BPSC AEDO General Aptitude Paper (English)

Q1. Which of the following numbers is a divisor of $(49^{15} - 1)$?
(a) 46
(b) 14
(c) 8
(d) 50

Q2. In a 1500 m race, Anil beats Bakul by 150 m and in the same race Bakul beats Charles by 75 m. By what distance does Anil beat Charles?
(a) 217.50 m
(b) 200.15 m
(c) 293.50 m
(d) 313.75 m

Q3. Rs. 2,500, when invested for 8 years at a given rate of simple interest per year, amounted to Rs. 3,725 on maturity. What was the rate of simple interest that was paid per annum?
(a) 6%
(b) 6.125%
(c) 6.25%
(d) 5.875%

Q4. What is the ratio between the HCF and LCM of the numbers whose LCM is 48 and the product of the numbers is 384?
(a) 1 : 4
(b) 1 : 6
(c) 1 : 3
(d) 2 : 5

Q5. The price of a scooter increases successively by10%, 5% and 15%. What is the total percentage increase in price of scooter?
(a) $32\frac{33}{40}\%$
(b) $34\frac{21}{40}\%$
(c) $30\frac{11}{40}\%$
(d) $36\frac{31}{40}\%$

Q6. What is the ratio of the mean proportional between 1.6 and 3.6 and the third proportional of 5 and 8?
(a) 2 : 15
(b) 5 : 16
(c) 3 : 16
(d) 4 : 15

Q7. A takes 4 times as much time as B or 5 times as much time as C to finish a piece of work. Working together, they can finish the work in 4 days. B can do the work alone in:
(a) 10 days
(b) 15 days
(c) 12 days
(d) 20 days

Q8. Kapil sells a mobile to Sachin at a gain of 15% and Sachin again sells it to Rohit at a profit of 12%. If Rohit pays Rs.322, what is the cost price of the mobile for Kapil?
(a) Rs.350
(b) Rs.450
(c) Rs.250
(d) Rs.325

Q9. In the election, 8% of the voters did not cast their votes. Two candidates contested the election in which the winning candidate got 48% of the total votes and won election by 1100 votes. Find the total number of voters in the election, given that all the votes cast were valid?
(a) 25500
(b) 26500
(c) 27500
(d) 28500

Q10. If 6 women can complete a work in 3 days, and 9 girls can complete the same work in 2 days, the find the time taken to complete the same work by 8 women and 6 girls?
(a) 3 days
(b) 4 days
(c) 6 days
(d) 9/7 days

Q11. By mistake, instead of dividing Rs. 702 among Ram, Ramesh, and Naresh in the ratio 1/3 : 1/4 : 1/6 , it was divided in the ratio of 3 : 4 : 6. Who gained the most and by how much?
(a) Ram Rs. 158
(b) Ramesh Rs. 158
(c) Naresh Rs. 168
(d) Ram Rs. 168

Q12. The reduction of 20% in the price of rice enables a person to obtain 50 kg more for Rs. 450. Find the original price of rice per kg.
(a) Rs. 1
(b) Rs. 2
(c) Rs. 1.25
(d) Rs. 2.25

Q13. A laptop is sold for Rs. 65,520 after a discount of 25%. What was the marked price of the laptop?
(a) Rs. 87,630
(b) Rs. 87,360
(c) Rs. 87,370
(d) Rs. 83,760

Q14. What will be the least number which when doubled will be exactly divisible by 15, 18, 25 and 32?
(a) 3600
(b) 7200
(c) 6400
(d) 3200

Q15. If one man or two women or four boys or five girls can finish a work in 39 days, then how many days will one man, one woman, one boy and one girl together take to finish the same work?
(a) 40
(b) 10
(c) 30
(d) 20

Q16. Simplify the following.
$$\frac{762\times762\times762+316\times316\times316}{762\times762-762\times316+316\times316}$$
(a) 1064
(b) 1056
(c) 1042
(d) 1078

Q17. The price of some wooden furniture increases by 65% when it passes through three hands. If the first and second sellers made a profit of 20% and 25%, respectively, then find the profit percentage of the third seller.
(a) 10%
(b) 12.5%
(c) 16%
(d) 8%

Q18. Sunil purchased a fan at a 10% discount on the labelled price. If he had purchased it at a 15% discount, he would have saved Rs. 400. Find the labelled price of the fan.
(a) Rs. 8,400
(b) Rs. 7,500
(c) Rs. 800
(d) Rs. 8,000

Q19. If 20 percent of P is added to 40 percent of Q, then the resultant comes as 80 percent of Q. P is what percentage of Q?
(a) 200 percent
(b) 225percent
(c) 150percent
(d) 125percent

Q20. 2/5 of marked price is equal to 5/8 of selling price. What is the discount percent?
(a) 42 percent
(b) 36 percent
(c) 50 percent
(d) 40 percent

Q21. If p/q=r/s =t/u =2/5, then what is the value of (4p+3r+7t):(4q+3s+7u)?
(a) 4:11
(b) 3:2
(c) 5:9
(d) 2:5

Q22. The average of 32, 34, 38, 21, 26 and x is 30. What will be the value of x?
(a) 29
(b) 27
(c) 28
(d) 31

Q23. Average weight of 15 persons is 30 kg. a new person whose weight is 78kg joins the group. What will be the average weight of 16 persons?
(a) 31.5kg
(b) 34kg
(c) 32kg
(d) 33kg

Q24. What is the value of $\frac{\frac{1}{2}+\frac{3}{4}\div\frac{1}{4}+\frac{3}{4}\div\frac{1}{2}+\frac{1}{4}}{\frac{3}{4}\times\frac{1}{4}\div\frac{1}{2}-\frac{1}{2}\div\frac{3}{4}\times\frac{1}{4}}$?
(a) 126/5
(b) 49/8
(c) 89/6
(d) 116/5

Q25. Out of two number, 20 percent of the smaller number is equal to 14 percent of the larger number. If the sum of both the numbers is 8942, then what is the value of the larger number?
(a) 5260
(b) 5040
(c) 5160
(d) 4920

Q26. Vikram allows two successive discounts of 20% and 10% on the marked price of a book, which is equal to a single discount of Rs. 252. Then how much profit will Vikram get on that book, if the cost price is Rs. 600?
(a) Rs. 54
(b) Rs. 72
(c) Rs. 56
(d) Rs. 48

Q27. A sum of Rs. 3000 becomes Rs. 6000 when invested in a scheme of simple interest. If the annual rate of interest and the number of years for which the sum was invested are same, then what is the annual rate of interest?
(a) 15 percent
(b) 20 percent
(c) 10 percent
(d) 5 percent

Q28. If the numerator of a fraction is increased by 140% and the denominator of the fraction is decreased by 20%, the resultant fraction is 12/7. Find the original fraction.
(a) 7/6
(b) 4/7
(c) 4/9
(d) 8/9

Q29. A alone can complete a work in 40 days. 20 percent of the same work will be completed by A in how many days?
(a) 10 days
(b) 6 days
(c) 8 days
(d) 5 days

Q30. Paras sold his goods for Rs. 960 at 33.33% profit. Find the price at which he must sell his goods so that he earns 20% profit.
(a) Rs. 720
(b) Rs. 792
(c) Rs. 864
(d) Rs. 854

Q31. Aman drove from home to a town at the speed of 60 km/hr and on his return journey, he drove at the speed of 30 km/hr and also took an hour longer to reach home. What distance did he cover each way?
(a) 75 km
(b) 60 km
(c) 55 km
(d) 80 km

Q32. Find the value of $15 - 3\ of\ 12 \div 2 + 3\ of\ 2 \div 2$
(a) 0
(b) 16
(c) 57
(d) 75

Q33. The average marks scored by three students on a test were 55. When two more students (A and B) were added, the new average marks were reduced by 5. If B scores 15 marks more than A, what were the marks scored by A?
(a) 40
(b) 33
(c) 35
(d) 30

Q34. If 45% of a certain number is equal to 6/5 th of another number, what is the ratio between the numbers?
(a) 1 : 7
(b) 9 : 11
(c) 7 : 4
(d) 8 : 3

Q35. On selling a table for Rs. 210 and Rs. 420 there will be loss of L_1% and L_2 % respectively. If $L_1 - L_2 = 7$, then what is the cost price of table
(a) Rs. 3,000
(b) Rs. 7,000
(c) Rs. 5,000
(d) Rs. 4,000

Q36. 6m61 is divisible by 11. What is the value of m?
(a) 5
(b) 3
(c) 4
(d) 0

Q37. What is the compound interest for 1 year on a sum of Rs. 18000 at the annual rate of 20 percent per annum compounding half yearly?
(a) Rs. 3650
(b) Rs. 2450
(c) Rs. 3780
(d) Rs. 4500

Q38. Rs. 13000 is divided among X, Y and Z such that 2 times of X's share is equal to 3 times of Y's share which is equal to 4 times of Z's share. What is the share of Y?
(a) Rs. 4800
(b) Rs. 4000
(c) Rs. 3200
(d) Rs. 5600

Q39. Rani can do a work in 10 days, Priya can do the same work in 15 days and Guddu can do the same work in 12 days. If they do that work together and they are paid Rs. 9000, then what is the share of Priya?
(a) Rs. 3500
(b) Rs. 3600
(c) Rs. 3000
(d) Rs. 2400

Q40. Manoj sold an article on marked price for Rs. 13,000. Had he offered a discount of 10% on the marked price he would have earned a profit of 30%. What is the cost price?
(a) Rs. 11,000
(b) Rs. 10,000
(c) Rs. 9,900
(d) Rs. 9,000

Q41. On decreasing the price of a fan by 30 percent, its sales increases by 40 percent. What will be the percentage decrease in its revenue?
(a) 3 percent decrease
(b) 2 percent decrease
(c) 8 percent decrease
(d) 5 percent decrease

Q42. The average age of Rustam and Preetam is 30 years. The average age of Preetam and Geetam is 20 years. The average age of Rustam and Geetam is 26 years. What will be the age of the youngest of the three after 5 years?
(a) 26 years
(b) 25 years
(c) 22 years
(d) 21 years

Q43.
What is the value of $\frac{\frac{5}{6}\ of\ \frac{1}{3} \times \frac{12}{25} - \frac{1}{3}\ of\ \frac{5}{6} \times \frac{18}{25}}{\frac{25}{12}\ of\ \frac{1}{6} \times \frac{2}{5} + \frac{3}{8}\ of\ \frac{12}{25} \times \frac{5}{6}}$?
(a) –8/25
(b) –3/25
(c) –5/13
(d) –3/13

Q44. Initial value of a car is Rs. 20000. The value of car depreciated by 20 percent of its initial value each year. What will be its value after 3 years?
(a) Rs. 9840
(b) Rs. 10240
(c) Rs. 11980
(d) Rs. 10560

Q45. What is the average of all prime numbers between 30 and 50?
(a) 34.2
(b) 39.8
(c) 36.5
(d) 38.5

Q46. Piyush marks the price of his article 30 percent more than its cost price. If he sells the article for Rs. 5720 after allowing a discount 20 percent, then what will be the cost price of the article?
(a) Rs. 5500
(b) Rs. 5350
(c) Rs. 5200
(d) Rs. 5000

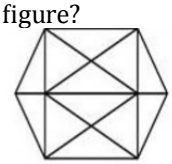
Q47. Rajiv sells a pen at a profit of 5 percent. If he sells the pen for Rs. 36 more, then he earns a profit of 14 percent. What is the cost price of the pen?
(a) Rs. 500
(b) Rs. 600
(c) Rs. 300
(d) Rs. 400

Q48. The sum of the present age of a father and his son is 94 years. 8 years ago their respective ages were in the ratio of 2 : 1. After 10 years what will be the ratio of ages of father and son?
(a) 16 : 15
(b) 35 : 22
(c) 25 : 18
(d) 14 : 13

Q49. What is the value of $1440 - 200 \div 50 \times 2 + 3$?
(a) 1420
(b) 1440
(c) 1435
(d) 1444

Q50. The marked price of an article is 40 percent more than its cost price. If 20 percent discount is given on the marked price, then what will be the profit percentage?
(a) 12 percent
(b) 15 percent
(c) 10 percent
(d) 8 percent

Q51. How many maximum triangles are there in the given figure?



(a) 32
(b) 20
(c) 28
(d) 24

Q52. A cube is painted on all surfaces with orange color and is divided into 27 equal cubes. How many cubes will have only one face painted?
(a) 6
(b) 5
(c) 9
(d) 4

Q53. Select the option in which the numbers shares the same relationship in set as that shared by the numbers in the given set. (NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits.
E.g.13 – Operations on 13 such as adding /subtracting /multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed)
(11, 121, 1331)
(13, 169, 2197)
(a) (7, 49, 343)
(b) (5, 25, 625)
(c) (6, 36, 324)
(d) (9, 729, 81)

Q54. Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusions logically follow(s) from the statements.
Statement:
I: Some fish are frogs.
II: Some frogs are whales.
Conclusion: I: Some fish are whales.
II: No fish is a whale.
(a) Either I or II follows
(b) Only II follows
(c) Only I follows
(d) Neither I nor II follows

Q55. Pointing to a photograph of a man, Riya said, "He is the father of the only son of my mother." How is Riya related to that man?
(a) Daughter
(b) Mother
(c) Niece
(d) Father

Q56. Marks obtained by the seven students of a tuition class, Panchi, Qazi, Ricky, Sweta, Tiya, Urusha and Vinay, are mentioned. Panchi scored second highest marks in the class. Marks scored by Vinay was higher than only one of the person. Sweta's score was more than Tiya but less than Panchi. Three person got higher than Tiya and three got lesser than Tiya. Neither Ricky nor Qazi received the lowest marks. Given that no two students have the same marks, whose marks was the lowest?

(a) Urusha
(b) Tiya
(c) Vinay
(d) Ricky

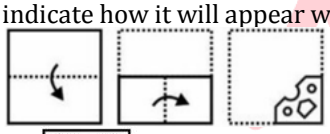
Q57. If in a coding system 28373 is coded as 4166146, then how will 19351 be coded in the same coding system?
(a) 2186210
(b) 2186102
(c) 2180619
(d) 2813620

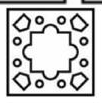
Q58. Three of the four group of words are alike in some manner. Select the odd group of words.
(a) (Den, Byre, Barn)
(b) (Igloo, Nun, Sty)
(c) (Stable, Monastery, Hive)
(d) (Web, Cottage, Palace)

Q59. In a certain code language if HAMLET is written as MAHTEL, how will BURGER be written in the same code language?
(a) RUBGGR
(b) RUBREG
(c) RUBGER
(d) RUBERG

Q60. Four letter-clusters have been given, out of which three are alike in some manner and one is different. Select the odd letter-cluster.
(a) CEG
(b) QSU
(c) HJI
(d) UWY

Q61. A piece of paper is folded and punched as shown below in the question figures. From the given answer figure, indicate how it will appear when opened?



(a) 
(b) 
(c) 
(d) 

Q62. 'Nymph' is related to 'Cockroach' in the same way as 'Tadpole' is related to '_____'.
(a) Frog
(b) Cow
(c) Bird
(d) Insect

Q63. Select the option in which the numbers shares the same relationship in set as that shared by the numbers in the given set.(NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. E.g.13 – Operations on 13 such as adding /subtracting /multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed)
(169, 1681, 529)
(144, 576, 1024)
(a) (625, 784, 256)
(b) (624, 785, 256)
(c) (144, 121, 999)
(d) (196, 289, 224)

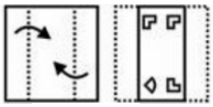
Q64. Select the figure that will come next in the following figure series.

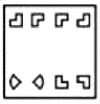
(a) 
(b) 
(c) 
(d) 

Q65. After interchanging the given two signs what will be the values of expression (I) and (II) respectively?
× and +
I. 5 × 12 – 15 + 20 ÷ 25
II. 36 + 3 × 2 – 15 ÷ 5
(a) 17 and 35
(b) 50 and 55
(c) 5 and 107
(d) 10 and 100

Q66. Words given on the left side of (::) are related with each other by some Logic/Rule /Relation. Select the missing word/word pair on the right side of (::) from the given alternatives based on the same Logic/Rule/Relation.
Ostrich : Bird :: Chair :?
(a) Table
(b) Wood
(c) Stool
(d) Furniture

Q67. A piece of paper is folded and punched as shown below in the question figures. From the given answer figures, indicate how it will appear when opened?



(a) 

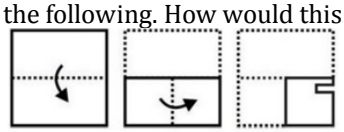
(b) 

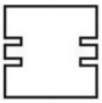
(c) 

(d) 

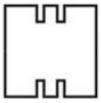
Q68. Which of the following numbers will replace the question mark (?) in the given series?
2, 4, 12, 48, ?
(a) 240
(b) 120
(c) 72
(d) 140

Q69. The sequence of folding a piece of paper and the manner in which the folded paper has been cut is shown in the following. How would this paper look when unfolded?



(a) 

(b) 

(c) 

(d) 

Q70. Select the option that is related to the fifth number in the same way as the second number is related to the first number and the fourth number is related to the third number.
12 : 100 : : 10 : 64 : : 14 : ?
(a) 124
(b) 134
(c) 144
(d) 140

Q71. Select the option in which the numbers shares the same relationship in set as that shared by the numbers in the given set. (NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits.
E.g.13 – Operations on 13 such as adding /subtracting /multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed)
(25, 49, 81)
(169, 225, 289)
(a) (100, 144, 256)
(b) (289, 361, 441)
(c) (121, 169, 289)
(d) (441, 529, 676)

Q72. Select the Venn diagram that best represents the relationship between the following classes.
Father, Teacher, Males

(a) 

(b) 

(c) 

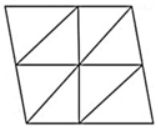
(d) 

Q73. Select the combination of letters that when sequentially placed in the blanks of the given letter series will complete the series.
ccd_cc_d_ppccccddd_ _p
(a) pccdp
(b) ppdcp
(c) pcdpc
(d) pcdpp

Q74. Select the option that is related to the fifth letter-cluster in the same way as the second letter-cluster is related to the first letter-cluster and the fourth letter-cluster is related to the third letter-cluster.
PAG : NYE :: TUB : RSZ :: RICE : ?
(a) SJDF
(b) QHBD
(c) PGAC
(d) RJDE

Q75. Select the correct option that indicates the arrangement of the given words in a logical and meaningful order.
1. Hectometer 2. Millimeter 3. Decimeter
4. Decameter 5. Kilometer
(a) 2,3,4,1,5
(b) 2,3,5,1,4
(c) 3,2,5,1,4
(d) 3,2,4,1,5

Q76. Find the total number of triangles in the given figure.



(a) 9
(b) 10
(c) 12
(d) 11

Q77. After arranging the given words according to dictionary order, which word will come at 'Third' position?
1. Special 2. Speck 3. Species
4. Speckle 5. Spectacle
(a) Special
(b) Species
(c) Speckle
(d) Speck

Q78. Select the option in which the numbers shares the same relationship in set as that shared by the numbers in the given set. (NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. E.g. 13 – Operations on 13 such as adding /subtracting /multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed)
(36, 48, 45)
(72, 96, 90)
(a) (48, 64, 72)
(b) (24, 24, 30)
(c) (60, 80, 75)
(d) (72, 120, 90)

Q79. In the following question, select the missing number from the given series.
16, 32, 64, 128, ?, 512
(a) 320
(b) 256
(c) 128
(d) 192

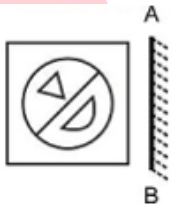
Q80. Select the option in which the numbers share the same relationship in set as that shared by the numbers in the given sets. (NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. E.g.13 – Operations on 13 such as adding /subtracting /multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed)
(40, 20, 82)
(36, 18, 74)
(a) (206, 103, 412)
(b) (212, 106, 426)
(c) (118, 69, 278)
(d) (124, 62, 248)

Q81. A series is given with one term missing. Select the correct alternative from the given ones that will complete the series.
NRQS, NIYI, NZGY, ?, NHWE
(a) NQQO
(b) NOOO
(c) NQQQ
(d) NQOO

Q82. In a certain code language, 'SAGE' is coded as '–8', 'TABS' is coded as '0'. What is the code for 'VERB' in that code language?
(a) –4
(b) –7
(c) 4
(d) 7

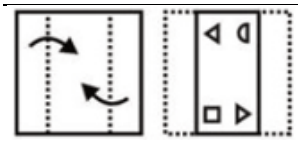
Q83. Which two numbers (not digits) should be interchanged to make the given equation correct?
5 - 6 ÷ 3 × 9 + 1 = 0
(a) 5 and 9
(b) 6 and 3
(c) 6 and 9
(d) 1 and 0

Q84. Select the correct mirror image of the given figure when the mirror is placed to its right side.



(a) 
(b) 
(c) 
(d) 

Q85. A piece of paper is folded and punched as shown below in the question figures. From the given answer figures, indicate how it will appear when opened?



(a) 

(b) 

(c) 

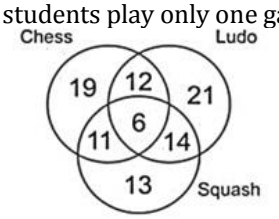
(d) 

Q86. Words given on the left side of (::) are related with each other by some Logic/Rule /Relation. Select the missing word/word pair on the right side of (::) from the given alternatives based on the same Logic/Rule/Relation.
Pen : Author :: Gun : ?
(a) Soldier
(b) Farmer
(c) Mason
(d) Tailor

Q87. In the following question below are given some statements followed by some conclusions based on those statements. Taking the given statements to be true even if they seem to be at variance from commonly known facts. Read all the conclusions and then decide which of the given conclusion logically follows the given statements.
Statements: I. No F is N.
II. All N are L.
Conclusions: I. All F are L.
II. All N are F.
III. Some L are N.
(a) Only conclusion I follows
(b) Only conclusion II follows
(c) Only conclusion III follows
(d) All conclusion follows

Q88. In the following question, select the odd word pair from the given alternatives.
(a) Pulp – Paper
(b) Wood – Furniture
(c) Brick – Wall
(d) Metal – Ore

Q89. Study the given diagram carefully and answer the questions. The numbers in different sections indicate the number of students who play different games. How many students play only one game?

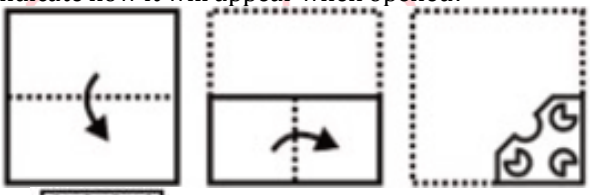


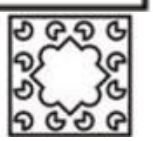
(a) 37
(b) 61
(c) 53
(d) 32

Q90. Select the option in which the number-pair shares the same relationship as that is shared by the following number-pair.
15: 210
(a) 13: 239
(b) 14: 196
(c) 22: 462
(d) 16: 224

Q91. In the following question, select the odd letter/letters from the given alternatives.
(a) GHEJ
(b) OPMR
(c) UVSX
(d) ABZD

Q92. A piece of paper is folded and punched as shown below in the question figures. From the given answer figures, indicate how it will appear when opened?



(a) 

(b) 

(c) 

(d) 

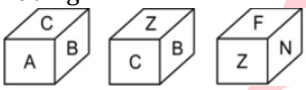
Q93. In a certain code language, 'AWAKED' is coded as 'FPFDJW'. What is the code for 'FACEUP' in that code language?
(a) TKHXZI
(b) KTHYZI
(c) KTHZXI
(d) KTHXZI

Q94. If 36 @ 2 = 1296 and 4 @ 4 = 256, then 9 @ 3 = ?
(a) 512
(b) 729
(c) 6561
(d) 343

Q95. In the following question, select the related letters from the given alternatives.
LY : OB : : MZ : ?
(a) BC
(b) YK
(c) PC
(d) KO

Q96. Pointing towards a photo of a man, Shivang said, "He is the father of my mother's brother". How that man is related to Shivang?
(a) Maternal Grandfather
(b) Paternal Grandfather
(c) Father in law
(d) Nephew

Q97. Three different positions of the same dice are shown. Select the letter that will be on the face opposite to the one having 'A'.



(a) N
(b) B
(c) Z
(d) E

Q98. Select the option in which the numbers shares the same relationship in set as that shared by the numbers in the given set.
(NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits.
E.g. 13 – Operations on 13 such as adding /subtracting /multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed)
(34, 17, 51)
(46, 23, 69)
(a) (44, 22, 88)
(b) (72, 36, 108)
(c) (68, 34, 204)
(d) (54, 27, 108)

Q99. Words given on the left side of (::) are related width each other by some Logic/Rule/Relation. Select the missing word/word pair on the right side of (::) from the given alternatives based on the same Logic/Rule/Relation.
Rain : Patter : : Goat : ?
(a) Bleat
(b) Hiss
(c) Bark
(d) Neigh

Q100. Select the figure from the given options that can replace the question mark (?) in the following series.

(a) 
(b) 
(c) 
(d) 

Solutions

S1. Ans.(c)
Sol.
$(49^{15} - 1) = (7^{30} - 1)$
after dividing by 8, $\frac{7^{30}-1}{8}$
Remainder = $(-1)^{30} - 1 = 1 - 1 = 0$
Therefore, 8 is a divisor of $(49^{15} - 1)$

2nd Solution:
a^n-b^n → If n is even then (a + b)(a - b) both factor (7 + 1) = 8 and (7 -1) = 6

S2. Ans.(a)
Sol. Ratio of distance travelled by Anil, Bakul and Charles is the same time will be

Anil	Bakul	Charles
1500	1350	
	1500	1425

Ratio : 600 : 540 : 513
Therefore, for Anil's 1500m which is $600 \times \frac{5}{2}$
Charles distance will be = $513 \times \frac{5}{2} = 1282.5$
these, Anil Beats Charles by 1500 – 1282.5 = 217.50m

S3. Ans.(b)
Sol.
Principal = 2500
Amount = 3725
Time = 8 years
Then, rate of simple interest = $\frac{3725-2500}{2500\times8} \times 100 = 6.125\%$

S4. Ans.(b)
Sol. Let no. are x and y
∵ H.C.F × L.C.M = x × y
H.C.F × 48 = 384
H.C.F = 8
∴ H.C.F : L.C.M = 8 : 48 = 1 : 6

S5. Ans.(a)
Sol.
Total % increase of 10%
$= 10 + 5 + \frac{10\times5}{100} = \frac{31}{2}\%$
Again % increase of $\frac{31}{2}\%$ and 15%
$= \frac{31}{2} + 15 + \frac{\frac{31}{2}\times15}{100} = \frac{1313}{40}\%$ Or $32\frac{33}{40}\%$

S6. Ans.(c)
Sol.
Mean Proportion of 1.6 and 3.6 = $\sqrt{1.6 \times 3.6} = 0.24$
Third proportion of 5 and 8 = $\frac{8\times8}{5} = \frac{64}{5} = 12.8$
∴ Required ratio = 0.24 : 128 = 3 : 16

S7. Ans.(a)
Sol.

	A	B	C
Time	20	5	4
Eff.	3	12	15

Total Work = 30 × 4
B = $\frac{30\times4}{12}$ = 10 Days

S8. Ans.(c)

Sol.

$\left[a+b+\frac{ab}{100}\right]\%$

$\left[15+12+\frac{15\times12}{100}\right]\%$

+ 28.2%

128.8% ⟶ 322

100% ⟶ 250 Rs.

S9. Ans.(c)

Sol. Let total votes= 100%

8% candidate did note cast their vote, remaining = 92%

Winning candidate = 48% , remaining= 44%

48%-44%= 1100(given)

4%= 1100

100%= 27500

S10. Ans.(d)

Sol. Total Work =6W×3D=9G×2D=18

time taken to complete the same work by 8 women and 6 girls

$T.W=\frac{18}{8W+6G}=\frac{18}{14}=\frac{9}{7}$

S11. Ans.(c)

Sol. Let,

$\frac{1}{3}:\frac{1}{4}:\frac{1}{6}=4:3:2$

Actual amount they have to got-

Ram = $(702\times\frac{4}{9})=312$

Ramesh = $(702\times\frac{3}{9})=234$

Naresh = $(702\times\frac{2}{9})=156$

But mistakenly they got the amount in the ratio = 3 : 4 : 6

Ram = $(702\times\frac{3}{13})=162$

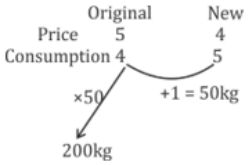
Ramesh = $(702\times\frac{4}{13})=216$

Naresh = $(702\times\frac{6}{13})=324$

Hence, Naresh gained Rs. 168 in the transaction.

S12. Ans.(d)

Sol.



Initial Consumption = 200 kg

Cost = 450 Rs.

Original price of rice per kg = $=\frac{450}{200}$ = 2.25 Rs.

S13. Ans.(b)

Sol. Marked price of Laptop = $65{,}520\times\frac{100}{75}=87{,}360$

S14. Ans.(a)

Sol. L.C.M of (15, 18, 25 and 32) = 720

∴ The least number which when double will be exactly divisible by 18, 18, 25 and 32 will be 3600.

S15. Ans.(d)

Sol. The ratio of Man, Woman boys and girls is

M : W : B : G

1 : 2 : 4 : 5

So, the ratio of their efficiency will be

20 : 10 : 5 : 4

Total work = 39 days × Effi. of 1 men = 39 × 20

So, 1 Men, 1 boy, 1 Women and 1 Girl will take

$= \frac{39\times20}{[20+10+5+4]} = 20$ days

S16. Ans.(d)

Sol.

$\frac{762\times762\times762+316\times316\times316}{762\times762-762\times316+316\times316}$

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

$= \frac{(762)^3+(316)^3}{(762)^2-762\times316+(316)^2} = 762 + 316 = 1078$

S17. Ans.(a)

Sol.

Let CP of furniture = 100

SP for first seller = $100 \times \frac{6}{5} = 120$

SP for second seller = $120 \times \frac{5}{4} = 150$

A.T.Q After third seller price was increased by 65%

For 3rd seller SP = 100 + (65% of 100) = 100 + 65 = 165

Then Profit of third seller = $\frac{165-150}{150} \times 100 = 10\%$

S18. Ans.(d)

Sol.

A.T.Q

Difference of discount 15% - 10% = 5% = 400

1% = 80

∴ labelled price of fan = 80 × 100 = 8000

S19. Ans.(a)

Sol.

$P \times \frac{20}{100} + Q \times \frac{40}{100} = \frac{Q\times80}{100}$

$\frac{P\times20}{100} = \frac{Q\times40}{100}$

$\frac{P}{Q} = \frac{2}{1}$

Required $\% = \frac{2}{1} \times 100 = 200\%$

S20. Ans.(b)

Sol.

$MP \times \frac{2}{5} = (Selling\ price) \times \frac{5}{8}$

$\frac{MP}{SP} = \frac{25}{16}$ $\quad MP - SP = 9$

$D\% = \frac{9}{25} \times 100 = 36\%$

S21. Ans.(d)
Sol.

$\frac{p}{q}=\frac{r}{s}=\frac{t}{u}=\frac{2}{5}$

$p=\frac{2q}{5}, r=\frac{2s}{5}, t=\frac{2u}{5}$

$(4p+3r+7t):(4q+3s+7u)=\left(\frac{8q}{5}+\frac{6s}{5}+\frac{14u}{5}\right):(4q+3s+7u)=\frac{2}{5}(4q+3s+7u):(4q+3s+7u)$

$\Rightarrow 2:5$

S22. Ans.(a)
Sol.

Average = 30

32, 34, 38, 21, 26

+2, +4, +8, −9, −4

+14, −13

+1

$x=30-1=29$

S23. Ans.(d)
Sol.

New average $=30+\frac{(78-30)}{16}$

$=30+\frac{48}{16}=33$ kg

S24. Ans.(a)
Sol.

$\Rightarrow \frac{\frac{1}{2}+\frac{3}{4}\div\frac{1}{4}+\frac{3}{4}\div\frac{1}{2}+\frac{1}{4}}{\frac{3}{4}\times\frac{1}{4}\div\frac{1}{2}-\frac{1}{2}\div\frac{3}{4}\times\frac{1}{4}}$

$=\frac{\frac{1}{2}+\frac{3}{4}\times4+\frac{3}{4}\times\frac{2}{1}+\frac{1}{4}}{\frac{3}{4}\times\frac{1}{4}\times2-\frac{1}{2}\times\frac{4}{3}\times\frac{1}{4}}=\frac{\frac{1}{2}+\frac{3}{1}+\frac{3}{2}+\frac{1}{4}}{\frac{3}{8}-\frac{1}{6}}=\frac{126}{5}$

S25. Ans.(a)
Sol.

$x<y$

$x\times20\%=y\times14\%$

$\frac{x}{y}=\frac{7}{10}$) 17 − 8942

10 − 5260

S26. Ans.(d)
Sol.

Overall discount $=20+10-\frac{(20\times10)}{100}=28\%$

Actual discount = Rs. 252

M.P. $=\frac{252\times100}{28}=900$

$\frac{C.P}{M.P}=\frac{100-d}{100+p}\Rightarrow\frac{600}{900}=\frac{100-28}{100+p}\Rightarrow\frac{600}{900}=\frac{72}{100+p}\Rightarrow p=8\%$

Profit percentage = 8%

Profit in Rupees= 8% of 600 $= Rs.48$

S27. Ans.(c)
Sol.

Let the rate of interest = r

Time $\Rightarrow t=r\,(given)$

Amount = Rs. 6000

S. I. = Amount − Principal = 6000 − 3000 = Rs. 3000

S.I. $=\frac{P\times R\times T}{100}\Rightarrow3000=\frac{3000\times R\times R}{100}\Rightarrow R^2=100\Rightarrow$ R = 10%

S28. Ans.(b)
Sol.
Let the original fraction be $\frac{x}{y}$

ATQ,

$$\frac{x+\frac{140}{100}\times x}{y-\frac{20}{100}\times y}=\frac{12}{7}$$

$$\frac{240\,x}{80\,y}=\frac{12}{7}$$

$$\frac{x}{y}=\frac{4}{7}$$

S29. Ans.(c)
Sol.
Let the efficiency of A is x.
Total work= 40 x units
20% of the total work = 20% of $40x = 8x$
Time taken to complete 20% of work= $\frac{8x}{x}$ = 8 days

S30. Ans.(c)
Sol.

$$\text{Price} = 960 \times \frac{120}{133.33} = \text{Rs. } 864.21 \approx Rs.\,864$$

S31. Ans.(b)
Sol.

Sgoing		Scoming
60km/hr		30km/hr
2	:	1
Tgoing		Tcoming
1	:	2

+1

+1 unit = 60 min
So, Time taken to go = 60 min or 1 hour
Going speed= 60 km/hr.
Distance = 60 km/hr × 1 $hour$ = 60 km

S32.Ans.(a)
Sol.
$15 - 3\ of\ 12 \div 2 + 3\ of\ 2 \div 2$
$15 - 36 \div 2 + 6 \div 2$
$15 - 18 + 3 = 0$

S33. Ans.(c)
Sol.
Sum of marks of three students= 55 × 3 = 165
Sum of marks of all five students including A and B = 50 × 5 = 250
Sum of marks of A and B(A+ B)= 250- 165= 85 marks.....(equation 1)
ATQ, $B = A + 15$.....(equation 2)
On solving above these equations,
We get, A's score= 35 marks

S34. Ans.(d)
Sol.
Let the certain number be x and another be y.

$$45\%\ of\ x = \frac{6}{5}y \implies \frac{x}{y}=\frac{6\times100}{5\times45}=\frac{8}{3}$$

S35. Ans.(a)

Sol.

Let the cost price be Rs. 'x'

Loss = $\frac{sp-cp}{cp} \times 100$

Loss $L_1 = \frac{x-210}{x} \times 100$ ... (i)

Loss $L_2 = \frac{x-420}{x} \times 100$ ... (ii)

ATQ

$(\frac{x-210}{x} \times 100) - (\frac{x-420}{x} \times 100) = 7 (\because \frac{1}{100} = 1\%)$

$\frac{21000}{x} = 7$, x = Rs. 3000

S36. Ans.(d)

Sol.

The difference between sum of alternative digits must be divisible by 11.

ATQ

(6 + 6) – (m + 1) = divisible by 11

12 – (m + 1) = 11

M + 1 should be 1

M + 1 =1 so, M must be = 0

S37. Ans.(c)

Sol.

Half yearly rate = $\frac{20}{2}\%$ = 10% for two times for one year

Amount = 18000 $\times \frac{110}{100} \times \frac{110}{100}$ = Rs. 21780

Interest = amount – principal

Interest = 21780 – 18000 = Rs. 3780

S38. Ans.(b)

Sol.

ATQ

Shares are 2X = 3Y = 4Z

So, the ratio among them is (X: Y: Z) = (6: 4: 3)

Profit share of Y = $\frac{4}{13} \times 13000 = Rs. 4000$

S39. Ans.(d)

Sol.

Let the total word be 60 (LCM of 10, 15 and 12)

Efficiencies of Rani, Priya and Guddu is $\frac{60}{10} = 6$ units per day, $\frac{60}{15} = 4$ units per day and $\frac{60}{12} =$ 5 units per day respectively.

Share pf Priya = $\frac{4}{6+4+5} \times 9000 = Rs. 2400$

S40. Ans.(d)

Sol. ATQ,

13000 $\times \frac{90}{100}$ = CP $\times$ 130/100

CP = Rs. 9000

S41. Ans.(b)

Sol.

Revenue = price × sale

Net increase/decrease in revenue = $\pm price \pm sale + \frac{price \times sale}{100}$

-30% + 40% + $\frac{(-30)(+40)}{100}$ = (-2%) or 2% decrease

S42. Ans.(d)
Sol.
Sum of the age of Rustam and Preetam = 30 × 2 = 60 years ...(i)
Sum of the age of Preetam and Geetam = 20 × 2 = 40 years...(ii)
Sum of the age of Rustam and Geetam = 26 × 2 = 52 years...(iii)
By solving (i), (ii) and (iii) we get total age of all of three is 76 years
So, we can find separately ages of
Rustam = 36 years, Preetam = 24 years and Geetam = 16 years
Youngest Geetam's age after 5 years = 16 + 5 = 21 years

S43. Ans.(d)
Sol.
$$\frac{\frac{5}{6}\times\frac{1}{3}\times\frac{12}{25}-\frac{1}{3}\times\frac{5}{6}\times\frac{18}{25}}{\frac{25}{12}\times\frac{1}{6}\times\frac{2}{5}+\frac{3}{8}\ \text{of}\ \frac{12}{25}\times\frac{5}{6}}$$

$$\frac{\frac{5}{18}\times\frac{12}{25}-\frac{5}{18}\times\frac{18}{25}}{\frac{25}{12}\times\frac{1}{15}+\frac{12}{25}\times\frac{5}{16}}=\frac{-\frac{1}{15}}{\frac{13}{45}}=-\frac{3}{13}$$

S44.Ans(b)
Sol.
When final amount is decreasing,
$A = P\left(1-\frac{r}{100}\right)^t$
P = 20,000 , r = 20% , t = 3 year
$= 20{,}000\left(1-\frac{20}{100}\right)^3 = 20{,}000\left(\frac{80}{100}\times\frac{80}{100}\times\frac{80}{100}\right) = 160\times 64 = \text{Rs. } 10240$

S45.Ans(b)
Sol.
Average of all prime numbers between 30 and 50 $=\frac{31+37+41+43+47}{5} = 39.8$

S46. Ans.(a)
Sol.
Discount = 20%
Selling price of the article = Rs. 5720
$SP = MP\left(\frac{100-DISCOUNT\%}{100}\right)$
$\Rightarrow 5720 = MP\times\frac{80}{100} \quad \Rightarrow MP = 5720\times\frac{100}{80}$
$\therefore$ Cost price of the article $= \frac{5720\times100}{80}\times\frac{100}{130} = Rs.\,5500$

S47. Ans(d)
Sol.
Let CP of the pen= Rs100
When profit = 5%, SP = (100+5) = Rs.105
And when profit = 14% , SP = (100+14) = Rs.114
Diff. of two selling prices = 114 – 105 = Rs.9
When pen sold for Rs.9 more , then CP of the pen = Rs. $\frac{100}{9}$
When pen sold for 36 more , then CP of the pen = Rs. $\frac{100}{9}\times 36 = Rs.\,400$

S48. Ans.(b)
Sol.
F+S=94 F=94-S
$\frac{F-8}{S-8}=\frac{2}{1} \qquad F-8=2S-16 \qquad F=2S-8$
94-S=2S-8 $S=\frac{102}{3}=34\ years$ F=60 years
Ratio after 10 years= 70:44 =35:22

S49. Ans.(c)
Sol. 1440 – 200 ÷ 50 × 2 + 3= 1440-8+3=1435

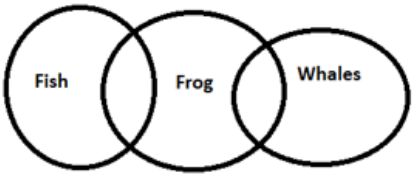
S50. Ans.(a)
Sol.
CP:MP=5:7=25:35 SP:MP=4:5=28:35
Profit percentage=$\frac{28-25}{25} \times 100 = 12\%$

S51. Ans.(c)
Sol. There are 28 triangles in the given figure.

S52. Ans.(a)
Sol.
As cube is painted orange on all surfaces and then the cube cuts into 27 small cubes of equal parts.
So, it has been cut into : 3× 3 × 3
Here n=3
Now using formula,
Number of one face painted cubes= $(n-2)^2 \times 6 = 6$

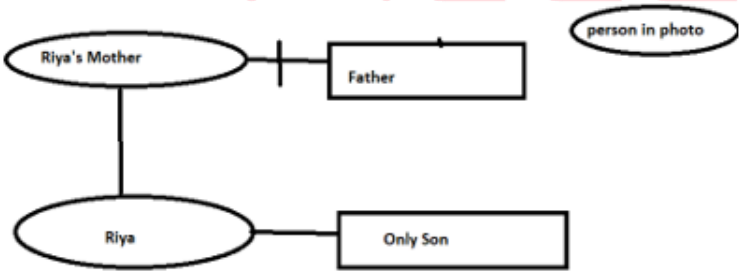
S53. Ans.(a)
Sol. Logic: Second number = Square of first number
Third number = Cube of first number

S54. Ans.(a)
Sol.



Either I or II follows.

S55. Ans.(a)
Sol.



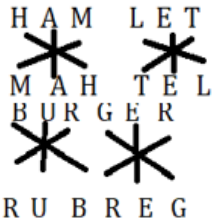
Riya is the daughter of that man.

S56. Ans.(a)
Sol.
Final order:
Ricky/ Qazi > Panchi > Sweta > Tiya > Qazi/ Ricky > Vinay > Urusha

S57. Ans.(b)
Sol. Logic: Twice every number.

S58. Ans.(b)
Sol. All option except option (b) are dwelling. In option (b), nun is not a type of dwelling.

S59. Ans.(b)
Sol.



S60. Ans.(c)
Sol. Gap between all the numbers are 2. Except in option(c)

S61. Ans.(b)
Sol. By using option (b)

S62. Ans.(a)
Sol. Nymph is a young form of Cockroach. Similarly, Tadpole is a young form of Frog.

S63. Ans.(a)
Sol.
(169, 1681, 529)
$169 = (13)^2$, $1681 = (41)^2$, $529 = (23)^2$
(144, 576, 1024)
$144 = (12)^2$, $576 = (24)^2$, $1024 = (32)^2$
In both the sets, all the three numbers are square of some number.
By using option(a),
(625, 784, 256)
$625= (25)^2$, $784 = (28)^2$, $256 = (16)^2$

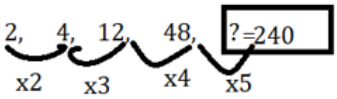
S64. Ans.(a)
Sol. Option(a)

S65. Ans.(c)
Sol.
(I) $5 \times 12 - 15 + 20 \div 25$
After interchange
$5 + 12 - 15 \times 20 \div 25 = 5 + 12 - 15 \times 0.8 = 5 + 12 - 12 = 5$
(II) $36 + 3 \times 2 - 15 \div 5$
$36 \times 3 + 2 - 15 \div 5 = 36 \times 3 + 2 - 3 = 108 + 2 - 3 = 107$

S66. Ans.(d)
Sol. Ostrich is a bird. Similarly, Chair is a Furniture.

S67. Ans.(b)
Sol. Option(b)

S68. Ans.(a)
Sol.

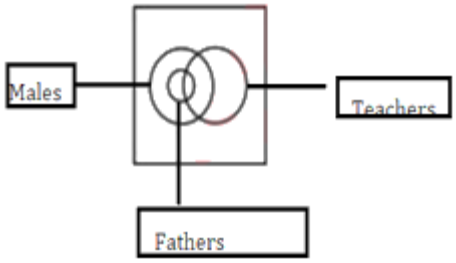


S69. Ans.(a)
Sol. Option(a)

S70. Ans.(c)
Sol.
$12 : 100 = (12 - 2)^2 = (10)^2 = 100$
$10 : 64 = (10 - 2)^2 = (8)^2 = 64$
$14 : ? = (14 - 2)^2 = (12)^2 = 144$

S71. Ans.(b)
Sol.
(25, 49, 81)
$25 = 5^2, 49 = 7^2, 81 = 9^2$
(169, 225,289)
$169 = 13^2, \ 225 = 15^2, 289 = 17^2$
Logic: Gap of 2 and its square.
By using option (b)
(289, 361, 441)
$289 = 17^2 \ \ 361 = 19^2, 441 = 21^2$

S72. Ans.(c)
Sol.



S73. Ans.(d)
Sol.
ccdpc/ ccddppcc/ ccdddppp
Correct answer is pcdpp.

S74. Ans.(c)
Sol.
Logic: Subtract 2 from every alphabet
$P - 2 = N, A - 2 = Y, G - 2 = E$
$T - 2 = R, U - 2 = S, B - 2 = Z$
$R - 2 = P, I - 2 = G, C - 2 = A, E - 2 = C$
Correct answer is PGAC

S75. Ans.(a)
Sol.
Correct order is 2, 3 ,4, 1, 5
Millimeter< Decimeter< Decameter< Hectometer< Kilometer

S76. Ans.(b)
Sol. Total number of triangles are 10.

S77. Ans.(d)
Sol. The arrangement is Special, Species, Speck and Speckle
The third word is Speck

S78. Ans.(c)

Sol.

Multiply factor of 12, 16 and 15 of same digit

12 × 3= 36, 16 × 3 = 48, 15 × 3 = 45 (same digit = 3)

12 × 6 = 72, 16 ×6 = 96, 15 × 6 = 90 (same digit = 6)

Similarly,

In (60, 80, 75)

12 × 5 = **60**, 16 × 5 = **80**, 15 × 5 = **75** (same digit = 5)

S79. Ans.(b)

Sol.

Operation = × 2

So, required number is 2 × 128 = 256

S80. Ans.(b)

Sol.

(First number ÷ 2) = second number

(Second number × 4) + 2 = third number

In (212, 106, 426)

212 ÷ 2 = 106

(106 × 4) + 2 = 426

S81. Ans.(d)

Sol.

N +0 -- N +0 -- N +0 -- N +0 – N

R -9 -- I -9 -- Z -9 -- Q -9 -- H

Q +8 -- Y +8 -- G +8 -- O +8 – W

S -10 -- I -10 -- Y -10 --O-10 --E

S82. Ans.(b)

Sol.

S A G E

19 01 07 05

(07 + 05) – (19 + 01) = - 8

and

T A B S

20 01 02 19

(02 + 19) – (20 + 01) = 0

Similarly,

V E R B

22 05 18 02

(18 + 02) – (22 + 05) = - 7

S83. Ans.(a)

Sol.

5 and 9

5 - 6 ÷ 3 × 9 + 1 = 0

↓ ↓

9 - 6 ÷ 3 × 5 + 1 = 0

9 – 10 + 1 = 0

10 – 10 = 0

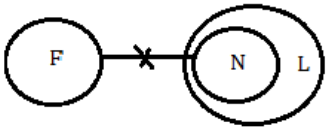
0 = 0

S84. Ans.(b)

S85. Ans.(a)

S86. Ans.(a)
Sol. The Author writes with the help of pen.
The Soldier fires with the help of Gun.

S87. Ans.(c)
Sol.



Only conclusion III follows.

S88. Ans.(d)
Sol. Paper made by pulp.
Furniture made by wood.
Wall made by brick
But ore does not make by metal (**Metal made by ore**)

S89. Ans.(c)
Sol.
The number of students play only Chess = 19
The number of students play only Ludo = 21
The number of students play only Squash = 13
Total number of students who play only one game = 19 + 21 + 13 = 53

S90. Ans.(c)
Sol.
$(15)^2 - 15 = 210$
$(22)^2 - 22 = 462$

S91. Ans.(d)
Sol.
G (7) +1 H (8) - 3 E (5) + 5 J (10)
O (15) +1 P (16) - 3 M (13) +5 R (18)
U (21) + 1 V (22) - 3 S (19) + 5 X (24)
A (1) +1 B (2) - 3 **Y** (25) +5 D (4) (**odd**)

S92. Ans.(a)

S93. Ans.(d)
Sol.

A	W	A	K	E	D
1	23	1	11	5	4

+5 | -7 | +5 | -7 | +5 | -7

F	P	F	D	J	W
6	16	6	4	10	23

F	A	C	E	U	P
6	1	3	5	21	16

+5 | -7 | +5 | -7 | +5 | -7

K	T	H	X	Z	I
11	20	8	24	26	9

S94. Ans.(b)
Sol.
$(36)^2 = 1296$
$(4)^4 = 256$
$(9)^3 = \mathbf{729}$

S95. Ans.(c)
Sol.
L (12) Y (25): O (15) B (2):: M (13) Z (26) : ?
(+13) : (- 13) :: (+13) : **(-13)**
P (16) C (03) = (- 13)
Option C is correct.

S96. Ans.(a)
Sol.
Man (father)
|
Mother's brother – Mother
|
Shivang
The Man in the photo is maternal grandfather of Shivang.

S97. Ans.(c)
Sol. from figure (i) and (ii)
When 2 faces of a dice are common, the different third faces are always opposite.

S98. Ans.(b)
Sol.
First number ÷ 2 = second number
Second number × 3 = third number
In (72, 36, 108)
72 ÷ 2 = 36
36 × 3 = 108

S99. Ans.(a)
Sol. Sound rain is called 'patter'.
Sound of goat is called 'Bleat'.

S100. Ans.(b)