Date: 13/12/2020

Max. Marks: 100   NTSE STAGE-1   Time allowed: 120 mins

Directions (1-10): In the following questions, four items (numbers/ number pairs/ letter groups) are given. Three of them are alike in a certain way and one is different. Find the odd one out from the alternatives.

1.   (1) DE   (2) PQ   (3) TU   (4) WY

Ans.   (4)

Sol.   Except wy all other options have consecutive alaphabet letters.

2.   (1) CFI   (2) DGJ   (3) HKO   (4) FIL

Ans.   (3)

Sol.
C F I
+3 +3

D G J
+3 +3

H K O
+3 +4

F I L
+3 +3

3.   (1) 11   (2) 15   (3) 17   (4) 19

Ans.   (2)

Sol.   Except 15 all other options are prime numbers

4.   (1) ZW   (2) TQ   (3) SP   (4) NL

Ans.   (4)

Sol.
Z W
−3

T Q
−3

S P
−3

N L
−2

5.   (1) 441   (2) 343   (3) 289   (4) 625

Ans. (2)

Sol. 441, 289 and 625 are squares of 21, 17 and 25 respectively But 343 is not a perfect square.

6.   (1) SWU   (2) CGE   (3) STR   (4) OSQ

Ans. (3)

Sol.
S W U
+4 −2

C G E
+4 −2

S T R
+1 −2

O S Q
+4 −2

7.   (1) VUWH   (2) JKLI   (3) EFGD   (4) STUR

Ans. (1)

Sol.
V U W H
−1 +2 −15

J K L I
+1 +1 −3

E F G D
+1 +1 −3

S T U R
+1 +1 −3

8.   (1) Carrot   (2) Mango   (3) Apple   (4) Orange

Ans. (1)

Sol. Except Carrot all other options are fruit, but carrot is vegetable.

9.   (1) 25   (2) 4   (3) 49   (4) 8

Ans. (4)

Sol. Except 8 all other options are perfect square

10.   (1) 22   (2) 4444   (3) 333   (4) 5555

Ans. (3)

Sol. Except 333 all other numbers are divisible by 11

Direction for (Q.no. 11and Q.no. 20): In the following questions, there is a relationship between two figures on the left of the sign(::). The same realationship exists between the figures to the right of the sign (::)of which one is missing. Find the missing one from the alternatives.

11. 23:48::33:?

 (1) 96   (2) 78   (3) 58   (4) 46

Ans. (3)

Sol. 23 + 25 = 48

 33 + 25 = 58

12. 27:51::83:?

 (1) 102   (2) 117   (3) 138   (4) 123

Ans. (4)

Sol. $5^2 + 2 = 27$, $7^2 + 2 = 51$

 $9^2 + 2 = 83$, $11^2 + 2 = 123$

13. ADH:CFJ::LOS:?

 (1) NQU   (2) MPS   (3)NQT   (4)NPR

Ans. (1)

Sol. A D H : C F J :: L O S : N Q U
       +2   +2
       +2   +2
       +2   +2

14. DCB:WXY::HGF:?

 (1) SRQ   (2) STU   (3) RPM   (4) RST

Ans. (2)

Sol. D C B : W X Y :: H G F : S T U
        4+23=27   8+19=27
        3+24=27   7+20=27
        2+25=27   6+21=27

15. 11:25::17:?

 (1) 33   (2) 28   (3) 37   (4) 41

Ans. (3)

Sol. 11 × 2 + 3 = 25

 17 × 2 + 3 = 37

16. 9:16::49:?

 (1) 81   (2) 64   (3) 100   (4) 121

Ans. (2)

Sol. 9 : 16 : : 49 : ?

 $3^2 = 9$, $4^2 = 16$

 $7^2 = 49$, $8^2 = 64$

17. A:Z::D:?

(1) Y   (2) S   (3) X   (4) W

Ans. (4)

Sol.
$$\underset{1+26=27}{A : Z} :: \underset{4+23=27}{D : W}$$

18. 2:16::5:?

(1) 125   (2) 625   (3) 425   (4) 55

Ans. (2)

Sol. $2^4 = 16$

$5^4 = 625$

19. DELHI: EDMGJ:: MUMBAI:?

(1) NTNABH   (2) NVNCBJ   (3) LVLCBJ   (4) NVLMCDE

Ans. (1)

Sol.

20. BDI : 942::GFH:?

(1) 786   (2) 876   (3) 867   (4) 678

Ans. (3)

Sol. B D I : 942 :: G F H : 867 (Reverse the digit of 768)

   ↓ ↓ ↓   ↓ ↓ ↓

   2 4 9   7 6 8

Direction for (Q.no. 21 and Q.no. 25): Read carefully the Information given below then answer the question 21 to 25.

(1) A and B teach Hindi and English.

(2) C and B teach English and Geography

(3) D and A teach Mathematics and Hindi

(4) E and B teach History and Punjabi.

	Hindi	English	Geography	Maths	History	Punjabi
A	✓	✓		✓		
B	✓	✓	✓		✓	✓
C		✓	✓			
D	✓			✓		
E					✓	✓

21.   Out of these teachers who teaches maximum number of subjects?

     (1) A   (2) B   (3) C   (4) D

Ans.   (2)

22.   Out of the following, which pair of teachers teach both Geography and Hindi.

     (1) A and B   (2) B and C   (3) C and D   (4) None of these

Ans.   (4)

23.   Which subject is taught by more than two teachers?

     (1) History   (2) Hindi   (3) Punjabi   (4) Math

Ans.   (2)

24.   Which are the subjects taught by all three- D.B and A.

     (1) Only English   (2) Hindi and English   (3) Only Hindi   (4) Hindi and Math

Ans.   (3)

25.   Out of the following. which teacher teaches less than two Subjects.

     (1) A   (2) B   (3) C   (4) E

Ans.   (Bonus)

Directions for (Q.no. 26 and Q.no. 35): In the following questions, numbers/ words are written in a certain sequence. Find the missing number/word. to replace the question mark from the given alternatives.

26.   5, 11, 23, 47, ?,191

     (1) 83   (2)98   (3) 97   (4)95

Ans.   (4)

Sol.   95

     Logic : $\times 2 + 1$ in the sequence

27.   8, 19, 41, 85, ?, 349

     (1) 173   (2) 168   (3) 178   (4) 171

Ans.   (1)

Sol.   173

     $\times 2 + 3$ in the sequence given

28.   A.E,I,M,Q,U,?

     (1) V   (2) W   (3) Z   (4) Y

Ans.   (4)

Sol.   +4 alphabets

29.   2, 4, 8, 16, 32, 64, ?

     (1) 96   (2) 112   (3) 128   (4) 132

Ans.   (3)

Sol.   128

     Multiply by $2 \Rightarrow 64 \times 2 = 128$

30. BP, EG, HI, KM, ?

    (1) NQ   (2) NP   (3) OP   (4) NM

Ans. (Bonus)

Sol. Question in correct.

31. 2, 5, 9, ?, 20, 27

    (1) 14   (2) 16   (3) 18   (4) 24

Ans. (1)

Sol. $+2, +3, +4, +5, \text{-------------} \Rightarrow 9 + 5 = 14$

32. AN, BO, CP, DQ, ?

    (1) EJ   (2) ES   (3) EQ   (4) ER

Ans. (4)

Sol. $+1$ each alphabet $\Rightarrow D+1=E$, $Q+1=R$

33. 20, 19, 17, ?, 10, 5

    (1) 12   (2) 13   (3) 14   (4) 15

Sol. $-1, -2, -3, -4, \text{-------------} \Rightarrow 17 - 3 = 14$

34. G,I,L,P,U, ?

    (1) A   (2) B   (3) Z   (4) Y

Ans. (1)

Sol. $+2, +3, +4 \text{-------------} \Rightarrow U + 6 = A$

35. 240,120, 40, ?, 2

    (1) 5   (2) 10   (3) 20   (4) 15

Ans. (2)

    $\div 2, \div 3, \div 4, \div 5 \text{-------------} \Rightarrow \frac{40}{4} = 10$

36. Gourav is Sunita's brother. Sunita is Jyoti's daughter. Jyoti is Prem's wife. What is the relation of Prem with Gourav?

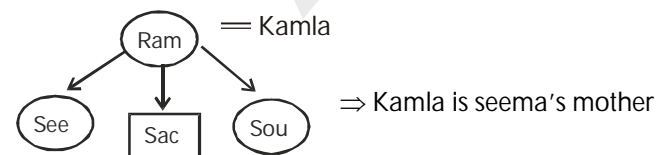   (1) Father   (2) Brother   (3) Grand Father   (4) Uncle

Ans. (1)

$\Rightarrow$ Prem is father of Gourav
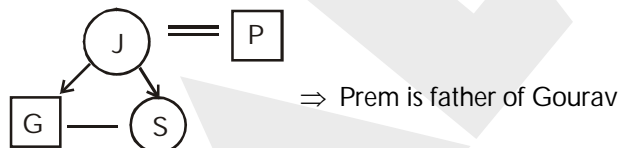
37. Seema is Sachin's sister. Sachin and Sourav are brothers and Sourav is Kamla's son. What is the relation of Kamla with Seema?

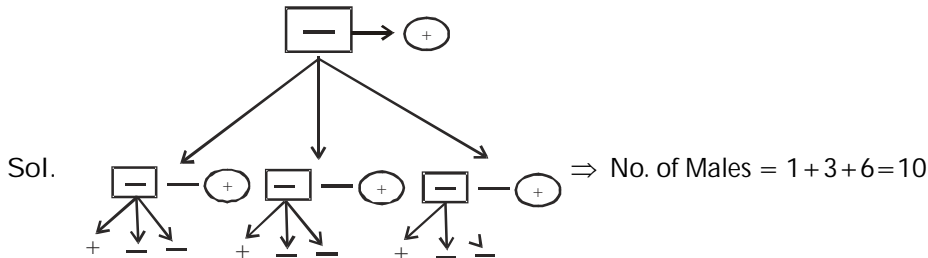   (1) Sister   (2) Daughter   (3) Sister in law   (4) Mother

Ans. (4)

Sol.

$\Rightarrow$ Kamla is seema's mother

38. In a family, there is one head of the family, his wife, three sons and their wives. Every son has two sons and one daughter. How many male members are there in the family?

(1) 4   (2) 10   (3) 8   (4) 12

Ans. (2

Sol.

$\Rightarrow$ No. of Males $= 1+3+6=10$

39. If the word READING is codes as RNIDAEG, how can the word HISTORY be coded?

(1) HRSTOIY   (2) HROTSIY   (3) HROTISY   (4) HRTOSIY

Ans. (2)

Sol. HROTSIY $\rightarrow$ Keep the first & last same, reverse the rest

40. If the word PINK is coded as RGPI. How can the word BLUE be coded?

(1) DJCW   (2) DWJC   (3) DJW   (4) DCJW

Ans. (Bonus)

Sol. Option in correct.

41. If the word MADRAS is coded as NBESBT, how can the word BOMBAY be coded?

(1) CPNCBX   (2) CPOCBZ   (3) CQOCB   (4) CPNCBZ

Ans. (4)

Sol. $+1$ for all alphabits $\Rightarrow$ BOMBAY $\xrightarrow{\quad +1 \quad}$ CPNCBZ

42. If the word SUCCESS is coded as VXFFHVV, how can the word VICTORY be coded?

(1) YLFWRUB   (2) YLFXRUB   (3) YLFWSUB   (4) YLFVSUB

Ans. (1)

Sol. $+3$ for all alphabets $\Rightarrow$ VICTORY $\Rightarrow$ YLFWRUB

43. If the word COBRA is coded as 3152181, how can the word ZEBRA be coded

(1) 2652811   (2) 2652181   (3) 2652181   (4) 2651182

Ans. (2)

Sol. Convert Alphabets to numbers $\Rightarrow$ ZEBRA $\Rightarrow$ 2652181

44. In a certain code language 851 is a code for, "Good sweet apple", 783 for "Good red rose" and 341 for "Rose and apple". Find the code number for "sweet".

(1) 8   (2) 1   (3) 5   (4) 3

Ans. (3)

Sol. 8$\rightarrow$ good, 1$\rightarrow$ apple 5$\rightarrow$ sweet

45. If green colour is called yellow, yellow Is called blue, blue is called black, black is called red red is called purple, then what is the colour of human blood?

    (1) Red   (2) Purple   (3) Blue   (4) Green

Ans. (2)

Sol. Blood is red & red is called purple

46. If in a certain language FASHION is coded as FOIHSAN, how is PROBLEM coded in that language?

    (1) ROBLEMP   (2) PELBORM   (3) PRBOELM   (4) PELBROM

Ans. (2)

Sol. Keep first & last same, riverse the rest

47. If the code for HINDUSTAN is 110 what will be the code for AUSTRALIA?

    (1) 100   (2) 102   (3) 104   (4) 116

Ans. (2)

Sol.
H I N D U S T A N
8 9 14 4 21 19 20 1 14

A U S T R A L I A
1 21 19 20 18 1 12 9 1

Sum = 110   Sum = 102

48. If the code for CONSTABLE is 91 what will be code for STABLE?

    (1) 97   (2) 59   (3) 79   (4) 75

Ans. (2)

Sol.
C O N S T A B L E
3 15 14 19 20 1 2 12 5

Sum = 91   STABLE 91– CON = 91–32=59

49. If NIGHT is coded as 58 what will be code for TOMORROW?

    (1) 111   (2) 113   (3) 115   (4) 137

Ans. (4)

Sol.
N I G H T
14 9 7 8 20 $\Rightarrow$ Sum = 58

T O M O R R O W
20 15 13 15 18 18 15 23 $\Rightarrow$ Sum = 137

50. If ROSE is coded as 6821,CHAIR as 73456, FRENCH as 961473 then SEARCH will be coded as:

    (1) 246173   (2) 214678   (3) 214763   (4) 214673

Ans. (4)

Sol. R $\rightarrow$ 6, 0 $\rightarrow$ 8, 5 $\rightarrow$ 2, E $\rightarrow$ 1 $\Rightarrow$ Direct coding $\Rightarrow$ SEARCH = 214673

51. If TOM is coded as 48 and DICK is 27 then HARRY means

    (1) 67   (2) 50   (3) 60   (4) 70

Ans. (4)

Sol.
T O M
20 15 13 $\longrightarrow$ 20 + 15 + 13 = 48

D I C K
4 9 3 11 $\longrightarrow$ 4 + 9 + 3 + 11 = 27

H A R R Y
8 1 18 18 25 $\longrightarrow$ 8 + 1 + 18 + 18 + 25 = 70

52. If REST IS 0987 and BEAST is 29187 then BREAST is
    (1) 229187   (2) 209187   (3) 219187   (4) 201987
Ans. (2)

Sol. R E S T   B E A S T   B R E A S T
      0 9 8 7   2 9 1 8 7   2 0 9 1 8 7

53. If SLIGHT is 426875 then GIST IS
    (1) 6845   (2) 8645   (3) 4568   (4) 4586
Ans. (2)

Sol. S L I G H T
      4 2 6 8 7 5
      G I S T
      8 6 4 5

54. Rohan is taller than Aman but shorter than Siya. Kamal is taller than Pooja but shorter than Aman. Deepak is taller than Kamal but shorter than Siya. Who among them is the tallest?b hgghghj   bjj b,
    (1) Rohan   (2) Siya   (3) Aman   (4) Deepak
Ans. (2)

Sol.
    S
    | D R   A K P
    | | | | | |

55. If SKY is called SEA, SEA is called WATER, WATER is called AIR, AIR is called CLOUD and CLOUD is called RIVER, then what do we drink when we are thirsty _____.
    (1) SKY   (2) AIR   (3) WATER   (4) SEA
Ans (2)
Sol. Water is called air

56. Sale : Purchase
    (1) Give : Receive   (2) Shop : Market   (3) Cash : Credit   (4) Profit : Loss
Ans. (1)
Sol. Sale : Purchase
    Sale corresponds giving and purchase corresponds to receiving
    ∴ Give : Receive

57. Graphite : Lubricant
    (1) Movement : Friction   (2) Iron : Steel   (3) Carbon : Non Metal   (4) Diamond : Abrasive
Ans. (4)
Sol. Graphite is used as lubricant
    Diamond is used as abrasive

58. War: Death
    (1) Chimney : Smoke   (2) Coal : Fire   (3) Fire : Smoke   (4) Smoke : Pollution
Ans. (4)
Sol. War causes death
    Smoke causes pollution

59. Import : Export

(1) Expenditure : Revenue   (2) Expenditure : Debt

(3) Expenditure : Tax   (4) Deficit : Expenditure

Ans. (1)

Sol. Import : Export

Expenditure: Revenue

The words are antonyms

60. Geologist : Earth

(1) Architect : Building   (2) Aquarium : Fish

(3) Archaeologist : Artifacts   (4) Biology : Science

Ans. (3)

Sol. Geologist studies earth

Archaeologist studies artifacts

61. Green :Colour

(1) Night : Dark   (2) Child : Play   (3) Walk : Health   (4) Snake : Reptile

Ans. (4)

Sol. Green is colour

Snake is a reptile

62. Brass : Alloy

(1) Car : Road   (2) Truck : Load   (3) Pencil : Stationary   (4) Police : Thief

Ans. (3)

Sol. Brass is an alloy

Pencil is a stationary

63. Cream : Cosmetics

(1) Mountain : Valley   (2) Tiger : Forest   (3) Magazine : Editor.   (4) Teak : Wood

Ans. (4)

Sol. Cream comes under category of cosmetics

Teak comes under category of wood.

64. Family : Members

(1) Nation : States   (2) Country : Citizens   (3) Town : Village   (4) Minister : M.P.

Ans. (2)

Sol. Family contains mambers

Country contains citizens

65. Sprain: Fracture

(1) Devotion : Blessing   (2) Excitement : Frenzy   (3) Sleep : Dream   (4) Fever : Malaria

Ans. (2)

Sol. Sprain : Fracture

Excitement : Frenzy

Second is of higher intensity than the first.

Directions for (Q.no. 66 to Q.no.70): In the following questions, you are given a combination of letters/ numbers followed by four alternatives 1, 2, 3 and 4. Choose the alternative, which most closely resembles the mirror image of the given combination.

66. SCHOOL

(1) ƨCHOO⅃ (2) ƨCHOOⅬ (3) ⅬOOHCƨ (4) ⅃OOHCƨ

Ans. (2)

Sol. ⅃OOHƆƧ

67. COLLEGE

(1) Ǝ⅁ƎⅬⅬOƆ (2) Ǝ⅁ƎⅬⅬOƆ (3) Ǝ⅁ƎⅬⅬOƆ (4) Ǝ⅁ƎⅬⅬOƆ

Ans. (1)

Sol. Ǝ⅁ƎⅬⅬOƆ

68. 98724

(1) 42ⁱ89 (2) 48ⁱ24 (3) 48ⁱ24 (4) 48ⁱ24

Ans. (3)

Sol. 48ⁱ89

69. CLASS

(1) ƧƧAⅬƆ (2) ƧƧAⅬƆ (3) ƧƧAⅬƆ (4) ƧƧAⅬƆ

Ans. (4)

Sol. ƧƧAⅬƆ

70. AMBULANCE

(1) ƎƆИAⅬUꓭMA (2) ƎƆИAⅬUꓭMA (3) ƎƆИAⅬUꓭMA (4) EƆИAⅬUꓭMA

Ans. (3)

Sol. ƎƆИAⅬUꓭMA

Directions for (Q.no.71 and Q.no.75): In the following questions, you are given a combination of letters/ numbers fllowed by four alternatives 1, 2, 3 and 4. Choose the alternative, which most closely resembles the water image of the given combination.

71. RAJ

(1) ꓤA⅃ (2) ꓤA⅃ (3) ꓤA⅃ (4) ꓤA⅃

Ans. (1)

Sol. ꓤA⅃

72. VAYU36

(1) ꓥAYUƐ9 (2) ꓥAYUƐ9 (3) ꓥAYUƐ9 (4) ꓥAYUƐ9

Ans. (2)

Sol. ꓥAYUƐ9

73. FROG

(1) ꟻᴿOG   (2) ꟻᴿOG   (3) ꟻᴿOG   (4) FROG

Ans. (3)

Sol. ꟻᴿOG

74. FAMILY

(1) ꟻAMIᴌY   (2) ꟻAMIᴌY   (3) ꟻAIMᴌY   (4) ꟻAMIᴌY

Ans. (4)

Sol. ꟻAIMᴌY

75. Wrote

(1) Wɹoʇɘ   (2) Mɹoʇɘ   (3) Mɹoʇ9   (4) Mɹoʇe

Ans. (2)

Sol. Mɹoʇɘ
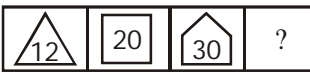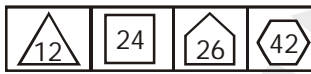
Directions for (Q.no. 76 and Q.no. 80): In the following questions left hand side is problem figure in which there is one? On the right hand side are answer figures. Choose the correct option to replace the ?

76.

Ans. (4)

Sol. $3 \times 4 = 12$
$4 \times 5 = 20$
$5 \times 6 = 30$
$6 \times 7 = 42$
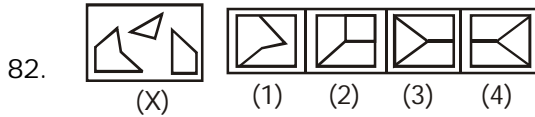
77.
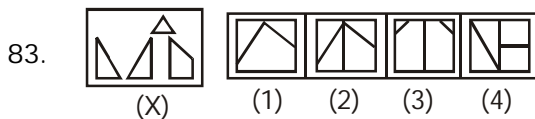
Ans. (4)

78.

Ans. (4)

79.

Ans. (3)

80.
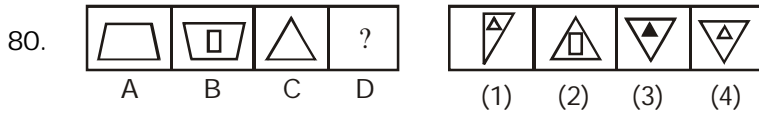
Ans. (4)

Directions for (Q.no. 81and Q.no. 85): In each of the following questions find out which of the figures (1), (2), (3), (4) can be formed from the pieces of given figure X.
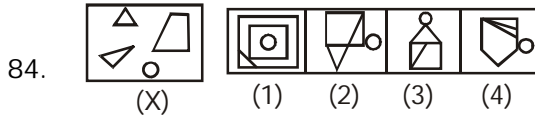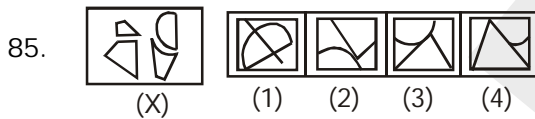
81.

Ans. (1)

82.

Ans. (1)

83.

Ans. (2)

84.

Ans. (3)

85.
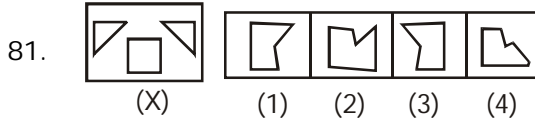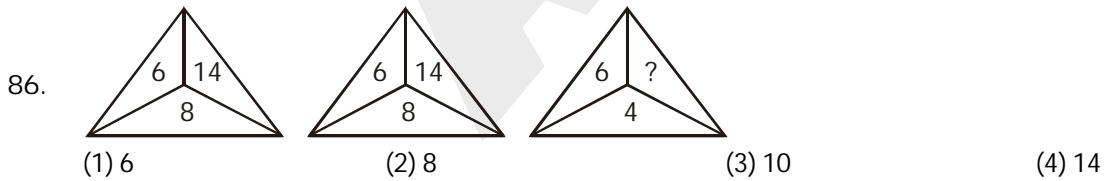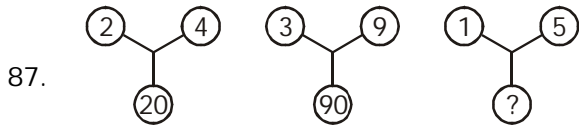

Ans. (2)

Directions for (Q.no. 86 and Q.no.90): In the following questions there is a different rule according to which cells are filled and one is left empty with a ?. From the given alternative find the correct option that can replace the ?

86.

(1) 6   (2) 8   (3) 10   (4) 14

Ans. (3)

Sol. 6 + 8 = 14

$\Rightarrow$ 6 + 4 = 10

87.

(1) 75   (2) 26   (3) 25   (4) 20

Ans. (2)

Sol. $2^2 + 4^2 = 20$

$3^2 + 9^2 = 90$

$\Rightarrow 1^2 + 5^2 = 26$

88.

6	11	25
8	6	16
12	5	?

(1) 18   (2) 16   (3) 12   (4) 10

Ans. (2)

Sol. $\dfrac{1}{2}C_1 + 2C_2 = C_3$
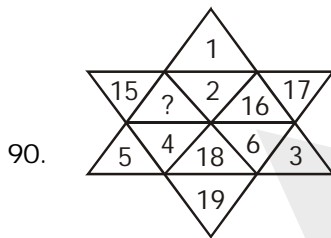
$\Rightarrow \dfrac{12}{2} + (2 \times 5) = 16$

89.

3C	2B	4A
27A	?	64B
9C	4A	16B

(1) 8C   (2) 12B   (3) 16C   (4) 18C

Ans. (1)

Sol. $8C = 2^3C$

90.

(1) 13   (2) 14   (3) 20   (4) 21

Ans. (2)

Sol. $14 + 4 = 18$

$2 + 18 = 20$ $\Big] +2$

$16 + 6 = 22 \Big] +2$

91. $16 + 4 \div 2 - 21 \times 7 \div 21$

(1) 33   (2) 44   (3) 48   (4) 39

Ans. (Bonus)

92. $28 \div 36 - 49 \times 7 + 2$

(1) 12   (2) 10   (3) 8   (4) 6

Ans. (Bonus)

93. $8 \div 6 - 9 \times 12 + 4$

(1) 5   (2) 7   (3) 9   (4) 13

Ans. (Bonus)

94. $225 \times 15 - 195 \times 14 \div 625 \times 25$

(1) 8   (2) 16   (3) 4   (4) 12

Ans. (Bonus)

95. $23 + 46 - 80 \times 20 \div 40$

(1) 1122   (2) 1048   (3) 1126   (4) 1022

Ans. (Bonus)

Direction (96-100): In the following questions, in a certain code language if '+' means means '–', '–' means and '×', '×' means '÷', then answer the following questions.

96. $14 \times 2 - 6 + 10 + 4 \times 2$

(1) 30   (2) 40   (3) 1   (4) 16

Ans. (1)

Sol. $14 \div 2 \times 6 - 10 - 4 \div 2$

$\Rightarrow 7 \times 6 - 10 - 2$

$\Rightarrow 42 - 12 \Rightarrow 30$

97. $15 \div 5 + 15 \div 10 \times 2$

(1) 54   (2) 205   (3) 0   (4) 225

Ans. (3)

Sol. $15 \times 5 - 15 \times 10 \div 2$

$\Rightarrow 15 \times 5 - 15 \times 5$

$\Rightarrow 0$

98. $11 \div 15 \times 3 + 6 - 5$

(1) 55   (2) 35   (3) 165   (4) 25

Ans. (4)

Sol. $11 \times 15 \div 3 - 6 \times 5$

$\Rightarrow 11 \times 5 - 6 \times 5$

$\Rightarrow 55 - 30 = 25$

99. $13 + 3 - 5 - 20 + 25$

(1) −314   (2) 313   (3) 318   (4) −312

Ans. (4)

Sol. $13 - 3 \times 5 \times 20 - 25$

$\Rightarrow 13 - 300 - 25 \Rightarrow 13 - 325$

$\Rightarrow -312$

100. $196 \times 14 \div 25 \times 5 + 225 \times 15$

(1) 70   (2) 55   (3) 85   (4) 196

Ans. (2)

Sol. $196 \div 14 \times 25 \div 5 - 255 \div 15$

$\Rightarrow 14 \times 5 - 15$

$\Rightarrow 70 - 15 \Rightarrow 55$