

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, simple interest for 5 years. What was the rate of interest per annum?

- (a) 6%
- (b) 6.125%
- (c) 6.25%
- (d) 5.875%

Q4. What is the ratio of the numbers whose sum is 384?

- (a) 1 : 4
- (b) 1 : 6
- (c) 1 : 3
- (d) 2 : 5

Q5. The price of a scooter is increased by 15%. What is the percentage increase in the price of the 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?

Q10. A boy has some money. He buys 2 toys, and 9 girls find the time to play with them. How many toys did he buy and 6 girls?

Q11. By how much is the price of a toy more than Rs. 2 among Ram, Ramesh, and 9 girls find the time to play with them. How many toys did he buy and 6 girls?

Q12. The price of a toy is Rs. 150. The price enables a boy to buy 2 toys, and 9 girls find the time to play with them. How many toys did he buy and 6 girls?

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.

$$\frac{762 \times 762 \times 762 + 316 \times 316 \times 316}{762 \times 762 - 762 \times 316 + 316 \times 316}$$

- (a) 1064
- (b) 1056
- (c) 1042
- (d) 1078

Q17. The price when it passes sellers made a the profit per

- (a) 10%
- (b) 12.5%
- (c) 16%
- (d) 8%

Q18. Sunil pur price. If he ha have saved Rs.

- (a) Rs. 8,400
- (b) Rs. 7,500
- (c) Rs. 800
- (d) Rs. 8,000

Q19. If 20 per resultant come Q?

- (a) 200 percent
- (b) 225 percent
- (c) 150 percent
- (d) 125 percent

Q20. $\frac{2}{5}$ of marked price is equal to $\frac{5}{8}$ of selling price. What is the discount percent?

- (a) 42 percent
- (b) 36 percent
- (c) 50 percent
- (d) 40 percent

Q21. If $\frac{p}{q} = \frac{r}{s} = \frac{t}{u} = \frac{2}{5}$, 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

What is the value of $\frac{\frac{1}{2} + \frac{3}{4} + \frac{5}{6} + \frac{7}{8} + \frac{9}{10}}{\frac{1}{2} \times \frac{3}{4} + \frac{5}{6} \times \frac{7}{8} + \frac{9}{10} \times \frac{1}{2}}$?

Q is smaller number both are larger. If the sum of the value of the

- (a) 52
- (b) 504
- (c) 5160
- (d) 4920

ts of 20% and equal to a single will Vikram get

on the marked price of a book, w

- (a) Rs. 54
- (b) Rs. 72
- (c) Rs. 56
- (d) Rs. 60

then invested in of interest and is 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 $\frac{12}{7}$. Find the original fraction.

- (a) $\frac{7}{6}$
- (b) $\frac{4}{7}$
- (c) $\frac{4}{9}$
- (d) $\frac{8}{9}$

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 his home to office at 40 km/hr and on the return journey he drove at 60 km/hr and also covered the same distance. What was the distance did he travel?

- (a) 75 km
- (b) 60 km
- (c) 55 km
- (d) 80 km

Q32. Find the value of $15 - 3 \text{ of } 12 \div 2 + 3 \text{ of } 2 \div 2$

- (a) 0
- (b) 16
- (c) 57
- (d) 75

Q33. The average marks of a class were 55. When a new student joined the class, the new average marks were 53. What was the marks of the new student?

- (a) 40
- (b) 33
- (c) 35
- (d) 30

Q34. If 45% of a number is 15, what is the number?

- (a) 1 : 7
- (b) 9 : 11
- (c) 7 : 4
- (d) 8 : 3

On selling a table for Rs. 210 and Rs. 420 there will be loss of $L_1\%$ and $L_2\%$ respectively. If

Q35. $L_1 - L_2 = 7$, 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. A man do the same work in 12 days. If he is paid Rs. 9000, what is his daily wage?

Q40. A man bought a car for Rs. 13,000. He sold it at a profit of 10%. What was the marked price he had paid for the car?

- (a) Rs. 13,000
- (b) Rs. 14,300
- (c) Rs. 9,900
- (d) Rs. 9,000

Q41. If the price of a commodity increases by 10 percent, its sales revenue will be increased by what percentage?

- (a) 10 percent increase
- (b) 10 percent decrease
- (c) 10 percent increase
- (d) 10 percent decrease

Q42. 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 $\frac{\frac{5}{6} \text{ of } \frac{1}{2} \times \frac{12}{25} - \frac{1}{2} \text{ of } \frac{5}{6} \times \frac{18}{25}}{\frac{25}{12} \text{ of } \frac{1}{6} \times \frac{2}{5} + \frac{3}{8} \text{ of } \frac{12}{25} \times \frac{5}{6}}$?

- (a) $-\frac{8}{25}$
- (b) $-\frac{3}{25}$
- (c) $-\frac{5}{13}$
- (d) $-\frac{3}{13}$

- (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, Str)
(c) (Stable, Mo
(d) (Web, Cott

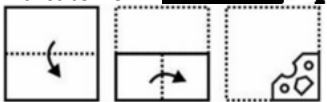
Q59. In a certain language MAHTEL, how will the word be coded in the following language?

- (a) RUBGGR
(b) RUBREG
(c) RUBGER
(d) RUBERG

Q60. Four letters are given, three are alike in some manner and one is the odd letter-Select the odd letter-

- (a) CEG
(b) QSU
(c) HJI
(d) UWY

Q61. A piece of paper is folded and then four small squares are punched as shown in the question figure. From the four alternative figures, select the figure which will be obtained when the paper is unfolded. Indicate how it is done.



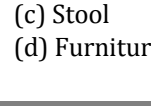
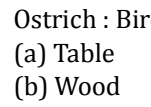
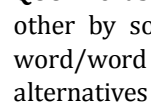
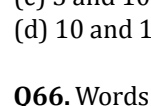
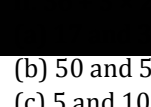
- (a)
(b)
(c)
(d)

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)

the following



Q64. After interchanging the given numbers, what will be the values of expression 11×11 and 111×111 respectively?

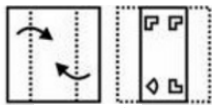
- (b) 50 and 55
(c) 5 and 107
(d) 10 and 100

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

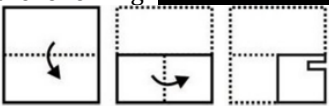
Q67. A piece of paper is folded and punched as shown below in the question figures. From the given answer figures, indicate how it will appear when opened?



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

Q68. Which of the following is the correct answer?
 2, 4, 12, 48, ?
 (a) 240
 (b) 120
 (c) 72
 (d) 140

Q69. The sequence of figures is shown in the following.



- (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.

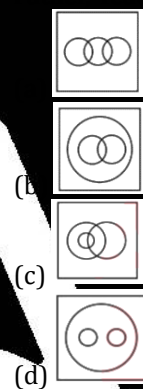
12 : 100 :: 10 : 64 :: 14 : ?

- (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 option that represents the same relationship as that when the first letter series is related to the second letter series

Complete the series

- (a) c_d_ppcc_cdd_c_p
 (b) dcp
 (c) ddp
 (d) cdp

Q73. The fifth letter-cluster in the series is related to the first letter-cluster in the same way as the second letter-cluster is related to the third letter-cluster

PSQ : NTE :: PQD : RSZ :: RCE :: ?

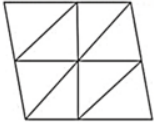
- (a) SJDF
 (b) QHBD
 (c) PGAC
 (d) RJDE

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 same relations

the given set.

the whole num

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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

16, 32, 64, 128

(a) 320

(b) 256

(c) 128

(d) 192

Q80. Select the

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, NIYL, NZGY, ?, NHWE

(a) NQQO

(b) N000

(c) NQQQ

(d) NQ00

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

Q83. Select the correct alternative from the given figures which should be correct?

$$5 - 6 \div 3 \times 9 + 1 = 0$$

(a)

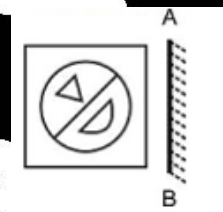
(b)

(c)

(d)

Q84. Select the correct alternative from the given figure

when the

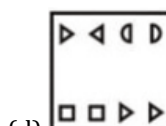
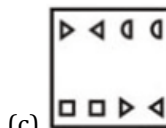
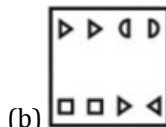
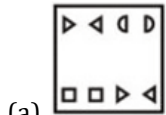
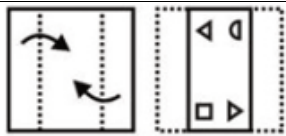


(b)

(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?



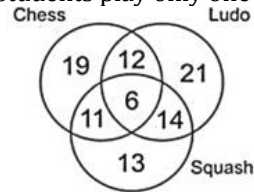
Q86. Words given below are related to each other by some common feature. Select the word/word pair which is different from the given alternatives based on the same feature.
Pen : Author ::
(a) Soldier
(b) Farmer
(c) Mason
(d) Tailor

Q87. In the following question, some statements are given, followed by some conclusions based on those statements. Take the given statements to be true even if they seem to be in variance from commonly known facts. Read all the conclusions and decide which of them can be logically deduced from the given statements.
Statements: I. All L are N.
II. All N are L.
Conclusions:
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?



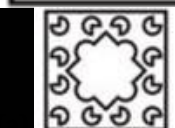
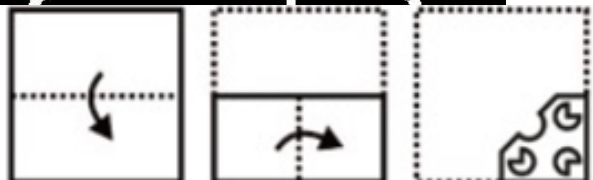
- (a) 37
(b) 61
(c) 53
(d) 32

pair shares the following

letter/letters

is shown below
answer figures,

icate how it will appear when one



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

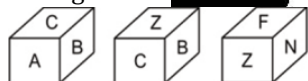
Q95. In the following analogy, select the missing term from the given options.
LY : OB :: MZ :

- (a) BC
- (b) YK
- (c) PC
- (d) KO

Q96. Pointing to a photograph of a man, Shivang said, "He is the father of my mother's only son." Who is the man in the photograph?

- (a) Maternal Grandfather
- (b) Paternal Grandfather
- (c) Father in law
- (d) Nephew

Q97. Three dice are shown. Select the letter which appears on the opposite face of the face 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)

Q100.

Replace



related with the given series. Select the missing term from the given relation.

Options that can replace the missing term in the given series.

Solutions

S1. Ans.(c)

Sol.

$$(49^{15} - 1) = (7^{30} - 1)$$

after dividing by 8, $\frac{7^{30}-1}{8}$

$$\text{Remainder} = (-1)^{30} - 1 = 1 - 1 = 0$$

Therefore, 8 is a divisor of $(49^{15} - 1)$

2nd Solution:

$a^n - b^n \rightarrow$ If n is even then $(a + b)(a - b)$ both factor $(7 + 1) = 8$ and $(7 - 1) = 6$

S2. Ans.(a)

Sol. Ratio of d

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 $1500 - 1282.5 = 217.50\text{m}$

S3. Ans.(b)

Sol.

Principal = 2500

Amount = 3725

Time = 8 years

Then, rate of simple interest $= \frac{3725-2500}{2500 \times 8} \times 100 = 6.125\%$

S4. Ans.(b)

Sol. Let no. are

$\therefore \text{H.C.F} \times \text{L.C.M}$

$\text{H.C.F} \times 48 = 384$

$\text{H.C.F} = 8$

$\therefore \text{H.C.F} : \text{L.C.M} = 8 : 48$

S5. Ans.(a)

Sol.

Total % increase of 10%

$$= 10 + 5 + \frac{10 \times 5}{100} = \frac{31}{2} \%$$

Again % increase of $\frac{31}{2} \%$ and 15%

$$= \frac{31}{2} + 15 + \frac{\frac{31}{2} \times 15}{100} = \frac{1313}{40} \% \quad \text{Or} \quad 32 \frac{33}{40} \%$$

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 $= \frac{8 \times 8}{5} = \frac{64}{5} = 12.8$

$\therefore$ Required ratio $= 0.24 : 12.8 = 3 : 16$

S7. Ans.(a)

Sol.

A B C

Time 20 : 5 : 4

Eff. 3 : 12 : 15

Total Work $= 30 \times 4$

$B = \frac{30 \times 4}{12} = 10$ Days

S8. Ans.(c)**Sol.**

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

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

$$+ 28.2\%$$

$$128.8\% \longrightarrow 322$$

$$100\% \longrightarrow 250 \text{ Rs.}$$

S9. Ans.(c)**Sol.** Let total votes = 100%

8% candidate did not cast their vote, remaining = 92%

Winning candidate = 48%, remaining = 44%

48% - 44% = 4% difference

4% = 1100

100% = 27500

S10. Ans.(d)**Sol.** Total Work

time taken to

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

S11. Ans.(c)**Sol.** Let,

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

Actual amount they have to get-

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

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

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

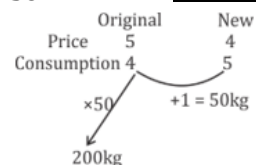
But mistakenly they got the amount in the ratio = 3 : 4 : 6

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

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

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

Hence, Naresh gained Rs. 168 in the transaction.

S12. Ans.(d)**Sol.**

Initial Consumption = 200 kg

Cost = 450 Rs.

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

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

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

S16. Ans.(d)

Sol.

$$\frac{762 \times 762 \times 762 + 316 \times 316 \times 316}{762 \times 762 - 762 \times 316 + 316 \times 316}$$

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

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

S17. Ans.(a)

Sol.

Let CP of furniture = 100

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

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

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

$$\text{For 3rd seller SP} = 100 + (65\% \text{ of } 100) = 100 + 65 = 165$$

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

S18. Ans.(d)

Sol.

A.T.Q

$$\text{Difference of discount } 15\% - 10\% = 5\% = 400$$

$$1\% = 80$$

$$\therefore \text{labelled price of fan} = 80 \times 100 = 8000$$

S19. Ans.(a)

Sol.

$$P \times \frac{20}{100} + Q \times \frac{40}{100} = \frac{Q \times 80}{100}$$

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

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

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

S20. Ans.(b)

Sol.

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

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

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

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.**

$$\text{Average} = 30$$

$$32, 34, 38, 21, 26$$

$$+2, +4, +8, -9, -4$$

$$+14, -13$$

$$+1$$

$$x = 30 - 1 = 29$$

S23. Ans.(d)**Sol.**

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

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

S24. Ans.(a)**Sol.**

$$\frac{1}{2} + \frac{3}{4} \div \frac{1}{4} + \frac{3}{4} \div \frac{1}{2} + \frac{1}{4}$$

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

$$\frac{1}{2} + \frac{3}{4} \times 4 + \frac{3}{4} \times \frac{2}{1} + \frac{1}{4} = \frac{1}{2} + \frac{3}{1} + \frac{3}{2} + \frac{1}{4} = \frac{126}{5}$$

$$= \frac{3}{4} \times \frac{1}{4} \times 2 - \frac{1}{2} \times \frac{4}{3} \times \frac{1}{4} = \frac{3}{8} - \frac{1}{6}$$

S25. Ans.(a)**Sol.**

$$x < y$$

$$x \times 20\% = y \times 14\%$$

$$\frac{x}{y} = \frac{7}{10} \Rightarrow 17 - 8942$$

$$10 - \boxed{5260}$$

S26. Ans.(d)**Sol.**

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

$$\text{Actual discount} = \text{Rs. } 252$$

$$\text{M.P.} = \frac{252 \times 100}{28} = 900$$

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

$$\text{Profit percentage} = 8\%$$

$$\text{Profit in Rupees} = 8\% \text{ of } 600 = \text{Rs. } 48$$

S27. Ans.(c)**Sol.**

$$\text{Let the rate of interest} = r$$

$$\text{Time} \Rightarrow t = r \text{ (given)}$$

$$\text{Amount} = \text{Rs. } 6000$$

$$\text{S.I.} = \text{Amount} - \text{Principal} = 6000 - 3000 = \text{Rs. } 3000$$

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

S28. Ans.(b)

Sol.

Let the original fraction be $\frac{x}{y}$

ATQ,

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

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

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

S29. Ans.(c)

Sol.

Let the efficiency of A is x .

Total work = $40x$ 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.

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

S31. Ans.(b)

Sol.

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

+1 unit = 60 min

So, Time taken to go = 60 min or 1 hour

Going speed = 60 km/hr.

Distance = 60 km/hr $\times$ 1 hour = 60 km

S32. Ans.(a)

Sol.

$$15 - 3 \text{ of } 12 \div 2 + 3 \text{ of } 2 \div 2$$

$$15 - 36 \div 2 + 6 \div 2$$

$$15 - 18 + 3 = 0$$

S33. Ans.(c)

Sol.

Sum of marks of three students = $55 \times 3 = 165$

Sum of marks of all five students including A and B = $50 \times 5 = 250$

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 .

$$45\% \text{ of } x = \frac{6}{5} y \Rightarrow \frac{x}{y} = \frac{6 \times 100}{5 \times 45} = \frac{8}{3}$$

S35. Ans.(a)**Sol.**

Let the cost price be Rs. 'x'

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

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

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

ATQ

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

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

S36. Ans.(d)**Sol.**

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

ATQ

$$(6 + 6) - (m + 1) = \text{divisible by } 11$$

$$12 - (m + 1) = 11$$

$$m + 1 \text{ should be } 1$$

$$m + 1 = 1 \text{ so, } m \text{ must be } 0$$

S37. Ans.(c)**Sol.**

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

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

$$\text{Interest} = \text{amount} - \text{principal}$$

$$\text{Interest} = 21780 - 18000 = \text{Rs. } 3780$$

S38. Ans.(b)**Sol.**

ATQ

$$\text{Shares are } 2X = 3Y = 4Z$$

$$\text{So, the ratio among them is } (X:Y:Z) = (6:4:3)$$

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

S39. Ans.(d)**Sol.**

Let the total work 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.

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

S40. Ans.(d)**Sol. ATQ,**

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

$$\text{CP} = \text{Rs. } 9000$$

S41. Ans.(b)**Sol.**

$$\text{Revenue} = \text{price} \times \text{sale}$$

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

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

S42. Ans.(d)**Sol.**Sum of the age of Rustam and Preetam = $30 \times 2 = 60$ years ...(i)Sum of the age of Preetam and Geetam = $20 \times 2 = 40$ years...(ii)Sum of the age of Rustam and Geetam = $26 \times 2 = 52$ 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.**

$$\frac{5}{6} \times \frac{1}{3} \times \frac{12}{25} - \frac{1}{3} \times \frac{5}{6} \times \frac{18}{25}$$

$$\frac{25}{12} \times \frac{1}{6} \times \frac{2}{5} + \frac{3}{8} \text{ of } \frac{12}{25} \times \frac{5}{6}$$

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

S44. Ans(b)**Sol.**

When final amount is decreasing,

$$A = P \left(1 - \frac{r}{100}\right)^t$$

$$P = 20,000, r = 20\%, t = 3 \text{ year}$$

$$= 20,000 \left(1 - \frac{20}{100}\right)^3 = 20,000 \left(\frac{80}{100} \times \frac{80}{100} \times \frac{80}{100}\right) = 160 \times 64 = \text{Rs. } 10240$$

S45. Ans(b)**Sol.**

$$\text{Average of all prime numbers between 30 and 50} = \frac{31+37+41+43+47}{5} = 39.8$$

S46. Ans.(a)**Sol.**

Discount = 20%

Selling price of the article = Rs. 5720

$$SP = MP \left(\frac{100 - \text{DISCOUNT}\%}{100}\right)$$

$$\Rightarrow 5720 = MP \times \frac{80}{100} \Rightarrow MP = 5720 \times \frac{100}{80}$$

$$\therefore \text{Cost price of the article} = \frac{5720 \times 100}{80} \times \frac{100}{130} = \text{Rs. } 5500$$

S47. Ans(d)**Sol.**

Let CP of the pen = Rs.100

When profit = 5%, $SP = (100+5) = \text{Rs. } 105$ And when profit = 14%, $SP = (100+14) = \text{Rs. } 114$ Diff. of two selling prices = $114 - 105 = \text{Rs. } 9$ When pen sold for Rs.9 more, then CP of the pen = $\text{Rs. } \frac{100}{9}$ When pen sold for 36 more, then CP of the pen = $\text{Rs. } \frac{100}{9} \times 36 = \text{Rs. } 400$ **S48. Ans.(b)****Sol.**

$$F+S=94 \quad F=94-S$$

$$\frac{F-8}{S-8} = \frac{2}{1} \quad F-8 = 2S-16 \quad F = 2S-8$$

$$94-S=2S-8 \quad S=\frac{102}{3} = 34 \text{ years} \quad F=60 \text{ years}$$

Ratio after 10 years = $70:44 = 35:22$

S49. Ans.(c)

Sol. $1440 - 200 \div 50 \times 2 + 3 = 1440 - 8 + 3 = 1435$

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 is cut into 27 small cubes of equal parts.

So, it has been cut into : $3 \times 3 \times 3$

Here $n=3$

Now using formula,

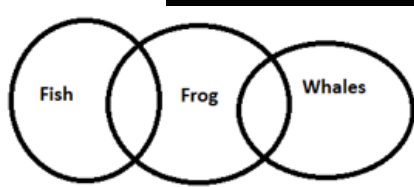
Number of one face painted cubes = $(n - 2)^2 \times 6 = 6$

S53. Ans.(a)

Sol. Logic: Second number
Third number

S54. Ans.(a)

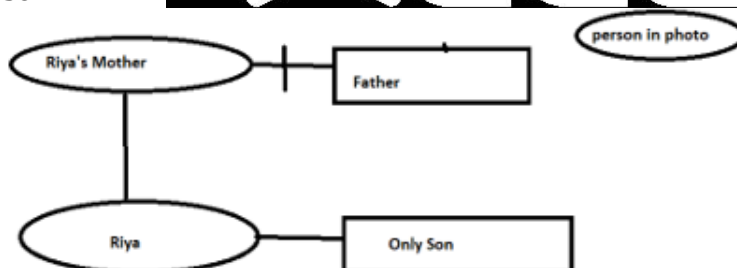
Sol.



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.

H A M L E T
M A H T E L
B U R G E R
R U B R E G

S60. Ans.(c)

Sol. Gap between

S61. Ans.(b)

Sol. By using d

S62. Ans.(a)

Sol. Nymph is

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.

2, 4, 12, 48, ?=240
x2 x3 x4 x5

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.

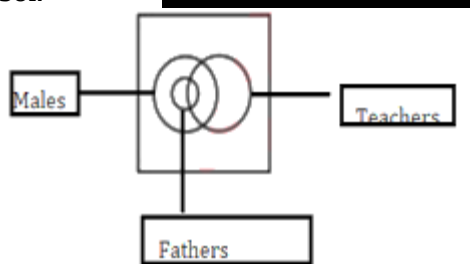
By using option (b)

(289, 361, 441)

$$289 = 17^2, 361 = 19^2, 441 = 21^2$$

S72. Ans.(c)

Sol.



S73. Ans.(d)

Sol.

ccdpcc/ 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

$$12 \times 3 = 36, 16 \times 3 = 48, 15 \times 3 = 45 \text{ (same digit = 3)}$$

$$12 \times 6 = 72, 16 \times 6 = 96, 15 \times 6 = 90 \text{ (same digit = 6)}$$

Similarly,

In (60, 80, 75)

$$12 \times 5 = 60, 16 \times 5 = 80, 15 \times 5 = 75 \text{ (same digit = 5)}$$

S79. Ans.(b)

Sol.

$$\text{Operation} = \times 2$$

$$\text{So, required number is } 2 \times 128 = 256$$

S80. Ans.(b)

Sol.

$$(\text{First number} \div 2) = \text{second number}$$

$$(\text{Second number} \times 4) + 2 = \text{third number}$$

In (212, 106, 426)

$$212 \div 2 = 106$$

$$(106 \times 4) + 2 = 426$$

S81. Ans.(d)

Sol.

$$N + 0 \rightarrow N + 0 \rightarrow N + 0 \rightarrow N + 0 \rightarrow N$$

$$R - 9 \rightarrow I - 9 \rightarrow Z - 9 \rightarrow Q - 9 \rightarrow H$$

$$Q + 8 \rightarrow Y + 8 \rightarrow G + 8 \rightarrow O + 8 \rightarrow W$$

$$S - 10 \rightarrow I - 10 \rightarrow Y - 10 \rightarrow O - 10 \rightarrow E$$

S82. Ans.(b)

Sol.

$$\begin{array}{cccc} S & A & G & E \\ | & | & | & | \\ 19 & 01 & 07 & 05 \end{array}$$

$$(07 + 05) - (19 + 01) = -8$$

and

$$\begin{array}{cccc} T & A & B & S \\ | & | & | & | \\ 20 & 01 & 02 & 19 \end{array}$$

$$(02 + 19) - (20 + 01) = 0$$

Similarly,

$$\begin{array}{cccc} V & E & R & B \\ | & | & | & | \\ 22 & 05 & 18 & 02 \end{array}$$

$$(18 + 02) - (22 + 05) = -7$$

S83. Ans.(a)

Sol.

5 and 9

$$5 - 6 \div 3 \times 9 + 1 = 0$$

$$\downarrow \qquad \downarrow$$

$$9 - 6 \div 3 \times 5 + 1 = 0$$

$$9 - 10 + 1 = 0$$

$$10 - 10 = 0$$

$$0 = 0$$

S84. Ans.(b)

S85. Ans.(a)

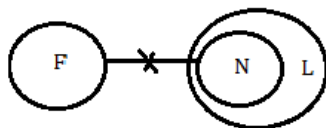


S86. Ans.(a)

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

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.

$$(36)^2 = 1296$$

$$(4)^4 = 256$$

$$(9)^3 = 729$$

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

When 2 faces of a cube are adjacent, they always share an edge.

S98. Ans.(b)

Sol.

First number $\div 2$ = second number

Second number $\times 3$ = third number

In (72, 36, 108)

$$72 \div 2 = 36$$

$$36 \times 3 = 108$$

S99. Ans.(a)

Sol. Sound rain is called 'Pitter-patter'.

Sound of goat is called 'Bleat'.

S100. Ans.(b)