5
(d) 2 + 4 ÷ 6 = 8

Q62. Which of the following countries launched the World's most powerful GEO Spy Satellite – the 'Gaofen 4'?

(a) Russia
(b) India
(c) United State of America
(d) China

Q63. With which IIT did the Indian Railways sign a MoU in December 2015, for setting up Centers for Railways Research?

(a) IIT Madras
(b) IIT Mandi
(c) IIT Delhi
(d) IIT Indore

Q64. Which of the following is the religious text of the Jews?

(a) Dhammapada
(b) Torah
(c) Sahib
(d) Tripitaka

Q65. India's Multi Application Solar Telescope (MAST) was operationalized at the _____ Solar Observatory.

(a) Udaipur
(b) Jaipur
(c) Kodaikanal
(d) Ahmedabad

Q66. If in a certain language KINDLE is coded as ELDNIK, how is FASHION coded in that code?

(a) NOISHAF
(b) NIOHSAF
(c) IONHSAF
(d) NOIHSAF

Q67. In December 2015, NASA's Curiosity Mars rover found the presence of _____. Which will help scientists learn about the ancient wet environment.

(a) Magnesium
(b) Cadmium
(c) Silica
(d) Calcium

Q68. Who among the following was conferred the 2015 Sanctuary Legend Award?

(a) Ashok Kumar
(b) Varad Giri
(c) Anurag Kumar
(d) Viral Joshi

Q69. In which of the following sports does Bombayla Devi Laishram represent India?

(a) Archery
(b) Boxing
(c) Cricket
(d) Badminton

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Q70. If the product of two numbers is 3026 and their LCM is 89, then their HCF is :

(a) 33
(b) 34
(c) 35
(d) 29

Q71. Choose the odd one from the following alternatives:

(a) Hawk
(b) EAGLE
(c) CROW
(d) BAT

Q72. Mr. Rajesh buys a toy for Rs. 27.50 ad sells it for Rs. 28.60. Find the gain percentage.

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

Q73. What will be the next set of numbers in the series?

(2, 3), (3, 5), (5, 7), (7, 11), (11, 13), _____

(a) (13, 15)
(b) (15, 17)
(c) (13, 17)
(d) (13, 19)

Q74. Abhinav Bharat Society of revolutionaries was organized by –.

(a) Jawaharlal Nehru
(b) Vinayak Savarkar
(c) Bhagat Singh dhi
(d) Ashok Kumar

Q75. Rearranging the letters “AKBLU”, we get the capital of _____

(a) Afghanistan
(b) China
(c) Bahrain
(d) Algeria

Q76. Hema takes a total of 9 hours 55 min to walk a certain distance and then cycling back to the same place from where she had started. She could walk both ways at the same speed in 12 hours 30 min. The time she will take to cycle both ways is :

(a) 7 hour 20 min
(b) 7 hour 15 min
(c) 7 hour 35 min
(d) 7 hour 45 min

Q77. Type of a file in a computer can be identified by the _____.

(a) Folder name
(b) File size
(c) File path
(d) File extension

Q78. The Ajanta Cave Paintings are a testimony to the golden age of _____ in India.

(a) Buddhism
(b) Shaivism
(c) Jainism

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(d) Vaishnavism

Q79. What does GUI stand for with respect to a computer?

(a) Group User Interface
(b) Graphic Utility Interaction
(c) Graphical User Interface
(d) Graphical Utility Interface

Q80. All rational numbers are _____ numbers.

(a) integer
(b) whole
(c) irrational
(d) real

Q81. If a Panchayat is dissolved, elections are to be held within _____..

(a) Six months from the date of dissolution
(b) Twelve months from the date of dissolution
(c) Two months from the date of dissolution
(d) One month from the date of dissolution

Q82. Who discovered Electron?

(a) Niels Bohr
(b) J.J. Thomson
(c) Albert Einstein
(d) Ernest Rutherford

Q83. In which coast was the World's largest Marine Protected Area (MPA) created in October, 2016?

(a) Ireland
(b) Italy
(c) Antarctica
(d) Scotland

Directions

Study the information given below and answer the questions that follow:

(i) Six friends Anil, Bharat, Ram, Dilip, Karathi and Vijay are seated in a circle facing each other.

(ii) Anil is between Dilip & Bharat and Vijay is between Ram and Karathi.

(iii) Ram is third to the left of Bharat.

Q84. Which of the following is the position of Anil in relation to Vijay?

(a) Second to the right
(b) Third to the right
(c) Second to the left
(d) First to the left

Q85. Who is between Vijay and Dilip?

(a) Anil
(b) Bharat
(c) Karathi
(d) Ram

Q86. Who sits between Bharat and Vijay?

(a) Karathi
(b) Dilip
(c) Anil
(d) Ram

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Q87. There are total 200 students in a school, of which 1/5th are boys. Find the number of girls in the school.

(a) 160
(b) 16
(c) 140
(d) 40

Q88. Which of the following is a device designed to protect electrical devices from voltage spikes?

(a) Voltage unloader
(b) Surge protector
(c) Heat protector
(d) Current unloader

Q89. Two bus start from a house at an interval of 10 minutes and travel at a speed of 20 km/hr. With how much speed (km/hr). should a man coming from the opposite direction towards the house travel, to meet the buses at an interval of 8 minutes?

(a) 5
(b) 6
(c) 7
(d) 4

Q90. Which of the following is the Mascot of Indian Railways?

(a) Morris, the cat
(b) Murugan, the peocock
(c) Nandi, the bull
(d) Bholu, the elephant

Q91. Two numbers are in the ratio 3:5 and their HCF is 20. Their LCM is

(a) 30
(b) 300
(c) 60
(d) 10

Q92. In a food chain, what is the difference between primary consumers and secondary consumers?

(a) Primary consumers eat plants and other consumers, secondary consumers eat plants and decomposed matter
(b) Primary consumers eat only plants; secondary consumers eat primary consumers
(c) Primary consumers eat plants and decomposed matter, secondary consumers eat plants and other consumers
(d) Primary consumers eat other consumers, secondary consumers eat only plants

Q93. If in a certain language A is coded as 1. B is coded as 2. C is coded as 3 and so on, how is ‘BIDDIC’ coded in that language?

(a) 284483
(b) 294483
(c) 294439
(d) 294493

Q94. Arrange the given English words in alphabetical order and choose the one that comes first.

(a) Accumulate
(b) Actuate
(c) Account
(d) Achieve

Q95. Which of the following is the first country to become Carbon-negative?

(a) Canada
(b) Poland
(c) Bhutan

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(d) United States of America

Q96. Who among the following is the current CEO of NITI Aayog?

(a) Mr Parameswaran Iyer
(b) Arvind Subramanian
(c) Arvind Panagariya
(d) B.V.R. Subrahmanyam

Q97. In 2015, which of the following banks was the first bank to tie up with Indian Railways to sell rail tickets through their website?

(a) ICICI Bank
(b) State Bank of India
(c) Punjab National Bank
(d) HDFC Bank

Q98. What will be the next set of alphabets in the series?

PBA, QCB, RDC, SED, _____

(a) TFD
(b) TFE
(c) TGE
(d) RST

Q99. Mr. Mike borrowed Rs. 8500 at 4% per annum compound interest. The compound interest compounded annually for 2 years is :

(a) Rs. 9139.6
(b) Rs. 639.6
(c) Rs. 9193.6
(d) Rs. 693.6

Q100. Which of the following e-commerce majors has signed an agreement with NIESBUD (National Institute for Entrepreneurship and Small Business Development) for encouraging SMEs (Small and Medium Enterprises) to grow profitably online?

(a) Amazon
(b) Flipkart
(c) Snapdeal
(d) eBay

Q101. Which of the following layers of the atmosphere makes Radio Communication possible?

(a) Troposphere
(b) Thermosphere
(c) Ionosphere
(d) Stratosphere

Q102. The surface area (in sq. cm.) of a sphere with radius 1 cm is : (take $\pi = 22/7$)

(a) 89/7
(b) 89/21
(c) 88/21
(d) 88/7

Q103. Divide Rs. 210 in the ratio 2:3:4:5. The respective amounts are:

(a) 30, 45, 65 and 70
(b) 30, 45, 60 and 75
(c) 35, 40, 60 and 75
(d) 30, 40, 60 and 80

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Q104. Given below is a statement followed by some conclusions. Decide which of the given conclusions logically follow(s) from the given statements.

Statement:

Good voice is a natural gift, but one has to keep practicing to improve and excel in the field of music.

Conclusions:

I: Nature gifts need nurturing and care.

II: By continuous practice, one can get a natural gift.

(a) Either Conclusion I or II follows.
(b) Neither Conclusion I nor II follow.
(c) Only Conclusion I follows.
(d) Only Conclusion II follows.

Q105. What will be the next number in the series?

12, 48, 240, ____

(a) 440
(b) 480
(c) 1200
(d) 1440

Q106. A shopkeeper cheats to the extent of 10% while buying and selling fruits, by using tampered weights. His total gain, in percentage, is :

(a) 21.05%
(b) 24.24%
(c) 22.22%
(d) 23.23%

Q107. Select the related analogy from the given alternatives:

Thick : Thin ? Idle : _____

(a) Inactivity
(b) Virtuous
(c) Industrious
(d) Business

Q108. If ENTRY is coded as 98462 and STEADY is coded as 749312, then how is NEATNESS written in that code?

(a) 89648977
(b) 89349877
(c) 89348977
(d) 89438977

Q109. As per the Horticulture report 2015, which State in India is the largest producer of Mango, in terms of absolute production value?

(a) Andhra Pradesh
(b) Telangana
(c) Uttar Pradesh
(d) Karnataka

Q110. Which team won the 2015 Pro Wrestling League title?

(a) Punjab Royals
(b) Haryana Hammers
(c) Bengaluru Yodhas
(d) Mumbai Garuda

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Q111. As per the Constitution of India, who is authorized to transfer the Judge of one High court to another?

(a) The Chief Justice of India
(b) The Prime Minister of India
(c) The President of India
(d) Any of the Judges of the Supreme Court

Q112. A questions and two statements labelled (I and II) are given. You have to decide, which statement(s) is/are sufficient to answer the question.

What is Guna's Age?

I. Guna, Vinay and Keshav are of same age.

II. Sum of ages of Vinay, Keshav and Arjun is 32; also Arjun is as old as Vinay and Keshav together.

(a) Statement II alone is Sufficient
(b) Both statements together are Needed
(c) Either I or II are alone are sufficient
(d) Statement I alone is Sufficient

Q113. Select the related analogy from the given alternatives:

Shirt : Garment : : Potato : _____

(a) Juice
(b) Onion
(c) Fruits
(d) Vegetable

Q114. The mode of the data 12, 1, 10, 1, 9, 3, 4, 9, 7, 9 is :

(a) 9
(b) 12
(c) 1
(d) 7

Q115. Choose the most apt option.

Fruits preserved in cold storage last longer, because -

(a) exposure to humidity is increased
(b) more oxygen is available
(c) fruits are stored in a dark place
(d) the rate of respiration of Fruits is decreased

Q116. This question is in Hindi. Read it online.

Q117. India hosted the 8^(th) BRICS Summit during its Chairmanship which took place on 15-16 October 2016 in -

(a) Goa
(b) Bangalore
(c) New Delhi
(d) Mumbai

Q118. 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 poets are readers. No reader is wise.

Conclusions:

I. No poet is wise.

II. All readers are poets.

(a) Only conclusion II follows.
(b) Only conclusion I follows.

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(c) Neither conclusions I nor II follows.
(d) Both conclusions I and II follow.

Q119. In a class test, a student scored 22 marks out of 25 marks. The student's marks, in percentage, is :
(a) 88
(b) 80
(c) 90
(d) 75

Q120. Dharun has a brother Anand, Dharun is the son of Kumar. Krishnan is Kumar's father. How is Anand related to Krishnan?
(a) Grandfather
(b) Father
(c) Grandson
(d) Son

ANSWER KEY

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

SOLUTIONS

Q1. Answer: (b) 40

Shortcut Trick
For any regular polygon, the sum of all exterior angles is always 360°.
Number of sides (n) = 360° ÷ Measure of each exterior angle
=> n = 360° ÷ 9°
=> n = 40
Therefore The correct answer is 40.
Alternate Method
Given:
Measure of each exterior angle = 9°
Formula Used:
In a regular polygon with n sides, each exterior angle is given by: 360° / n
Calculations:
=> Each exterior angle = 360° / n
=> 9° = 360° / n
=> n = 360° / 9°
=> n = 40

Therefore The correct answer is 40.

Additional Information

Sum of Interior Angles

The sum of all interior angles of a polygon with n sides is (n − 2) × 180°.

Each Interior Angle

For a regular polygon, each interior angle is [(n − 2) × 180°] ÷ n or simply (180° − exterior angle).

Interior and Exterior Angle Relationship

At any vertex of a polygon, the sum of the interior angle and the exterior angle is always 180° (linear pair).

Q2. Answer: (c) 56/99

Given:

0.5656... = ?

Calculations:

Let x = 0.56565656..... (i)

100x = 56.565656.... (ii)

Equation (ii) - Equation (i)

99x = 56

Therefore x = 56/99

Q3. Answer: (d) 51

The analogy is easy to decode. It is shown as follows:

$(3^2) + 2 = 11$ or $9 + 2 = 11$

Similarly,

$(7^2) + 2 = 51$ or $49 + 2 = 51$

Hence, '51' is the correct answer.

Q4. Answer: (c) 4/15, 0.33, 1/3

1/3 can be written as 0.333...

0.33 can be written as 0.330 and

4/15 can be written as 0.2666...

So order in ascending will be 0.26..., 0.330, 0.333...

Therefore 4/15, 0.33, 1/3

Q5. Answer: (a) 141

Sales of type 1 vehicle in 2003 = 81

Sales of type 1 vehicle in 2004 = 107

Percentage increase in the sales of Type I vehicles in 2004 over 2003 = [(107 - 81)/81] × 100 ≈ 32%

If the same percentage of increase in sale is expected in 2005 then,

Number of vehicles sold in 2005 = 107 + [32/100] × 107 = 107 + 34.24 ≈ 141

Q6. Answer: (a) 8

Type 1 vehicle sold in 2003 = 81

Total vehicle sold in 2002 = 72 + 79 + 248 + 210 + 404 = 1013

Therefore Required percentage = (81/1013) × 100 = 7.99% ≈ 8%

Q7. Answer: (c) 2004

For sales of Type II vehicles to be approximately 25% of the Type V vehicles,

We need to observe for those sales in type V vehicles which is 4 times of sales of type II vehicles or in other words, Sales of type II vehicle must be 1/4 of type V vehicle.

By observation in the year 2004, sales of type II vehicle = 112 and

Sales of type V vehicle = 442

Therefore 442 is approximately 4 times of 112 so in 2004 the sales of Type II vehicles is approximately 25% of the Type V vehicles

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Q8. Answer: (a) Type II

Sales in 2003 for type I = 81 and in 2002 = 72,

Increase = (9/72) × 100 = 12.5%

Sales in 2003 for type II = 93 and in 2002 = 79

Increase = (14/79) × 100 = 17.7%

Sales in 2003 for type III = 280 and in 2002 = 248

Increase = (32/248) × 100 = 12.9%

Sales in 2003 for type IV = 241 and in 2002 = 210

Increase = (31/210) × 100 = 14.76%

Sales in 2003 for type V = 411 and in 2002 = 400

Increase = (11/400) × 100 = 2.75%

Therefore Type II has maximum

Q9. Answer: (b) Total Internal Reflection

The total internal reflection occurs when the angle of incidence is greater than the critical angle.

● In optical fibre glasses of high and lower index are assembled in the precise order.

● The light comes in from one end of fibre and after thousands of successive internal reflections the light reaches the opposite end of the fibre with almost zero loss.

Q10. Answer: (a) 70^(th) Anniversary of United Nations

Global landmarks are lit as part of the 'Turn the World UN Blue' Campaign.

● It was organised to celebrate the UN's 70^(th) anniversary, on 24 October

● More than 350 iconic monuments, buildings, statues, bridges, and other landmarks in more than 90 countries across the globe lit up blue - the official colour of the UN.

Q11. Answer: (d) 44/7

Formula Used:

Volume of right circular cylinder = $\pi r^2 h$

Calculation:

r = 1 cm and h = 2 cm (Given)

Therefore Volume = (22/7) × 1 × 2 = 44/7 cubic cm.

Q12. Answer: (b) Neither Conclusion I nor II follows.

Drawing the possible Venn diagram of the given statements below:

Conclusions:

I. All kings are beautiful → False (it is just a possibility but nothing is definite about it)

II. All queens are kings → False (it is just a possibility but nothing is definite about it)

Hence, neither Conclusion I nor II follow.

Q13. Answer: (a) 24

Given Equation => 20 × 8 ÷ 8 - 4 + 2 = ?

Tabulating the information given in the question,

Symbol	Meaning
×	•
÷	•
•	×
•	÷

Substituting the symbols with their meanings, we obtain:

= 20 + 8 - 8 ÷ 4 × 2

= 20 + 8 - 2 × 2

= 20 + 8 - 4

= 28 - 4

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= 24

Hence, '24' is the correct answer.

Q14. Answer: (d) 18/7

Given:

Data is 3, 10, 10, 4, 7, 10, 5

Formula used:

Average deviation about the mean

∑ (|x_i - x|)/n where x = Mean

xi = individual term

n = total number of terms

Mean = Sum of all the terms/Total number of terms

Calculation:

n = total numbers in a data = 7

Mean x = (3 + 10 + 10 + 4 + 7 + 10 + 5)/7 = 7

Mean deviation from mean = ∑ (|x_i - x|)/n

Mean deviation from mean = (1/7) × [4 + 3 + 3 + 3 + 0 + 3 + 2]

Therefore Mean deviation = 18/7

Q15. Answer: (b) Niece

Anitha is talking about her mother who is the daughter of man's mother, which would mean her mother and the man are siblings. That would make, her the niece of the man she is talking about.

Hence, 'niece' is the correct answer.

Q16. Answer: (b) 1986

The correct answer is 1986.

Key Points

• The Environment (Protection) Act is applicable to the whole of India including Jammu & Kashmir. It came into force on November 19, 1986.

• The environment protection act was enacted under article 253 of the constitution.

• It was enacted with the main objective to provide the protection and improvement of the environment.

Q17. Answer: (b) 3

Let the equal distance be d km.

Therefore Total distance will be d + d + d = 3d km

Total time = 15.5 minutes or 31/2 minutes or 31/120 hours

We know Time = Distance/speed

Therefore 31/120 = d/10 + d/30 + d/8

=> 31/120 = (12d + 4d + 15d)/120

=> 31 = 31d

or d = 1 km

Therefore total Distance = 1 km × 3 = 3 km

Q18. Answer: (b) Mysore

Year	Wining City
2017	Indore(MP)
2016	Mysore(Karnataka)
2015	Mysore(Karnataka)

Q19. Answer: (c) 87

Given:

Ehsaan is twice as efficient as Kamal.

Total time taken by them to complete the work = 29 days

Concept:

Time taken is inversely proportional to efficiency

Calculation:

Efficiency ratio of Ehsaan and Kamal = 2x : 1x

Time taken ratio of Ehsaan and Kamal = 1x : 2x

Therefore 1/x + 1/2x = 1/29

=> 3/2x = 1/29

=> 2x = 87 days = Time taken by Kamal

Let efficiency of Kamal be x

Therefore Effiiciency of Ehsaan = 2x

Total efficiency of Kamal and Ehsaan = (x + 2x) = 3x

Total work = (3x × 29) = 87x

Time taken by Kamal alone = (87x/x) days

=> 87 days

Therefore Time taken by Kamal alone is 87 days

Q20. Answer: (c) Desert Circuit

Package name	Desert Circuit Semi Luxury Tourist Train
Destination Covered	Jaisalmer, Jodhpur & Jaipur
Travelling Mode	Semi Luxury Tourist Train
Class	1AC, 2AC
Departure Dates	10th Feb'18, 3rd March'18

Q21. Answer: (c) 600

Formula used:

Amount = Principal + Simple Interest

Simple Interest = (P × R × T)/100

Calculation:

Interest = (500 × 5 × 4)/100 = 100

Amount = 500 + 100 = Rs. 600

To clear her debt, Diksha will have to pay Rs. 600

Q22. Answer: (a) 9 States and 4 Union Territories

The correct answer is 9 States and 4 Union Territories.

Key Points

• The coastal states are Gujarat, Maharashtra, Goa, Karnataka, Kerala, Tamil Nadu, Andhra Pradesh, Odisha, and West Bengal.

• The coastal Union Territories are Puducherry, Lakshadweep, and Andaman & Nicobar Islands.

Confusion Points

• Because of the Dadra and Nagar Haveli and Daman and Diu (Merger of Union territories) Bill, 2019. It is now four Union Territories.

• The total length of the coastline, including the two groups of islands, is the Andaman and Nicobar and the Lakshadweep, is 7,516.6 km.

• India has a coastline of 7516.6 Km (6100 km of mainland coastline + coastline of 1197 Indian islands) touching 13 States and Union Territories (UTs).

• The coasts of India include the West Coast, East Coast, and Coast of Lakshadweep and Andaman and Nicobar islands.

Important Points

• Gujarat is strategically located with the largest share in India's coastline, followed by Andhra Pradesh and Tamil Nadu.

• Over 22.6% of the total coasts of India are of islands (Andaman and Nicobar, Lakshadweep, and Diu islands).

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Q23. Answer: (a) 33/5

Given:

1st hole empties the tank in 9 minutes and 2nd hole empties the tank in 6 minutes

Water leaks out at a constant rate

Formula used:

If a hole empties a tank in 'a' hours and an another empties the same tank in 'b' hours and if water leaks at a constant rate, then

Total work = LCM of the times taken by two holes = LCM of (a, b)

Efficiency of first hole = LCM of (a, b)/a

Efficiency of second hole = LCM of (a, b)/b

Combined efficiency of them = efficiency of 1st hole + efficiency of 2nd hole

Time taken to fill the tank = Total work/The combined efficiency of the holes

For alternate method,

If a hole empties a tank in 'a' hours and an another empties the same tank in 'b' hours and if water leaks at a constant rate, the net part filled in 1 hour = 1/a + 1/b

Therefore Time taken to empty the tank = ab/(a + b) hours

Calculation:

Let the total work done to empty the tank be LCM of 9 and 6 i.e. 18 unit

Tank emptied by 1st hole in 1 minute = 18/9 = 2 unit

Tank emptied by 2nd hole in 1 minute = 18/6 = 3 unit

Therefore To completely empty the tank, Time taken together = 18/5 = 33/5 minutes

1st hole empties the tank = 9 minutes

2nd hole empties the tank = 6 minutes

Time taken to empty the tank = (9 × 6)/(9 + 6) = 54/15 = 18/5 = 33/5 minutes

Q24. Answer: (a) Bihar

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

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

Mahabodhi temple is a UNESCO world heritage site.

The other three holy sites are Lumbini, sarnath and Khushinagar

Q25. Answer: (d) Mercury

MESSENGER was a NASA robotic spacecraft that orbited the planet Mercury between 2011 and 2015.

The spacecraft was launched aboard a Delta II rocket in August 2004 to study Mercury's chemical composition, geology, and magnetic field.

Q26. Answer: (c) United States of America

Mount St. Helens is an active stratovolcano located in Skamania County, Washington, in the Pacific Northwest region of the United States.

Q27. Answer: (a) Rs. 4305

Given:

Principal = Rs. 2000

Rate = r = 5%

Time = 2 years = n

Formula Used:

Amount = Principal × $[1 + r/100]^n$

Calculation:

At the end of the First year

=> Amount = 2000 × 105/100

=> Amount = 2000 × 21/20 = Rs. 2100

Principal for the second year = 2000 + 2100 = 4100

Investments be at the end of the 2nd year = 4100 × 105/100

=> Amount = 4100 × 21/20 = Rs. 4305

Alternate Method A = $2000 \times (1 + 5/100)^2 + 2000 \times (1 + 5/100)^1$

=> A = 2000 × 441/400 + 2000 × 21/20

=> A = 2205 + 2100

Therefore A = Rs. 4305

Q28. Answer: (b) Brother-in-law

Deepak is talking about his father's daughter which would be his sister. Since Raju is his sister's husband, Raju is Deepak's Brother-in-law.

Hence, 'Brother-in law' is the correct answer.

Q29. Answer: (a) The liquid surface falls down on the direction of motion and rises up on the back side of the tank

CONCEPT:

• Acceleration: The rate of change of velocity is called the acceleration of the body. i.e.,

a = (v2 - v1)/(t2 - t1)

Where v2 = velocity of the object at t2 and v1 = velocity of the object at t1

• It is a vector quantity.

• Its direction is the same as that of change in velocity (Not of the velocity).

EXPLANATION:

• As we know that if the liquid is accelerated horizontally, then the two points in the same horizontal line can't have equal pressure.

• Therefore, the free surface of the liquid is inclined to the horizontal with larger depth at the rear end as the tanker is moving in the forward direction with uniform acceleration. Hence option 1 is correct.

Q30. Answer: (a) 9

Fourth proportional to 2,3,6 is written as 2: 3::6 :x

=> 2/3 = 6/x or 2x = 18 or x = 9

Q31. Answer: (d) 9 C 9 A 9 D 9 B 9 = -71

Tabulating the information given in the question, and substituting the symbols with the meanings in the equations given:

Symbol	Meaning
A	÷
B	×
C	•
D	•

1) 11 × 34 ÷ 17 - 8 ÷ 3 = 19.3

2) 6 × 18 - 26 ÷ 13 + 7 = 113

3) 32 + 8 ÷ 16 - 4 = 28.5

4) 9 + 9 ÷ 9 - 9 × 9 = -71

Hence, as shown, equation '4' holds true and thus is the correct answer.

Q32. Answer: (d) Rs. 2522

Given:

Principle = Rs.16000, Time 'n'= 9 months = 3 quarters

Rate = 20% per annum = 5% per quarter

Formula Used:

Compound interest = Principal × $[1 + r/100]^n$ – Principal

Calculation:

Amount = Rs. $[16000 \times (1 + 5/100)^3)]$

=> Rs.16000 × 21/20 × 21/20 × 21/20 = Rs. 18522

C.I. = Rs. (18522 - 16000) = Rs. 2522

Q33. Answer: (c) 52 : 53

Calculation:

Let the cost price be Rs. x

At 4% profit,

Selling Price = Cost Price + 4% of Cost Price = 1.04x

At 6% profit,

Selling Price = Cost Price + 6% of Cost Price = 1.06x

Cash differences between selling price is Rs 3.

=> 1.06x - 1.04x = 3

=> 0.02x = 3

=> x = 150

Selling price of 1st article is 1.04x

= 1.04 × 150 = Rs 156

Selling price of 2nd article is 1.06x

= 1.06 × 150 = Rs 159

The ratio of selling prices = 156/159

=> 52/53

=> 52: 53

Shortcut Trick

Let the Cost price of article is Rs. x

Required ratio = (104% of x)/(106% of x)

=> 104/106

=> 52/53 = 52:53

Q34. Answer: (c) 13

Concept:

Using Prime factorisation method: Express the given numbers in the form of product of Prime numbers. Then the product of common factors with least power will be the HCF

Calculation:

Express both 3341 and 3328 as the product of Prime numbers

3341 = 257 × 13

3328 = 2^8 × 13

Here the common factor is only 13

Therefore HCF = 13

Q35. Answer: (c) Rs. 25,300

Given:

Selling price of bus = Rs. 18,700

Loss = 15%

Profit required = 15 %

Formula used:

Profit% = [(SP - CP)/CP] × 100

Loss% = [(CP - SP)/CP] × 100

Calculation:

At the loss of 15%

CP × 85/100 = 18,700

Therefore CP of Bus = Rs. 22,000

To get a profit of 15%

Selling price = 22000 + 15% of 22000 = 22000 + 3300 = Rs. 25,300

Q36. Answer: (a) First Schedule

First schedule lists the states and territories on of India.

It lists any changes to their borders and the laws used to make that change.

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Q37. Answer: (b) Justice Reva Khetrapal

The correct answer is Justice Reva Khetrapal.

Key Points

• The last Lokayukta, Justice (Retd) Manmohan Sarin, had relinquished office in November, 2013.

• Former Delhi High Court judge, Justice Reva Khetrapal is the capital's new Lokayukta.

• He or she is an anti-corruption ombudsman organization in the Indian states.

Confusion Points

• Harish Chandra Mishra is the current Lokayukta of Delhi (as per April 2022)

Additional Information

• The Lokayukta and upalokayukta are appointed by the governor of the state.

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

Q38. Answer: (c) they have the same name, and are of the same file type

If the two files have the same name, and are of the same file type then the files cannot be saved in same folder but they can be stored in different folder with same name and file type.

Q39. Answer: (a) 21.30

Mobile plan cost for 6 minutes = Rs. 32

Therefore For 1 minutes, cost = 32/6

Therefore For 4 minutes, cost = 4 × 32/6 = 64/3 = Rs. 21.30

Q40. Answer: (a) Kushan

• Gandhara art is the style of Buddhist visual art.

• It developed in what is now northwestern Pakistan and eastern Afghanistan between the 1st-century BCE and the 7th-century CE.

• The style, of Greco-Roman origin, seems to have flourished largely during the Kushan dynasty.

Q41. Answer: (d) 3

Concept:

1112 ÷ 139 – 5

=> 8 – 5 = 3

Q42. Answer: (d) Either I or II alone is sufficient.

Statement I:

We conclude that in a class of 47 students, Gowtham ranks 18th from the top and hence 30th from the last.

Statement II:

We conclude that there are 9 students above and 37 students below Jegan in rank. Thus, there are (9 + 1 + 37) = 47 students in the class.

So, Gowtham who ranks 18th from the top is 30th from the last.

Q43. Answer: (d) 6

Formula:

M1 × T1 = M2 × T2

M1, M2 = number of men, T1 and T2 = Time taken

Calculation

Time taken to dig a hole by 3 men = 10 days.

1 men will dig in = 3 × 10 days = 30 days

Therefore 5 men will dig in = 30/5 = 6 days

Q44. Answer: (a) Paris

The correct answer is Paris.

Key Points

• The twenty-first session of the Conference of the Parties (COP) and the eleventh session of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (CMP) took place from 30 November to 11 December 2015, in Paris,

France.

• The “UNFCCC”, was adopted during the Rio de Janeiro Earth Summit in 1992.

• The Paris agreement provides a pathway forward to limit temperature rise to well below 2 degrees Celsius, maybe even 1.5.

• The Conference of the Parties is the supreme decision-making body of the UNFCCC.

• It meets yearly to take decisions that will make the objectives for the climate achievable.

• As of Dec. 2020, 194 UNFCCC members have signed the agreement, and 189 have become a party to it.

• The Paris Agreement is a replacement for the 2005 Kyoto Protocol.

• The first COP meeting was held in Berlin, Germany in March 1995.

• LINK:

• https://unfccc.int/process/bodies/supreme-bodies/conference-of-the-parties-cop

Additional Information

• COP22 took place in Marrakech, Morocco.

• COP23 took place in Bonn, Germany.

• COP24 took place in Katowice, Poland.

• COP25 took place in Madrid, Spain.

Q45. Answer: (d) Maltose

Galactose is a monosaccharide sugar that is about as sweet as glucose. It is a C-4 epimer of glucose.

• Glucose is monosaccharide polymer of hydrocarbon and a monomer of carbohydrate.

• Fructose, or fruit sugar, is a simple ketonic monosaccharide found in many plants.

• Maltose is a disaccharide.

• Maltose also known as maltobiose or malt sugar, is a disaccharide formed from two units of glucose

Q46. Answer: (d) 20

Formula used:

$n(A \cup B) = n(A) + n(B) - n(A \cap B)$

Calculation:

$n(A) = 28$

$n(B) = 32$

$n(A \cup B) = 40$

$n(A \cap B) = 32 + 28 - 40 = 20$

Q47. Answer: (c) 12

Formula used:

$n(A \cup B) = n(A) + n(B) - n(A \cap B)$

$n(A)$ = Number of elements in A, $n(B)$ = Number of elements in B

$n(A \cup B)$ = Each element in both the set A and set B

$n(A \cap B)$ = The intersection contains the elements that the two sets have in common.

Calculation:

$n(A) = 28$

$n(B) = 32$

$n(A \cup B) = 40$

$n(A \cap B) = 32 + 28 - 40 = 20$

Elements are present only in B = $n(B) - n(A \cap B) = 32 - 20 = 12$

Q48. Answer: (c) United Nations Institute for Training and Research

The United Nations Institute for Training and Research (UNITAR) was established in 1963 following a UN General Assembly resolution.

The United Nations Institute for Training and Research (UNITAR) is a principal training arm of the United Nations, working in every region of the world.

Headquarter of UNITAR - Geneva.

Q49. Answer: (d) Jammu and Kashmir

Jammu and Kashmir hosted the 12^(th) National Ice-Skating Championship at the ski-resort of Gulmarg from December 30, 2015 for five days.

Almost 17 teams from various states like Himachal Pradesh, Uttar Pradesh, Telangana, Karnataka and Tamil Nadu are going to participate in the championship.

Q50. Answer: (b) 24 hours

Concept:

• Geostationary satellite: It is an earth-orbiting satellite placed at a height of about 36000 km from the earth's surface. A few characteristics of this satellite includes

• It revolves in an orbit that is aligned with the equatorial plane of the earth.

• It has the same direction of rotation as that of the earth i.e. from west to east.

• It rotates with the same angular speed as the earth.

• The time period of the satellite: It is the time taken by the satellite to complete one revolution around the Earth.

• Consider a satellite orbiting the earth at a height h from the surface of the earth of radius R.

• The circumference of orbit of satellite = $2\pi(R+h)$

• The orbital velocity of the satellite at a height h is given by,

=> $v0 = \sqrt{(GM/(R+h))}$

Where M is the mass of the Earth.

The time period of the satellite is given by:

=> T = circumference/(orbital velocity) = $(2\pi(R+h))/(\sqrt{(GM/(R+h))}) = 2\pi\sqrt{(((R+h)^3)/GM)}$

Explanation:

• A satellite whose time period is 24 hours and is revolving in an orbit concentric and coplanar with the equatorial plane of earth is called a geostationary satellite.

• The geostationary satellite revolves at the height of about 36000 km from the surface of the earth.

• The orbital velocity of the geostationary satellite is about 3.08 km/sec

Q51. Answer: (b) DW

The pattern is easy to decode. With reference to English alphabet, the first alphabet and the last one are clubbed together. Similarly, the second and second from the last are placed together.

Following this pattern, the next set of alphabets would be DW.

Hence, 'DW' is the correct answer.

Q52. Answer: (b) 55/18

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

$[(0.55 \times 4.5)/0.81] \times 10000/10000$

$= (55 \times 450)/8100]$

$= (55 \times 50)/900$

$= 55/18$

Note:

55/18 = 3.055

Q53. Answer: (c) $-12x^2- 4y^2$

Calculation:

$(2x)^2 - (2y)^2 - (4x)^2$

=> $4x^2 - 4y^2 -16x^2$

Therefore $-12x^2 - 4y^2$

Q54. Answer: (d) Only conclusion I follows

The given statement is a proverb meaning 'a successful person is the one who is willing to take risks'.

Since the statement implies nothing about cowards, conclusion II does not follow.

Hence, only conclusion I follows.

Q55. Answer: (c) 2

We know cosec x = 1/sin x

cot x = cos x/sin x and cos x = (√1 - sin²x)

Now, cosec x = 1/sin x = 5/4 and

cot x = (√1 - sin²x)/sin x = (3/5)/(4/5) = 3/4

Therefore cosec x + cot x = 5/4 + 3/4 = 2

sinx = 4/5

We know sinθ = Height/ Hypotenuse

=> sinx = Height/ Hypotenuse = 4/5

=> Height = 4 unit and Hypotenuse = 5 unit

By Pythagorus theorem, Base = √(5² - 4²) = 3

Cosec(x) = 1/sinx = 5/4

cot(x) = Base/ Height = 3/4

Cosec(x) + cot(x) = (5/4) + (3/4) = 8/4 = 2

Q56. Answer: (a) Uttarakhand

Nanda Devi is the second highest mountain in India, and the highest located entirely within the country.

It is the 23^(rd)highest peak in the world.

It is located in Chamoli, Uttarakhand.

Q57. Answer: (b) All are names of harvest festivals

Since Pongal is celebrated in Tamil Nadu, a Southern state of India, option 1 stands refuted. Baisakhi is celebrated in April, which makes option (3) incorrect as well.

All the given festivals are harvest festivals of India, this is an aspect of similarity.

Hence, option (2) is the answer.

Q58. Answer: (a) 5.1

15% of 34

=> (10 + 5)% of 34 = 10% of 34 + 5% of 34

=> 3.4 + 3.4/2 = 3.4 + 1.7 = 5.1

Q59. Answer: (a) Surface Tension

Property of a liquid is it always occupies minimum surface area, this phenomenon of liquid is known as Surface Tension.

A force which is known as “Van der Waals” forces, draw the liquid particles together.

Mathematically surface tension is defined as the ratio of Forces and the ratio of the surface force F to the length d along which the force acts.

● Example of Surface Tension –

• In a dropper, the water does not flow in a continuous stream, but rather in a series of drops.

• Several insects are able to walk on water.

• Bubbles are round.

• Needle floating on water.

Q60. Answer: (d) Thirty

Key Points

• Constitution of the Supreme Court – Under article 124 (1) of the constitution, there shall be a Supreme Court of India consisting of Chief Justice of India and 30 other judges.

Additional Information

• The Supreme Court (Number of Judges) Amendment Bill, 2019 was introduced in Lok Sabha on August 5, 2019, by the Minister of Law and Justice, Mr Ravi Shankar Prasad.

• The Bill amends the Supreme Court (Number of Judges) Act, 1956.

• The Act fixes the maximum number of judges in the Supreme Court at 30 judges (excluding the Chief Justice of India).

• The Bill increases this number from 30 to 33.

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Q61. Answer: (d) 2 + 4 ÷ 6 = 8

The logic followed is:

Check options on by one;

Interchange signs '+' and '÷' and numbers '2' and '4'

1) 4 ÷ 2 + 3 = 6

After Replacing signs and numbers:

= 2 + 4 ÷ 3

= 2 + 1.33

= 3.33 ≠ 6

2) 2 + 4 ÷ 3 = 3

After Replacing signs and numbers:

= 4 ÷ 2 + 3

= 2 + 3

= 5 ≠ 3

3) 4 + 2 ÷ 6 = 1.5

After Replacing signs and numbers:

= 2 ÷ 4 + 6

= 0.5 + 6

= 6.5 ≠ 1.5

4) 2 + 4 ÷ 6 = 8

After Replacing signs and numbers:

= 4 ÷ 2 + 6

= 2 + 6

= 8

Hence, Option (4) is the correct answer.

Q62. Answer: (d) China

The Gaofen 4 was launched on December 28, 2015 from Xichang in central Chin.

Gaofen-4 is China's first geosynchronous orbit HD optical imaging satellite and the world's most sophisticated HD geosynchronous orbit remote sensing satellite.

Q63. Answer: (a) IIT Madras

Indian Railways on Tuesday signed Memorandum of Understanding with IIT Kanpur, IIT Madras and IIT Roorkee to set up Centres of Railway Research on 22^(nd) Dec, 2015.

Q64. Answer: (b) Torah

- The Torah is part of the larger text known as the Tanakh or the Hebrew Bible.
- It is supplemental oral tradition represented by later texts such as the Midrash and the Talmud.
- With between 14.5 and 17.4 million adherents worldwide, Judaism is the tenth largest religion in the world.

Q65. Answer: (a) Udaipur

Multi Application Solar Telescope (MAST), a telescope for the detailed study of the Solar activity including its' magnetic field.

It has recently been operationalized at the Udaipur Solar Observatory.

Q66. Answer: (d) NOIHSAF

This is a clear case of letter reverse arrangement. The word 'KINDLE' is reversed with the last alphabet being placed at the beginning and so on.

KINDLE ↔ ELDNIK

Similarly, 'FASHION' can be written as 'NOIHSAF'

FASHION ↔ NOIHSAF

Hence, 'NOIHSAF' is the correct answer.

Q67. Answer: (c) Silica

In a finding that suggests "considerable water activity" on Mars.

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NASA says its Curiosity rover has found very high concentrations of silica on the red planet.

The agency says it also found "a mineral named tridymite, rare on Earth and never seen before on Mars".

Q68. Answer: (a) Ashok Kumar

Ashok Kumar is one of the pioneers of the fight back against wildlife crimes in India.

He is the chairman emeritus of the Wildlife Trust of India, Noida.

He has been named the Sanctuary Legend Award by Sanctuary magazine.

Q69. Answer: (a) Archery

She represented India at the 2008 Beijing Olympic in the women's individual as well as team events.

She, along with Dola Banerjee was ranked sixth in the team event qualifiers.

She won Arjun Award in 2012.

Q70. Answer: (b) 34

The product of L.C.M and H.C.F of two numbers is equal to the product of two numbers

Thus,

89 × H.C.F = 3026

H.C.F = 3026/89

Therefore H.C.F = 34

HCF: The greatest common divisor of two or more positive integers happens to be the largest positive integer that divides the numbers without leaving a remainder.

LCM: Least common multiple or lowest common multiple, or smallest common multiple of two integers a and b, usually denoted by lcm(a, b), is the smallest positive integer that is divisible by both a and b.

Q71. Answer: (d) BAT

Bat is the only mammal among the given options..

Hence, ‘Bat’ is the correct answer.

Q72. Answer: (b) 4%

Profit percent = [(S.P - C.P)/C.P] × 100

C.P = Rs. 27.50 and S.P = Rs. 28.60

Gain/Profit percent = [(28.60 - 27.50)/27.50] × 100

Therefore Gain percent = [1.1/27.5] × 100 = 4%

Q73. Answer: (c) (13, 17)

Logic- each group contain continuous prime number.

Prime numbers are 2, 3, 5, 7, 11, 13, 17, 19

Therefore, “13, 17” is correct answer.

Q74. Answer: (b) Vinayak Savarkar

The correct answer is option 2 i.e. Vinayak Savarkar.

- The Abhinav Bharat Society was founded by Vinayak Damodar Savarkar and his brother Ganesh in Nashik in 1904.
- Its initial name was 'Mitra Mela'. it was founded in 1899.
- The organization's name is derived from Giuseppe Mazzini's political movement, 'Young Italy'.
- The group is responsible for assassinations of several British officials.
- It was responsible for the assassinations of Lt. Col. William Curzon-Wyllie and A. M. T. Jackson.
- The group was disbanded in 1952.

Q75. Answer: (a) Afghanistan

After rearranging the word “AKBLU” we get “KABUL” which is the capital of Afganistan.

Q76. Answer: (a) 7 hour 20 min

Time taken in walking both the ways = 12 hours 30 minutes ---- (i)

Time taken in walking one way and cycling back = 9 hours 55 minutes ---- (ii)

By the equation (ii) × 2 – (i), we have,

Time taken by the woman in riding both ways,

=> 19 hours 50 minutes - 12 hours 30 minutes

=> 7 hours 20 minutes.

Alternate MethodLet x be the time taken to travel by cycle and y be the time taken by walking

A/Q

x + y = 9 hours 55 mins ---- (i)

And, y + y = 12 hour 30 mins

2y = 12 hour 30 mins or y = 6 hour 15 mins ---- (ii)

Put the value of (ii) in (i)

x = 9 hours 55 mins - 6 hour 15 mins = 3 hr 40 mins

Now this is the one-way time taken by Hema by cycle

Hence total time taken (both going and coming back) = 3 hr 40 mins + 3 hr 40 mins

= 6 hours 80 mins or 7 hours 20 mins

Q77. Answer: (d) File extension

A filename extension is an identifier specified as a suffix to the name of a computer file. The extension indicates a characteristic of the file contents or its intended use.

Some file extension:

Word: .doc

Photoshop: .psd

Image: .jpeg, .png

Q78. Answer: (a) Buddhism

• Ajanta

• The most famous cave site is Ajanta.

• It is located in the Aurangabad District of Maharashtra State.

• Ajanta has 29 caves.

• It has four chaitya caves datable to the earlier phase, i.e., the second and the first century BCE (Cave Nos. 10 and 9), and the later phase, i.e., the 5th century CE (Cave No. 19 and 26).

• It has large chaitya viharas and is decorated with sculptures and paintings.

• Ajanta is the only surviving example of a painting of the 1st century BCE and the 5th century CE.

• The caves at Ajanta as well as in western Deccan in general have no precise chronology because of the lack of known dated inscriptions.

• Buddhist monks carved the Ajanta caves with the support of the Vakataka kings, notably Harishena.

• Painting:

• The figures in these caves were done using fresco painting.

• The outlines of the paintings were done in red colour.

• One of the striking features is the absence of blue colour in the paintings.

• The paintings are generally themed around Buddhism the life of Buddha and Jataka stories.

• The caves were designated a UNESCO World Heritage site in 1983.

Q79. Answer: (c) Graphical User Interface

A GUI(Graphical User Interface) uses windows, icons, and menus to carry out commands, such as opening, deleting, and moving files.

Although many GUI operating systems are navigated through the use of a mouse, the keyboard can also be utilized by using keyboard shortcuts or arrow keys.

Q80. Answer: (d) real

A rational number is a number that can be expressed as the quotient or fraction p/q of two integers, a numerator p, and a non-zero denominator q.

Real numbers are numbers comprising rational and irrational numbers

Therefore We understand that all rational numbers are real numbers.

Q81. Answer: (a) Six months from the date of dissolution

The correct answer is Six months from the date of dissolution.

Key Points

• If a Panchayat is dissolved, elections are to be held within six months from the date of dissolution.
• The term Panchayati Raj in India signifies the system of rural local self-government.
• It had been established after the advice of the Balwant Rai Mehta committee, which is established by the Govt. of India in 1957.
• This committee has three-tier panchayat governance such as Gram Panchayat, Panchayat Samiti, and Zila Parishad.
• As a result of this scheme the first Panchayat system introduced in Rajasthan in 1959.
• This system observed a lack of people's participation.
• To overcome this failure a new committee named Ashok Mehta committee gives a two-tier governance plan in 1977.
• The two-tier plan was Zila Parishad and Mandal Panchayat.
• This Panchayati Raj faced a major constitutional amendment in 1992 that brings back the three-tier system again.
• This amendment added a new part to the Constitution, namely, added Part IX titled The Panchayats.
• This amendment adds a Three-tier system of panchayats at the village, intermediate Mandal, and district levels except in States with a population is below 20 lakhs (Article 243B)
• The Panchayat is constituted under Article 243 to 243 (O)

Additional Information

Duration of Panchayati Raj

• The Act provides for a five-year term of office to all the levels of the panchayat. However, the panchayat can be dissolved before the completion of its term.
• But fresh elections to constitute the new panchayat should be completed before the expiry of its five-year duration.
• In case of dissolution, the election should be within a period of six months from the date of its dissolution.

Q82. Answer: (b) J.J. Thomson

• Joseph John Thomson discovered electron.
• Electron is negatively charged particles that are indeed fundamental parts of every atom.
• He received the Nobel Prize in 1906 for the discovery of the electron, the first elementary particle.
• Rutherford discovered Proton.
• Bohr made fundamental contributions to understanding the structure of atoms

Q83. Answer: (c) Antarctica

Delegates from 24 countries and the European Union have agreed that the Ross Sea in Antarctica will become the world's largest marine protected area (MPA).

Some 1.57 m sq km (600,000 sq miles) of the Southern Ocean will gain protection from commercial fishing for 35 years.

Q84. Answer: (b) Third to the right

Friends: Anil, Bharat, Ram, Dilip, Karathi and Vijay.

Note: Seated around circle facing inside.

1) Anil is between Dilip & Bharat and Vijay is between Ram and Karathi.

2) Ram is third to the left of Bharat.

Above combination will be final combination.

Anil is 3^(rd) to left or 3^(rd) to right of Vijay.

Q85. Answer: (d) Ram

Friends: Anil, Bharat, Ram, Dilip, Karathi and Vijay.

Note: Seated around circle facing inside.

1) Anil is between Dilip & Bharat and Vijay is between Ram and Karathi.

2) Ram is third to the left of Bharat.

Above combination will be final combination.

Hence, Ram is between Dilip and Vijay.

Q86. Answer: (a) Karathi

Friends: Anil, Bharat, Ram, Dilip, Karathi and Vijay.

Note: Seated around circle facing inside.

1) Anil is between Dilip & Bharat and Vijay is between Ram and Karathi.

2) Ram is third to the left of Bharat.

Above combination will be final combination.

Hence, Karathi sits between Bharat and Vijay.

Q87. Answer: (a) 160

Total students = 200

Number of boys = (1/5) × 200 = 40

Therefore Number of girls = 200 - 40 = 160

Q88. Answer: (b) Surge protector

When voltage of the connection drastically increases to a very high value suddenly for a very short period of time is called a voltage spike.

A surge protector is a device that protects or shields your appliances against a voltage surge/ voltage spike

When the voltage increases beyond a certain level, the surge protector either blocks or transfers the excess energy to the ground. By doing this, it ensures that the appliances connected to it do not get affected or broken down due to a voltage surge.

Q89. Answer: (a) 5

Given:

A _____M_____B

A = Bus Terminal.

B = Let meeting point of the first bus and the man and this distance is covered by Bus in 10 minutes. I.e. Distance A to B be is covered by the first bus in 10 min. as AB distance can be covered by the second bus in 10 minutes as well.

M is the Meeting Point of Second Bus with Man. The man covered distance B to M in 8 minutes

Calculation:

Let Speed of the man is x kmph.

Distance covered in 10 minutes at 20 kmph = distance covered in 8 minutes at (20 + x) kmph.

Here relative speed = (20 + x) km/hour

=> 20 × 10/60 = 8/60 × (20 + x)

=> 200 = 160 + 8x

=> 8x = 40

Therefore x = 5 kmph = speed of man

Alternate MethodSpeed of both bus = 20 km/hr

They started with a 10 min gap.

So distance between buses at the time when man(coming from opposite direction) meets first bus = (20 × 10/60)km = 200/60 km

Suppose man's speed = v km/hr

So his relative speed with respect to second bus = (v + 20)km/hr

So at relative speed, (v + 20)km/hr, distance travelled in 8 min = 200/60 km

Applying distance = speed × time

200/60= (v + 20) × 8/60

Or, v + 20 = 200/8 = 25

v = 5km/hr

So man's speed = 5km/hr.

Q90. Answer: (d) Bholu, the elephant

The correct answer is Bholu, the elephant.

Key Points

• The official mascot of Indian Railways is an elephant named "Bholu".

• It is designed by the National Institute of Design, to commemorate the 150th anniversary of the Indian Railways.

Q91. Answer: (b) 300

Let the two numbers be 3x and 5x

HCF of 3x and 5x = x

Given x = HCF = 20

Therefore Two numbers are 3 × 20 and 5 × 20 i.e 60 and 100

Therefore LCM of 60 and 100 = 300

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Q92. Answer: (b) Primary consumers eat only plants; secondary consumers eat primary consumers

The correct answer is Option 2.

• Primary consumers occupy the second trophic level.

• These organisms eat plants, or producers, which comprise the first trophic level.

• Primary consumers do not eat other consumers.

• Second-level consumers eat primary consumers.

• Humans are a good example of second-level consumers.

• We eat primary consumer - plants, as well as other consumers - animals.

Q93. Answer: (d) 294493

Putting a numeric value to English alphabets and calculating following that, 'I' would be number '9' 'and 'D' as '4'.

Hence, 'BIDDIC' will be written as '294493'.

Q94. Answer: (c) Account

Arranging the given in alphabetical order would give the following sequence:

3) *Acco*unt

1) *Accu*mulate

4) *Ach*ieve

2) *Act*uate

Hence, 'Account' will come first.

Q95. Answer: (c) Bhutan

Bhutan is world's first and only carbon-negative country.

The country emits around 1.5 million tons of carbon annually; its forests can absorb over 6 million tonnes.

Q96. Answer: (d) B.V.R. Subrahmanyam

The correct answer is B.V.R. Subrahmanyam

Important Points

• The Cabinet Committee appointed former Union Commerce Secretary and retired civil servant B.V.R. Subrahmanyam as the Chief Executive Officer (CEO) of Niti Aayog.

• He replace Parameswaran Iyer, who was assigned as the Executive Director of World Bank.

Key Points

• The NITI Aayog (National Institution for Transforming India) is a policy think tank of the Government of India, formed on January 1, 2015.

• Its headquarters is in New Delhi.

• It was established to replace the Planning Commission which followed a top-down model.

• B.V.R. Subrahmanyam is the current CEO of NITI Aayog,

• Sindhushree Khullar was the first CEO of NITI Aayog.

• The CEO and vice-chairperson of the NITI Aayog will be appointed by the prime minister.

• The prime minister of India is the chairman of the NITI Aayog.

• There will be a maximum of five Ex-Officio members and three Special Invitees from the Union council of ministers nominated by the Prime minister.

• The Governing Council of NITI Aayog, with the Prime Minister as its Chairman, comprises Chief Ministers of all States and Lt. Governors of Union Territories (UTs).

• NITI Aayog also provides relevant technical advice to the Centre and States.

• The first meeting of the governing council of NITI Aayog was held on 8th February 2015.

Additional Information

• Arvind Panagariya is the first vice-chairperson of the NITI Aayog.

• Suman Bery is the current vice-chairperson of the NITI Aayog.

Q97. Answer: (a) ICICI Bank

ICICI Bank has tied up with Indian Railway's e-ticketing platform IRCTC to sell rail tickets through its website.

With this, ICICI Bank's website and mobile app have become the first non-IRCTC platform which can now book train tickets.

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Q98. Answer: (b) TFE

All alphabets in the set follows a different pattern with respect to the similar position alphabet in the other set.

With reference to English alphabet, each alphabet is one step ahead.

=> P + 1 = Q; Q + 1 = R; R + 1 = S; S + 1 = T

=> B + 1 = C; C + 1 = D; D + 1 = E; E + 1 = F

=> A + 1 = B; B + 1 = C; C + 1 = D; D + 1 = E

Similarly, the next set in the series would be:

'TFE' after 'SED'.

Hence, 'TFE' is the correct answer.

Q99. Answer: (d) Rs. 693.6

Given:

Principal sum, P = Rs. 8500

Rate of interest, r = 4%

Time, n = 2 years

Formula used:

Compound interest = $P(1 + r/100)^n - P$

Calculation:

C.I = $8500(1 + 4/100)^2 - 8500$

=> $8500(26/25 \times 26/25 - 1)$ = Rs. 693.6

Q100. Answer: (a) Amazon

E-commerce major Amazon has signed an agreement with the National Institute for Entrepreneurship.

As part of the MoU, they undertake the exercise of training SMEs on understanding the e-commerce industry in India and its vast potential for growth.

The two will also provide SMEs with necessary online selling and marketing training as well as faculty support.

Q101. Answer: (c) Ionosphere

The Ionosphere deflects radio waves making communication over longer distances possible.

Q102. Answer: (d) 88/7

Surface area of sphere = $4\pi r^2$ where r is radius of sphere,

Therefore $4 \times 22/7 \times 1 \times 1 = 88/7$

Therefore Surface area of sphere = 88/7 square cm.

Q103. Answer: (b) 30, 45, 60 and 75

Let the ratio be 2x: 3x: 4x: 5x

=> 2x + 3x + 4x + 5x = 210

=> 14x = 210 or x = 15

Therefore Respective amounts = 2 × 15, 3 × 15, 4 × 15, 5 × 15 = 30, 45, 60 and 75

Q104. Answer: (c) Only Conclusion I follows.

As it is mentioned in the statement that 'good voice' is a natural gift, and 'practicing' improves and excels the field of music.

So, Conclusion 1 follows, as in the statement it has been mentioned about natural gifts but not about how we can get a natural gift.

It is clear by the word 'nurturing' that natural gifts need to be practiced.

Q105. Answer: (d) 1440

Multiply the numbers by 4, 5 and 6 respectively to obtain the next number in the series as shown:

12 × 4 = 48

48 × 5 = 240

240 × 6 = 1440

Hence, '1440' is the correct answer.

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Q106. Answer: (c) 22.22%

Given:

Cheat % while buying = 10%

Cheat% % while selling = 10%

Formula used:

Profit = SP – CP

Profit % = (Profit/CP) × 100

Calculation:

At the time of buying,

The shopkeeper bought 1100 grams instead of 1000 grams

In other words, He pays for 1000 grams and buys 1100 grams

At the time of selling,

The shopkeeper sells 900 grams instead of 1000 grams

In other words, Buyer pays for 1000 grams but received only 900 grams

In the above scenario,

The CP of the shopkeeper = 1000 × 900 = 900000

The SP of the shopkeeper = 1100 × 1000 = 1100000

Profit = 1100000 – 900000 = 200000

Profit % = (200000/900000) × 100 = 22.22%

Therefore The total gain is 22.22%

Profit % = {(11 – 9)/9} × 100 = (2/9) × 100 = 22.22 %

Therefore The total gain is 22.22%

Q107. Answer: (c) Industrious

This is a clear case of opposite-paired analogy.

As, Thick is the opposite of Thin.

Similarly, the opposite of Idle would be Industrious (hard working)

Hence, ‘Industrious’ is the correct answer.

Q108. Answer: (c) 89348977

The logic followed here is:

The Alphabets are coded as the same numbers as given:

ENTRY is coded as 98462

E	N	T	R	Y
9	8	4	6	2

STEADY is coded as 749312

S	T	E	A	D	Y
7	4	9	3	1	2

Similarly, for NEATNESS:

N	E	A	T	N	E	S	S
8	9	3	4	8	9	7	7

Hence, ‘NEATNESS’ would be coded as ‘89348977’.

Q109. Answer: (c) Uttar Pradesh

India produced some 180 Lakh tonnes of Mango with major production in Uttar Pradesh.

Q110. Answer: (d) Mumbai Garuda

Mumbai dominated Haryana in the final of the Pro Wrestling League to clinch the title with a 7-2 victory.

In 2016 Punjab Royals won the league by beating Haryana Hammers in final.

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Q111. Answer: (c) The President of India

According to Article 222, The President, after consultation with the Chief Justice of India, transfer a Judge from one High Court to any other High Court.

Q112. Answer: (b) Both statements together are Needed

From Statement I. Guna, Vinay and Keshav are of same age.

This alone cannot gives the answer.

From Statement II. Sum of ages of Vinay, Keshav and Arjun is 32; also Arjun is as old as Vinay and Keshav together.

Vinay + Keshav + Arjun = 32 _____(1)

Arjun = Keshav + Vinay _____(2)

Put equation (2) in (1)

2 Arjun = 32

Arjun = 16 yr

Keshav + Vinay = 16

Guna is not mentioned in statement II so it is not possible to get the answer from here

Form I and II:

Guna = Keshav = Vinay

Keshav + Vijay = 16

Vinay = 16/2 = 8 yr

so Guna = 8 yr

So from I and II we get the age of Guna.

Hence, Both statements together are Needed

Q113. Answer: (d) Vegetable

Example-category relationship is exhibited. Shirt is a type of the category which is garment. Similarly, Potato is an example of wide category of vegetables.

Hence, ‘vegetables’ is the correct answer.

Q114. Answer: (a) 9

The mode is the value that appears most frequently in a data set.

The set is 12, 1, 10, 1, 9, 3, 4, 9, 7, 9

Therefore 9 appears more frequently and is mode of the data

Q115. Answer: (d) the rate of respiration of Fruits is decreased

Fresh fruits and vegetables need low temperatures (0-5 degree Centigrade) and high relative humidity (80 to 95%) to lower respiration and to slow metabolic and transpiration rates.

Relative humidity determines the moisture in the air; at high relative humidity, produce maintains proper weight, appearance, nutritional quality and flavour.

High relative humidity helps to keep the rate of respiration lower.

At low respiration products do not deteriorate faster and the growth of fungi become slow.

Q116. Answer: (d)

The solution is in Hindi. Read it online.

Q117. Answer: (a) Goa

India hosted 8^(th) BRICS Summit in Goa.

The theme of India's BRICS Chairmanship is Building Responsive, Inclusive and Collective Solutions.

Q118. Answer: (b) Only conclusion I follows.

Drawing the minimum possible Venn Diagram of the given statements below:

Conclusions:

I. No poet is wise → True (as shown in the Venn diagram below)

II. All readers are poets → False (as shown in the Venn diagram below).

Hence, only conclusion I follow.

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Q119. Answer: (a) 88

Marks scored = 22

Maximum marks = 25

Percentage = (22/25) × 100 = 88%

Q120. Answer: (c) Grandson

Since, Krishnan is Dharun's father (Kumar) father, he is his grandfather. Now, Anand is Dharun's brother. Therefore, Anand is Krishnan's grandson.

Hence, 'grandson' is the correct answer.

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