MCA (Final)

1. The number of numbers between 400 and 1000 can be made with the digits 2, 3, 4, 5, 6 and 0 is (If repetition of digits is not allowed).

   A. 120

   B. 30

   C. 60

   D. 80

2. The number of triangles that can be drawn by joining 14 points in space (no three of which are collinear) is

   A. 364

   B. 182

   C. 168

   D. 336

3. In how many different ways can the letters of the word 'CORPORATION' be arranged so that the vowels always come together?

   A. 810

   B. 1440

   C. 2880

   D. 50400

4. Out of 7 consonants and 4 vowels, how many words of 3 consonants and 2 vowels can be formed?

   A. 210

   B. 1050

   C. 25200

   D. 21400

5. In a group of 6 boys and 4 girls, four children are to be selected. In how many different ways can they be selected such that at least one boy should be there?

A. 159

B. 194

C. 205

D. 209

6. $A \cup (B - A)$ is

A. $A \cap B$

B. $A \cup B$

C. $A - B$

D. $B - A$

7. In a class of 50 students, 20 play football and 16 play hockey. If 10 play both, the number of students who play neither is

A. 24

B. 14

C. 36

D. 26

8. If $A = \{p, q, r\}$, $B = \{2, 3\}$, number of elements of $A \times B$ is

A. 5

B. 6

C. 9

D. 8

9. If $|A \cap b| = 2$, $|A| = 3$, $|B| = 4$, then $|A \cup B|$ is

A. 9

B. 7

C. 5

D. None of the above

10. A relation R in C (the set of all complex numbers) is defined as follows:
xRy if x is the conjugate of y.
Which of the following is true?

A. 4 R 4i

B. i R i

C. (1+i) R(1–i)

D. –2R2

11. The line $y = 3$ is

A. parallel to y axis

B. parallel to x axis

C. passes through origin

D. None of the above

12. The direction cosines of z axis is

A. (1, 0, 0)

B. (0, 1, 0)

C. (0, 0, 1)

D. (1, 1, 0)

13. Running at the same constant rate, 6 identical machines can produce a total of 270 bottles per minute. At this rate, how many bottles could 10 such machines produce in 4 minutes?

A. 648

B. 1800

C. 2700

D. 10800

14. The least perfect square, which is divisible by each of 21, 36 and 66 is:

A. 213444

B. 214344

C. 214434

D. 231444

15. A rectangular park 60 m long and 40 m wide has two concrete crossroads running in the middle of the park and rest of the park has been used as a lawn. If the area of the lawn is 2109 sq. m, then what is the width of the road?

A. 2.91 m

B. 3 m

C. 5.82 m

D. None of the above

16. $(51 + 52 + 53 + ... + 100) = ?$

A. 2525

B. 2975

C. 3225

D. 3775

17. $\frac{1}{1+a^{(n-m)}}+\frac{1}{1+a^{(m-n)}}=?$

A. 0

B. $\frac{1}{2}$

C. 1

D. a^{m+n}

18. Six bells commence tolling together and toll at intervals of 2, 4, 6, 8 10 and 12 seconds respectively. In 30 minutes, how many times do they toll together ?

A. 4

B. 10

C. 15

D. 16

19. A, B and C can do a piece of work in 20, 30 and 60 days respectively. In how many days can A do the work if he is assisted by B and C on every third day?

A. 12 days

B. 15 days

C. 16 days

D. 18 days

20. The value of $\left(\frac{1}{\log_3 60}+\frac{1}{\log_4 60}+\frac{1}{\log_5 60}\right)$ is

A. 0

B. 1

C. 5

D. 60

21. The rank of the matrix $\begin{bmatrix} 3 & 2 \\ 6 & 4 \end{bmatrix}$ is

A. 1

B. 2

C. 3

D. None of the above

22. The matrix $A = \begin{bmatrix} 4 & 2 & 1 & 3 \\ 6 & 3 & 4 & 7 \\ 2 & 1 & 0 & 1 \end{bmatrix}$ contains

A. three (3×3) submatrices

B. five (3×3) submatrices

C. four (3×3) submatrices

D. None of the above

23. If $\begin{bmatrix} x+1 & 5 \\ 4 & y-2 \end{bmatrix} = \begin{bmatrix} 3 & 5 \\ 4 & 3 \end{bmatrix}$, then x and y will be

A. 4, 2

B. 2, 5

C. 2, 4

D. –1, 3

24. The ratio between the perimeter and the breadth of a rectangle is 5 : 1. If the area of the rectangle is 216 sq. cm, what is the length of the rectangle?

A. 16 cm

B. 18 cm

C. 24 cm

D. Data inadequate

25. The percentage increase in the area of a rectangle, if each of its sides is increased by 20% is

A. 40%

B. 42%

C. 44%

D. 46%

26. If $[\bar{a}\bar{b}\bar{c}]$ is the scalar triple product of vectors $\bar{a}, \bar{b}$ and $\bar{c}$, then $[\bar{a}\bar{b}\bar{c}]$ is equal to

A. $[\bar{b}\bar{c}\bar{a}]$

B. $[\bar{b}\bar{a}\bar{c}]$

C. $[\bar{a}\bar{c}\bar{b}]$

D. None of the above

27. A unit vector normal to the surface $x^2 + y^2 - z^2 = 1$ at (1, 1, 1) is

A. $\frac{\hat{i} - \hat{j} + \hat{k}}{\sqrt{3}}$

B. $\frac{\hat{i} + \hat{j} - \hat{k}}{\sqrt{3}}$

C. $\frac{\hat{i} + \hat{j} + \hat{k}}{\sqrt{3}}$

D. $\frac{\hat{i} - \hat{j} - \hat{k}}{\sqrt{3}}$

28. The function $f(z) = \dfrac{1}{z^2 + 4}$ is not analytic at

A. $z = 2i$

B. $z = -2i$

C. $z = \pm 2i$

D. $z = 4$

29. $\int_C (z^2 - 2z - 3)dz$ where C is the circle $|z| = 3$ is

A. 0

B. 3

C. –2

D. –5

30. It is being given that $(2^{32} + 1)$ is completely divisible by a whole number. Which of the following numbers is completely divisible by this number?

A. $(2^{16} + 1)$

B. $(2^{16} - 1)$

C. (7×2^{23})

D. $(2^{96} + 1)$

31. If $\log_{10} 7 = a$, then $\log_{10}\left(\dfrac{1}{70}\right)$ is equal to

A. $-(1 + a)$

B. $(1 + a)^{-1}$

C. $\dfrac{a}{10}$

D. $\dfrac{1}{10a}$

32. The sum of how many terms of the series 6 + 12 + 18 + 24 + ... is 1800 ?

A. 16

B. 24

C. 20

D. 18

33. A right triangle with sides 3 cm, 4 cm and 5 cm is rotated by the side of 3 cm to form a cone. The volume of the cone so formed is

A. 12π cm^3

B. 15π cm^3

C. 16π cm^3

D. 20π cm^3

34. In a shower, 5 cm of rain falls. The volume of water that falls on 1.5 hectares of ground is

A. 75 cu. m

B. 750 cu. m

C. 7500 cu. m

D. 75000 cu. m

35. A two-digit number is such that the product of the digits is 8. When 18 is added to the number, then the digits are reversed. The number is

A. 18

B. 24

C. 42

D. 81

36. $\int_0^{\pi/2} \cos^5 x dx$ is

A. $\frac{\pi}{15}$

B. $\frac{8\pi}{15}$

C. $\frac{8}{15}$

D. $\frac{5\pi}{2}$

37. $\int_0^{\pi/2} \frac{(\sin x)^{3/2}}{(\sin x)^{3/2} + (\cos x)^{3/2}} dx$ is

A. $\frac{3\pi}{4}$

B. $\frac{\pi}{4}$

C. $\frac{\pi}{2}$

D. $\frac{3\pi}{2}$

38. $D^5(e^{4x})$ is

A. $4^5 e^{4x}$

B. $5^4 e^{4x}$

C. $4^4 e^{4x}$

D. None of the above

39. $\lim_{x\to 0}\frac{\sin 3x}{\sin 2x}$ is

A. $\frac{2}{3}$

B. $\frac{3}{2}$

C. 1

D. 0

40. If $f(x)=\begin{cases}1 & if \quad x>0\\ 0 & if \quad x=0\\ -1 & if \quad x<0\end{cases}$, then

A. f is continuous at 0

B. f is derivable at 0

C. f is discontinuous at 0

D. None of the above

41. f: R $\to$ R and g : R $\to$ R are given by $f(x)=x^2-2$ and $g(x)=x+4$. Then $fo\,g(x)$ is

A. x^2+2

B. x^2+x+2

C. $x^2+8x+16$

D. $x^2+8x+14$

42. The series $\frac{1}{1^2}+\frac{1}{2^2}+\frac{1}{3^2}+\ldots$ is

A. Convergent

B. Divergent

C. Oscillating

D. None of the above

43. A conical tent has base radius 7 m and height 24 m. How many meters of cloth 10 m wide will be required to make it?

A. 110

B. 240

C. 55

D. 96

44. A hall is 15 m long and 12 m broad. If the sum of the areas of the floor and the ceiling is equal to the sum of the areas of four walls, the volume of the hall is

A. 720

B. 900

C. 1200

D. 1800

45. A hollow iron pipe is 21 cm long and its external diameter is 8 cm. If the thickness of the pipe is 1 cm and iron weighs 8 g/cm^3, then the weight of the pipe is

A. 3.6 kg

B. 3.696 kg

C. 36 kg

D. 36.9 kg

46. Radius of a circle circumscribing a square of side a is

A. $\frac{a}{2}$

B. $\frac{a}{4}$

C. $\sqrt{2}a$

D. $\frac{a}{\sqrt{2}}$

47. The centroid of a triangle is (3, 3). Two of its vertices are (2, 4) and (6, 3). Its third vertex is

A. (1, 2)

B. (2, 1)

C. (3, 1)

D. (2, 2)

48. If the value of the mean of Poisson distribution is 5, then the value of variance is

A. 5

B. 1/5

C. 25

D. None of the above

49. Tickets numbered 1 to 20 are mixed up and then a ticket is drawn at random. What is the probability that the ticket drawn has a number which is a multiple of 3 or 5?

A. $\frac{1}{2}$

B. $\frac{2}{5}$

C. $\frac{8}{15}$

D. $\frac{9}{20}$

50. The probability of occurrence of two events A and B simultaneously is

A. P(A) + P(B)

B. P(A$\cup$B)

C. P(A$\cap$B)

D. P(A).P(B)

51. For a normal curve with $\mu = 0$ and $\sigma = 5$, the area to the right of 10 is

A. 1

B. 0.68

C. 0.32

D. 0.5

52. {1, 3, 5, 7} is an abelian group under multiplication modulo

A. 3

B. 5

C. 7

D. 8

53. A set of vectors which contains the zero vector is

A. linearly independent

B. a basis

C. linearly dependent

D. None of the above

54. $(x^n - a^n)$ is completely divisible by $(x - a)$, when

A. n is any natural number

B. n is an even natural number

C. n is an odd natural number

D. n is prime

55. If $\log\frac{a}{b}+\log\frac{b}{a}=\log(a+b)$, then

A. $a + b = 1$

B. $a - b = 1$

C. $a = b$

D. $a^2 - b^2 = 1$

56. If $i + 2$ is a root of $x^2 - 4x + \propto = 0$, then $\propto$ is

A. $\sqrt{5}$

B. 5

C. $\sqrt{10}$

D. 2

57. If α and β are roots of $x^2 + 3x + 2 = 0$, then $\alpha^3 + \beta^3$ is

A. 0

B. 9

C. 8

D. –9

58. The equations $a + 2b + 5c = 4$, $3a + 6b + 15c = 12$ have

A. No solution

B. A unique solution

C. Infinite number of solutions

D. None of the above

59. The remainder when $3x^2 + x - 2$ is divided by $x - 1$ is

A. 2

B. –2

C. 3

D. 0

60. The area of a triangle is given by

A. $s(s-a)(s-b)(s-c)$

B. $(s-a)(s-b)(s-c)$

C. $\sqrt{s(s-a)(s-b)(s-c)}$

D. None of the above

61. A train 110 metres long is running with a speed of 60 kmph. In what time will it pass a man who is running at 6 kmph in the direction opposite to that in which the train is going?

A. 5 sec

B. 6 sec

C. 7 sec

D. 10 sec

62. For the linear differential equation $\frac{dy}{dx} + y\tan x = 2\cos x$ the integrating factor is

A. $\cos x$

B. $\sin x$

C. $\cot x$

D. $\sec x$

63. The solution of $\frac{d^2y}{dx^2} = 2\frac{dy}{dx}$ is

A. $A + Be^{2x}$

B. Ae^x

C. $A + Be^x$

D. $Ae^x + Be^{-x}$

64. If $a - b = 3$ and $a^2 + b^2 = 29$, find the value of ab.

A. 10

B. 12

C. 15

D. 18

65. The price of 2 sarees and 4 shirts is Rs. 1600. With the same money one can buy 1 saree and 6 shirts. If one wants to buy 12 shirts, how much will he have to pay ?

A. Rs. 1200

B. Rs. 2400

C. Rs. 4800

D. Cannot be determined

66. The angle between the planes $2x - y + z = 6,\ \ x + y + 2z = 3$ is

A. $\frac{\pi}{6}$

B. $\frac{\pi}{2}$

C. $\frac{\pi}{4}$

D. $\frac{\pi}{3}$

67. The value of $\frac{d}{dx}\int_0^{\sin x} u^3 \ \ du$ is given by

A. $\sin x \cos x$

B. $\sin^3 x \cos x$

C. $\sin^2 x \cos x$

D. $\cos^2 x \sin x$

68. The value of $\sin \int_{-\infty}^{\infty} \frac{dx}{e^x + e^{-x}}$ is given by

A. π

B. $\frac{\pi}{2}$

C. π^2

D. $\frac{\pi^2}{2}$

69. How many 3-digit numbers can be formed from the digits 2, 3, 5, 6, 7 and 9, which are divisible by 5 and none of the digits is repeated?

A. 5

B. 10

C. 15

D. 20

70. A box contains 2 white balls, 3 black balls and 4 red balls. In how many ways can 3 balls be drawn from the box, if at least one black ball is to be included in the draw?

A. 32

B. 48

C. 64

D. 96

71. Let A = {1, 2, 3}. Define $f = A \to A$ by $f(1) = 2, f(2) = 3, f(3) = 1$. Then $f^3(2)$ is

A. 1

B. 3

C. 2

D. 0

72. $\lim_{x \to 0} (-1)^x$

A. exists

B. does not exist

C. –1

D. +1

73. For binomial distribution with $n = 4,\ p = \frac{1}{4}$ the value of the mean is

A. ½

B. 1

C. ¾

D. 2

74. The permutation $\begin{pmatrix} 1 & 2 & 3 & 4 & 5 & 6 & 7 \\ 2 & 4 & 5 & 7 & 6 & 3 & 1 \end{pmatrix}$ is

A. even

B. odd

C. cyclic

D. None of the above

75. The lines $x = 0,\ y = 0$ and $x + y = 1$ form a triangle of area

A. 1

B. $\frac{1}{2}$

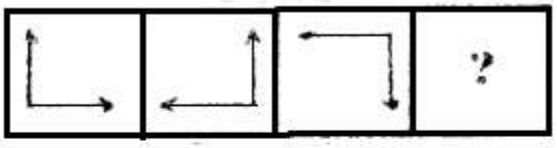
C. $\frac{1}{3}$

D. $\frac{1}{\sqrt{2}}$

Direction (Qn. Nos. 76 – 79): In the problem figures, there is a definite relationship between figures 1 and 2. Establish a similar relationship between figures 3 and 4 by choosing a suitable figure from the set of answer figures.

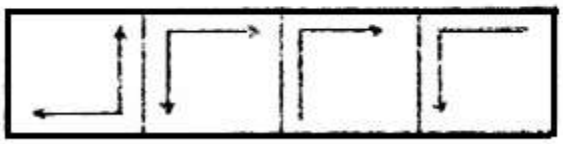
76.

Problem Figure



1 2 3 4

Answer Figure



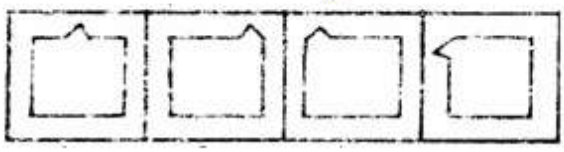
A B C D

77.

Problem Figure

1 2 3 4

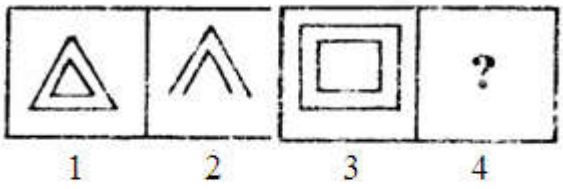
Answer Figure



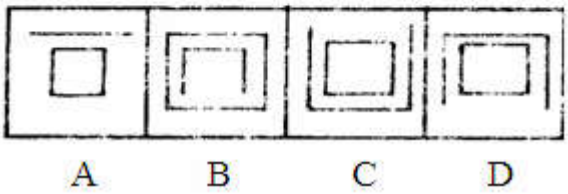
A B C D

78.

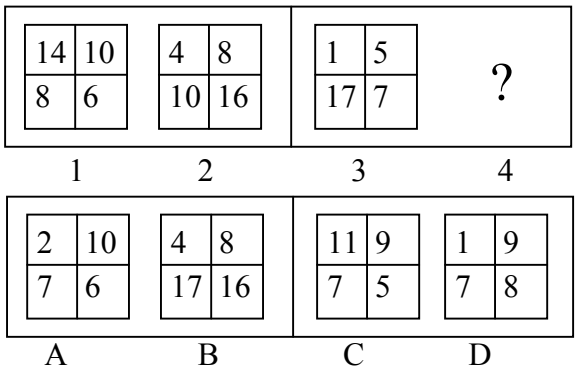
Problem Figure



Answer Figure

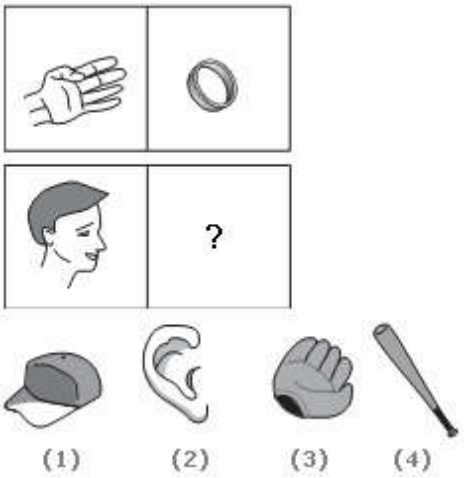


79.



Direction (Qn. Nos. 80 – 83): Which figure will appear in the cell with a question mark (?) ?

80.



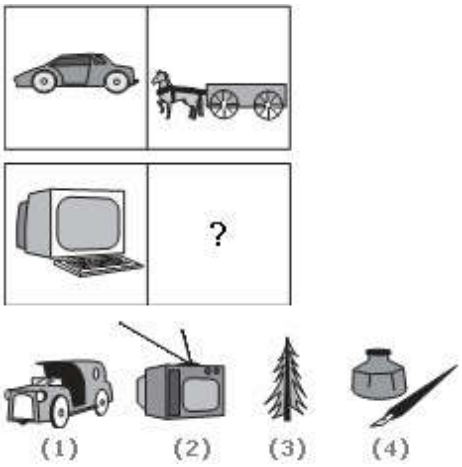
A. 1

B. 2

C. 3

D. 4

81.



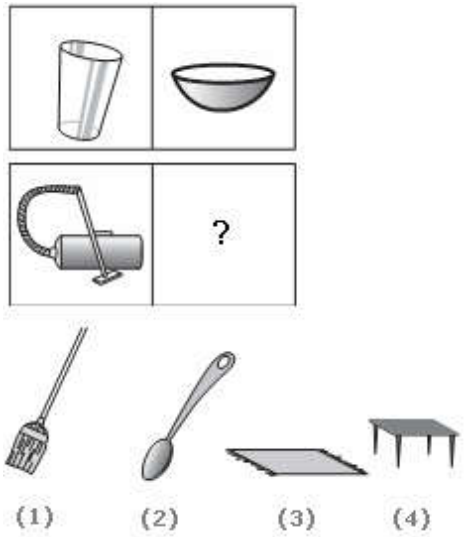
A. 1

B. 2

C. 3

D. 4

82.



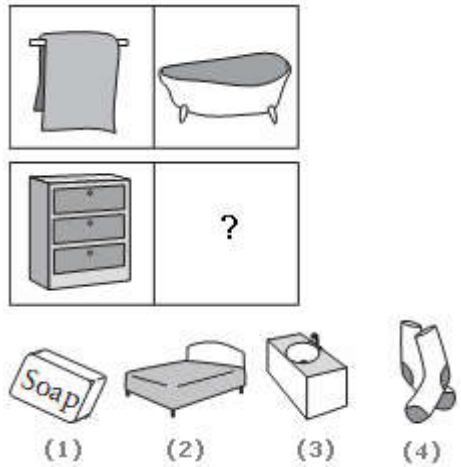
A. 1

B. 2

C. 3

D. 4

83.



A. 1

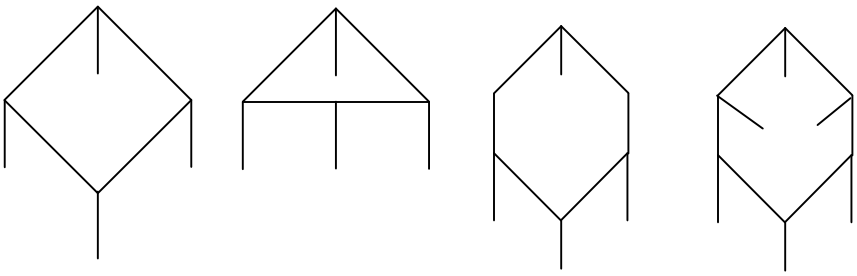
B. 2

C. 3

D. 4

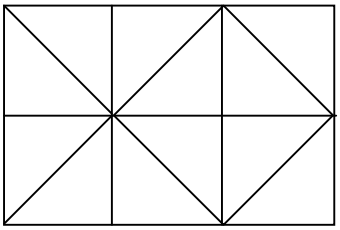
Direction (Qn. Nos. 84 & 85): Which of the following figure is different from the other three?

84.



A. B. C. D.

85. In the following figure the number of squares is



A. 6

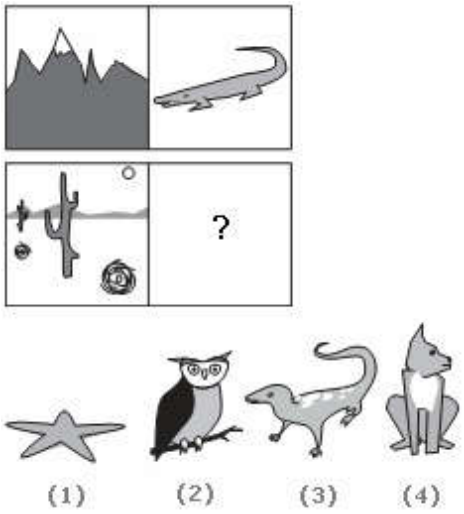
B. 7

C. 9

D. 10

Direction (Qn. Nos. 86 & 87): Choose the picture that would go in the empty box so that the two bottom pictures are related in the same way as the top two are related.

86.



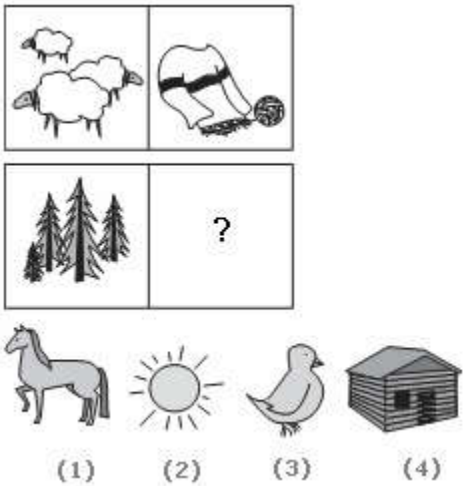
A. 1

B. 2

C. 3

D. 4

87.



A. 1

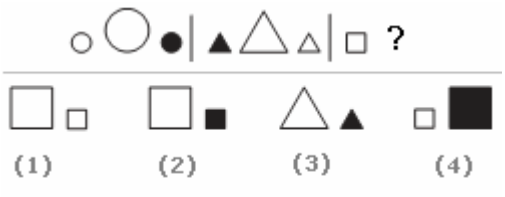
B. 2

C. 3

D. 4

Direction (Qn. Nos. 88 & 89): Look carefully at the sequence of symbols to find the pattern. Select correct pattern.

88.



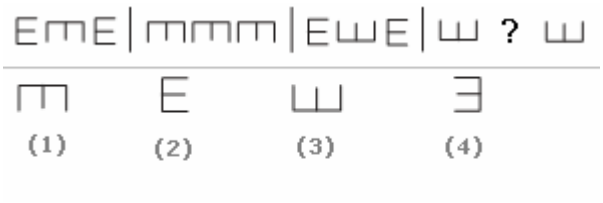
A. 1

B. 2

C. 3

D. 4

89.



A. 1

B. 2

C. 3

D. 4

Direction (Qn. No. 90 – 94): Study the series and fill in the missing number(s)

90. 8, 10, 14, 18, __, 34, 50, 66

A. 24

B. 23

C. 25

D. 26

91. 6, 9, 18, 21, 42, 45, __, __

A. 90, 93

B. 90, 92

C. 91, 94

D. 91, 93

92. $\frac{2}{3},\ 1\frac{1}{3},\ 2,\ 2\frac{2}{3},\ 3\frac{1}{3},$ __, __

A. 3, $\frac{2}{3}$

B. 4, $4\frac{2}{3}$

C. 3, $4\frac{2}{3}$

D. 4, $3\frac{2}{3}$

93. 3, 2, 11, 6, __, 10, 27, __

A. 18, 15

B. 19, 14

C. 19, 15

D. 18, 14

94. 1, 8, 27, 64, 125, 216, __, __

A. 340, 511,

B. 343, 512

C. 343, 511

D. 340, 512

95. If p is a prime number greater than 3, then $3(p^2-1)$ is always divisible by

A. 6 but not by 12

B. 12 but not by 24

C. 24

D. None

Direction (Qn. No.96): Insert Plus (+) or Minus (–) between the given numbers so as to get the total given at the end.

96. 1^2 3 5^2 7 9^2 = 103

A. + + + –

B. + + – +

C. + + – –

D. – + + +

Direction (Qn. Nos. 97 – 103): In these series, you are given both the letter pattern and the number pattern. Complete the series by filling the blanks.

97. SCD, TEF, UGH, ____, WKL

A. CMN

B. UJI

C. VIJ

D. IJT

98. B_2CD, _____, BCD_4, B_5CD, BC_6D

A. B_2C_2D

B. BC_3D

C. B_2C_3D

D. BCD_7

99. FAG, GAF, HAI, IAH, ____

A. JAK

B. HAL

C. HAK

D. JAI

100. ELFA, GLHA, ILJA, _____, MLNA

A. OLPA
B. KLMA
C. LLMA
D. KLLA

101. CMM, EOO, GQQ, _____, KUU

A. GRR
B. GSS
C. ISS
D. ITT

102. ZA_5, Y_4B, XC_6, W_3D, _____

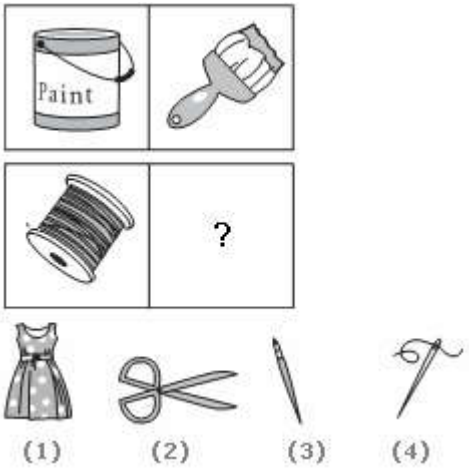
A. E_7V
B. V_2E
C. VE_5
D. VE_7

103. DEF, DEF_2, DE_2F_2, _____, $D_2E_2F_3$

A. DEF_3
B. D_3EF_3
C. D_2E_3F
D. $D_2E_2F_2$

Direction (Qn. Nos. 104 & 105): Choose the picture that would go in the empty box so that the two bottom pictures are related in the same way as the top two are related.

104.



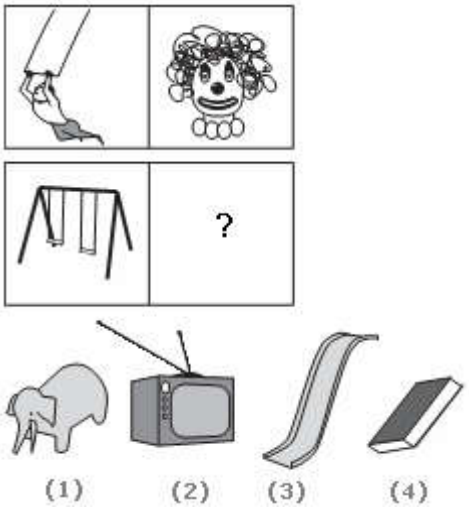
A. 1

B. 2

C. 3

D. 4

105.



A. 1

B. 2

C. 3

D. 4

Direction (Qn. Nos. 106 – 110): Find the statement that must be true according to the given information.

106. Vincent has a paper route. Each morning, he delivers 37 newspapers to customers in his neighborhood. It takes Vincent 50 minutes to deliver all the papers. If Vincent is sick or has other plans, his friend Thomas, who lives on the same street, will sometimes deliver the papers for him.

A. Vincent and Thomas live in the same neighborhood.

B. It takes Thomas more than 50 minutes to deliver the papers

C. It is dark outside when Vincent begins his deliveries.

D. Thomas would like to have his own paper route

107. The Pacific yew is an evergreen tree that grows in the Pacific Northwest. The Pacific yew has a fleshy, poisonous fruit. Recently, taxol, a substance found in the bark of the Pacific yew, was discovered to be a promising new anticancer drug.

A. Taxol is poisonous when taken by healthy people

B. Taxol has cured people from various diseases

C. People should not eat the fruit of the Pacific yew

D. The Pacific yew was considered worthless until taxol was discovered

108. Erin is twelve years old. For three years, she has been asking her parents for a dog. Her parents have told her that they believe a dog would not be happy in an apartment, but they have given her permission to have a bird. Erin has not yet decided what kind of bird she would like to have

A. Erin's parents like birds better than they like dogs

B. Erin does not like birds

C. Erin and her parents live in an apartment

D. Erin and her parents would like to move

109. Tim's commute never bothered him because there were always seats available on the train and he was able to spend his 40 minutes comfortably reading the newspaper or catching up on paperwork. Ever since the train schedule changed, the train has been extremely crowded, and by the time the doors open at his station, there isn't a seat to be found.

A. Tim would be better off taking the bus to work

B. Tim's commute is less comfortable since the train schedule changed

C. Many commuters will complain about the new train schedule

D. Tim will likely look for a new job closer to home

110. When they heard news of the hurricane, Maya and Julian decided to change their vacation plans. Instead of traveling to the island beach resort, they booked a room at a fancy new spa in the mountains. Their plans were a bit more expensive, but they'd heard wonderful things about the spa and they were relieved to find availability on such short notice.

A. Maya and Julian take beach vacations every year

B. The spa is overpriced

C. It is usually necessary to book at least six months in advance at the spa

D. Maya and Julian decided to change their vacation plans because of the hurricane

Directions (Qn. Nos. 111 – 115): Read the following and answer the questions that follow:

i) There is a group of seven persons seated around a table.
ii) Their professions are: Housewife, Doctor, Engineer, Teacher, Chemist, Manager, Professor respectively.
iii) There are 3 females including the housewife. The Engineer is not a female.
iv) Two of them are husband-wife. The profession of the wife is teaching. Her husband is the oldest of the seven.
v) The youngest of the group is a female. She does not teach and she is not a housewife.
vi) The individual ages of the Professor, the Doctor and the Manager are more than the average age of the whole group.
vii) If the Professor is not counted then the average age of the group decreases.
viii) Now, answer the following questions.

111. Who among the following is the married couple?

A. Teacher-Professor

B. Teacher-Chemist

C. Teacher-Manager

D. Can’t be said

112. Who among the following is younger only to the oldest?

A. Manager

B. Doctor

C. Manager or Doctor

D. Can't be said

113. Who among the following is not a female?

A. Teacher

B. Housewife

C. Chemist

D. None of the above

114. What is the sex of the doctor and the manager?

A. Male and male

B. Male and female

C. Female and female

D. female and male

115. Who is the youngest of the group?

A. Chemist

B. Doctor

C. Engineer

D. Can't be said

Direction (Qn. Nos. 116 – 119): Find the statement that must be true according to the given information.

116. Ten new television shows appeared during the month of September. Five of the shows were sitcoms, three were hour-long dramas, and two were news-magazine shows. By January, only seven of these new shows were still on the air. Five of the shows that remained were sitcoms.

A. Only one of the news-magazine shows remained on the air

B. Only one of the hour-long dramas remained on the air

C. At least one of the shows that was cancelled was an hour-long drama

D. Television viewers prefer sitcoms over hour-long dramas

117. On weekends, Mr. Sanchez spends many hours working in his vegetable and flower gardens. Mrs. Sanchez spends her free time reading and listening to classical music. Both Mr. Sanchez and Mrs. Sanchez like to cook.

A. Mr. Sanchez enjoys planting and growing vegetables

B. Mr. Sanchez does not like classical music

C. Mrs. Sanchez cooks the vegetables that Mr. Sanchez grows

D. Mrs. Sanchez enjoys reading nineteenth century novels

118. Georgia is older than her cousin Marsha. Marsha's brother Bart is older than Georgia. When Marsha and Bart are visiting with Georgia, all three like to play a game of Monopoly. Marsha wins more often than Georgia does.

A. When he plays Monopoly with Marsha and Georgia, Bart often loses

B. Of the three, Georgia is the oldest

C. Georgia hates to lose at Monopoly

D. Of the three, Marsha is the younger

119. Sara lives in a large city on the East Coast. Her younger cousin Marlee lives in the Mid-west in a small town with fewer than 1,000 residents. Marlee has visited Sara several times during the past five years. In the same period of time, Sara has visited Marlee only once.

A. Marlee likes Sara better than Sara likes Marlee

B. Sara thinks small towns are boring

C. Sara is older than Marlee

D. Marlee wants to move to the East Coast

Direction (Qn. Nos. 120 – 124): A good way to figure out the relationship in a given question is to make up a sentence that describes the relationship between the first two words. Then, try to use the same sentence to find out which of the answer choices completes the same relationship with the third word.

120. Odometer is to mileage as compass is to

A. speed

B. hiking

C. needle

D. direction

121. Marathon is to race as hibernation is to

A. winter

B. bear

C. dream

D. sleep

122. Window is to pane as book is to

A. novel

B. glass

C. cover

D. page

123. Cup is to coffee as bowl is to

A. dish

B. soup

C. spoon

D. food

124. Yard is to inch as quart is to

A. gallon

B. ounce

C. milk

D. liquid

125. Pointing to a picture in a photograph, a woman said: “this man is the father of the brother of my mother’s one of the two sons-in-law.” How is the man related to the woman?

A. Father

B. Father-in-law

C. Brother

D. Husband

126. If ‘water’ is called ‘dock’, ‘dock’ is called ‘garage’, ‘garage’ is called ‘sky’ and ‘sky’ is called ‘shipyard’, where does a swimmer swim?

A. dock

B. water

C. garage

D. sky

Directions (Qn. Nos. 127 – 131): In the following three are similar and one is different. Pick out the odd one out.

127. A. Dictionary

B. Biography

C. Atlas

D. Directory

128. A. Deuce

B. Pitch

C. Crease

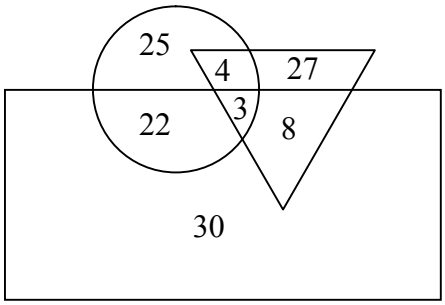
D. Stump

129. A. Iron
B. Mercury
C. Copper
D. Silver

130. A. Moon
B. Saturn
C. Venus
D. Earth

131. A. +
B. –
C. ×
D. ∴

Directions (Qn. Nos. 132 - 136): Study the following figure and answer the questions. The triangle represents doctors. The circle represents players and the rectangle represents engineers.



132. How many doctors are both players and engineers?

A. 4

B. 3

C. 11

D. None of the above

133. How many engineers are players?

A. 22

B. 30

C. 25

D. None of these

134. How many doctors are neither players nor engineers?

A. 30

B. 22

C. 27

D. 8

135. How many engineers are neither players nor doctors?

A. 22

B. 29

C. 25

D. None of the above

136. How many players are neither engineers nor doctors?

A. 4

B. 3

C. 22

D. None of the above

137. "Corruption needs to be fought at all costs. We are paying a heavy price for corruption" – A minister in his speech.

I. The minister is not corrupt.
II. There exists corruption in our system.
III. Politicians suffer the most as a result of corruption.

A. I and II are implicit

B. II and III are implicit

C. I and III are implicit

D. I, II and III are implicit

Direction (Qn. Nos. 138 – 142): Read the following set of information correctly and then answer the questions that follow:

i) There is a group of six persons living in a four storeyed building. The persons are A, B, C, D, E and F. Each storey of the building has two flats; thus there are eight Flats in total; two of them being empty.
ii) The heaviest of the group lives on top floor; while the lighted lives on ground floor.
iii) C is heavier than B, who, in turn, is heavier than F.
iv) E is lighter than D.
v) One of the flats in the first floor is vacant while one in the second floor is also vacant.
vi) A is neither the heaviest nor the lightest.
vii) There are only two people heavier than C; A is not one of them.
viii) B shares the floor with the heaviest of the group while C shares it with the lightest.

138. Who among the following is the heaviest of the group?

A. D

B. C

C. A

D. Can't say

139. Who does C share the floor with?

A. F

B. E

C. A

D. Can't say

140. On which floor does A live?

A. Ground floor

B. First floor

C. Second floor

D. Can't say

141. E and A, live

A. on the same floor

B. on two continuous floors

C. with one floor between their floors

D. with two floors between their floors

142. Starting from the heaviest of the group what is the rank of A in the order of weight?

A. Fourth

B. Fifth

C. Sixth

D. Fourth or fifth

Direction (Qn. Nos. 143 & 144): Each question presents a situation and asks you to make a judgment regarding that particular circumstance. Choose an answer based on given information.

143. Eileen is planning a special birthday dinner for her husband's 35th birthday. She wants the evening to be memorable, but her husband is a simple man who would rather be in jeans at a baseball game than in a suit at a fancy restaurant. Which restaurant below should Eileen choose?

A. Alfredo's offers fine Italian cuisine and an elegant Tuscan decor. Patrons will feel as though they've spent the evening in a luxurious Italian villa.
B. Pancho's Mexican Buffet is an all-you-can-eat family style smorgasbord with the best tacos in town.
C. The Parisian Bistro is a four-star French restaurant where guests are treated like royalty. Chef Dilbert Olay is famous for his beef bourguignon.
D. Marty's serves delicious, hearty meals in a charming setting reminiscent of a baseball clubhouse in honor of the owner,Marty Lester, a former major league baseball all-star.

144. The film director wants an actress for the lead role of Lucy who perfectly fits the description that appears in the original screenplay. He is not willing to consider actresses who do not resemble the character as she is described in the screenplay, no matter how talented they are. The screenplay describes Lucy as an average-sized, forty something redhead, with deep brown eyes, very fair skin, and a brilliant smile. The casting agent has four actresses in mind.
Actress #1 is a stunning red-haired beauty who is 5'9" and in her mid-twenties. Her eyes are brown and she has an olive complexion.
Actress #2 has red hair, big brown eyes, and a fair complexion. She is in her mid-forties and is 5'5".
Actress #3 is 5'4" and of medium build. She has red hair, brown eyes, and is in her early forties.
Actress #4 is a blue-eyed redhead in her early thirties. She's of very slight build and stands at 5'.

A. 1, 2

B. 2, 3

C. 1, 4

D. 2, 4

Direction (Qn. Nos. 145 & 146): Each question has an underlined word followed by four answer choices. You will choose the word that is a necessary part of the underlined word.

145. <u>harvest</u>

A. autumn

B. stockpile

C. tractor

D. crop

146. <u>book</u>

A. fiction

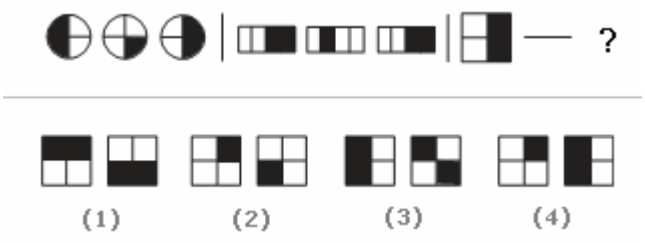
B. pages

C. pictures

D. learning

Direction (Qn. Nos. 147 & 148): Look carefully at the sequence of symbols to find the pattern. Select correct pattern.

147.



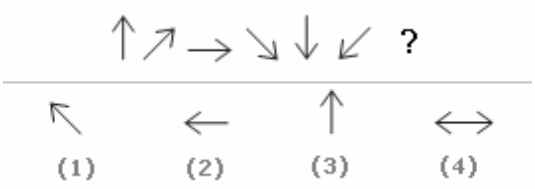
A. 1

B. 2

C. 3

D. 4

148.



A. 1

B. 2

C. 3

D. 4

Direction (Qn. Nos. 149 & 150): Answer the questions based on the statements, conclusions/assumptions given.

149. **Statements**:
Some boxes are chocolates.
Some tables are desks.
No box is a desk.
Conclusion:
I. Some chocolates are desks
II. Some chocolates are not desks
III. Some tables are boxes
IV. Some tables are not boxes

A. Only II follows

B. Either I or II, and Either III or IV follows

C. II and IV follow

D. Any three of the above follow

150. **The workers have decided to go on a strike. God, what will happen to our supply-rder! – A manufacturer.**

Assumptions
I. It is not moral of the workers to go on a strike.
II. Supply likely to be disturbed as a result of the strike
III. Praying to God may help one in a critical situation

A. Only I follows

B. Only II follows

C. I and II follow

D. I and III follow

***