WBCS

Previous Year Paper

Mains 2016 Paper VI

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE ASKED TO DO SO.

2016

TEST BOOKLET

PAPER-VI

TEST BOOKLET SERIES

C

Time allowed : 3 hours

Full marks : 200

Answer ***all*** the questions.

Questions are of equal value.

Serial No. .....

Roll No:

Signature of the Candidate:

INSTRUCTIONS

Candidates should read the following instructions carefully before answering the questions:

1. This booklet consists of 24 pages including this front page. Verify the Page Nos. and bring at once to the Invigilator's notice any discrepancy.

2. Answer will have to be given in the Special Answers-Sheet supplied for the purpose.

3. Before you proceed to mark in the Answer-Sheet in response to various items in the Test Booklet, you have to fill in some particulars in the Answer-Sheet as per instructions sent to you in the Admit Card. ***Do not fold the Answer-Sheet as this will result in error in your marks.***

4. All questions are of multiple-choice answer-type. You will find four probable answers **(A), (B), (C)** and **(D)** against each question. Find out which of the four answers appears to you to be correct or the best. Now darken the oval corresponding to the letter of the selected answer in the Answer-Sheet with **Black Ball Point Pen** as per instructions printed on the reverse of the Admit Card and in the Answer-Sheet.

5. If more than one oval is encoded for a particular answer, it will be treated as a wrong answer.

6. ***There will be negative marking for wrong answers*** $\frac{1}{3}$ ***mark will be deducted for each wrong answer.***

7. ***The Special Answer-Sheet should be handed over to the Invigilator before leaving the Examination Hall. You are permitted to take away the used Test Booklet after completion of the examination.***

8. There is a blank page at the end of this booklet for rough work.

9. Candidates are not ***allowed*** to use ***Calculator*** in the Examination.

[Please Turn Over]

1. How many cubes of 10 cm edge can be put in a cubic box of 1 m edge?

(A) 10
(B) 100
(C) 1000
(D) 10000

2. Next term of the series 198, 194, 185, 169, ...

(A) 92
(B) 112
(C) 136
(D) 144

3. Which fraction comes next in the sequence

$$\frac{1}{2}, \frac{3}{4}, \frac{5}{8}, \frac{7}{16}, ?$$

(A) $\frac{9}{32}$
(B) $\frac{10}{17}$
(C) $\frac{11}{34}$
(D) $\frac{12}{35}$

4. The last day of a century cannot be

(A) Monday
(B) Wednesday
(C) Tuesday
(D) Friday

5. The area of a square is equal to the area of a circle. The ratio between the side of a square and the radius of the circle is

(A) $\sqrt{\pi}:1$
(B) $1:\sqrt{\pi}$
(C) $1:\pi$
(D) $\pi:1$

6. Two trains, each 100 m long moving in opposite directions, cross each other in 8 seconds. If one is moving twice as fast as the other, then the speed of faster train is

(A) 40 km/hr
(B) 50 km/hr
(C) 60 km/hr
(D) 70 km/hr

7. In a river, a man takes 3 hours in rowing 3 km upstream or 15 km downstream, the speed of the current is

(A) 2 km/hr
(B) 4 km/hr
(C) 6 km/hr
(D) 9 km/hr

8. In what ratio must water be mixed with milk to gain $16\frac{2}{3}\%$ on selling the mixture at cost price?

(A) 1 : 6
(B) 2 : 3
(C) 4 : 3
(D) 6 : 1

9. Simple interest on Rs. 16,250 at 8% per annum for 73 days is

(A) Rs. 460
(B) Rs. 260
(C) Rs. 560
(D) Rs. 660

10. The diagonals of two squares are in the ratio 5 : 2. The ratio of their areas is

(A) 5 : 2
(B) 25 : 4
(C) 125 : 8
(D) 4 : 25

11. Each side of a rhombus is 5 cm. Its area is

(A) 25 cm^2
(B) 23 cm^2
(C) 24 cm^2
(D) Data inadequate

12. A man bought 5 shirts at Rs. 450 each, 4 trousers at Rs. 750 each and 12 pairs of shoes at Rs. 750 each. The average expenditure per article is

(A) Rs. 678·50
(B) Rs. 800
(C) Rs. 900
(D) Rs. 1,000

13. 45% of 280 + 28% of 450 = ?
(A) 152
(B) 252
(C) 354
(D) 454

14. The radius of a circle is increased by 1%. The percentage increase in area is
(A) 1%
(B) 1·01%
(C) 2%
(D) 2·01%

15. A dishonest dealer claims to sell his goods at the cost price but uses a false weight of 900 gm for 1 kg. His gain per cent is
(A) 13%
(B) $11\frac{1}{9}\%$
(C) 11·25%
(D) $12\frac{1}{9}\%$

16. By selling a table for Rs. 350 instead of Rs. 400, loss per cent increases by 5%; The cost price of the table is
(A) Rs. 435
(B) Rs. 417·50
(C) Rs. 1,000
(D) Rs. 1,050

17. A constable is 114 m behind a thief. The constable runs 21 m and thief 15 m in a minute. In what time will the constable catch the thief?
(A) 16 minutes
(B) 17 minutes
(C) 18 minutes
(D) 19 minutes

18. $\left[\left\{\left(-\frac{1}{2}\right)^2\right\}^{-2}\right]^{-1}$
(A) 16
(B) $\frac{1}{16}$
(C) 4
(D) $\frac{1}{4}$

19. The number of digit of the square root of 0·00059049 is
(A) 5
(B) 6
(C) 4
(D) 3

20. 3 men or 5 women can do a work in 12 days. How long will 6 men and 5 women take to finish the work?
(A) 4 days
(B) 10 days
(C) 15 days
(D) 20 days

21. Two pipes A and B can fill a cistern in 6 minutes and 7 minutes respectively. Both the pipes are opened alternately for 1 minute each. In what time will they fill the cistern?
(A) 5 minutes
(B) $5\frac{2}{3}$ minutes
(C) $6\frac{3}{7}$ minutes
(D) $1\frac{1}{4}$ minutes

22. How many times in a day, the hands of a clock are straight?
(A) 22
(B) 24
(C) 44
(D) 48

23. The reflex angle between the hands of a clock at 10·25 is
(A) 180°
(B) $192\frac{1}{2}°$
(C) 195°
(D) $197\frac{1}{2}°$

24. The sum 5+6+7+8+.....+19=?
(A) 150
(B) 170
(C) 180
(D) 190

25. $0.\dot{3} + 0.\dot{4} + 0.\dot{7} + 0.\dot{8} = ?$

(A) 2·4
(B) 2·44
(C) 2·444
(D) $2.\dot{4}$

26. If the ratio of three numbers is 3:4:5 and their LCM is 1200, then the smaller number is

(A) 60
(B) 80
(C) 100
(D) 120

27. The product of two numbers is 1575 and its division is $\frac{9}{7}$. Then the two numbers are

(A) 45, 35
(B) 81, 63
(C) 35, 27
(D) 36, 35

28. $\sqrt{2025} + \sqrt{441} + \sqrt{169} = ?$

(A) 59
(B) 69
(C) 79
(D) 89

29. The ratio of two numbers is 5 : 8 and their difference is 69. Then the two numbers are

(A) 69, 128
(B) 115, 184
(C) 43, 112
(D) 128, 197

30. If $A : B = \frac{1}{6} : \frac{1}{5}$, $B : C = \frac{1}{4} : \frac{1}{3}$, $C : D = \frac{1}{3} : \frac{1}{5}$, then A : D is

(A) $\frac{1}{24} : \frac{1}{25}$
(B) $\frac{1}{27} : \frac{1}{25}$
(C) $\frac{1}{24} : \frac{1}{29}$
(D) None of the above

31. $\frac{(6.5)^2 - (3.15)^2}{(6.5 + 3.15)} = ?$

(A) 3·5
(B) 3·51
(C) 3·52
(D) 3·35

32. The compound interest on Rs. 2,000 for 2 years at 8% per annum is

(A) Rs. 222·80
(B) Rs. 232·80
(C) Rs. 332·80
(D) Rs. 532·80

33. The rational numbers lying between $\frac{1}{4}$ and $\frac{3}{4}$ are

(A) $\frac{9}{40}, \frac{31}{41}$
(B) $\frac{13}{50}, \frac{264}{350}$
(C) $\frac{63}{250}, \frac{187}{250}$
(D) $\frac{262}{1000}, \frac{752}{1000}$

34. $\left(77 + \frac{1}{77}\right)^2 - \left(77 - \frac{1}{77}\right)^2 = ?$

(A) 2
(B) 4
(C) 1
(D) 77

35. By what least number must 21600 be multiplied to make it a perfect cube?

(A) 6
(B) 10
(C) 30
(D) 60

36. If P = 50% of Q and Q = 50% of R, then P : Q : R = ?

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

37. The average of first 100 natural numbers is
(A) 50
(B) 50·5
(C) 51
(D) 51·5

38. If the sum of two numbers is 10 and the sum of their reciprocals is $\frac{5}{12}$, the numbers would be
(A) (8, 2)
(B) (6, 4)
(C) (7, 3)
(D) (9, 1)

39. The product of two successive numbers is 1980. The smaller number is
(A) 34
(B) 35
(C) 44
(D) 45

40. $\frac{4}{5}$ of a certain number is 64. Half of the number is
(A) 32
(B) 40
(C) 80
(D) 16

41. Which is greater $\sqrt{2}$ or $\sqrt[3]{3}$?
(A) $\sqrt{2}$
(B) $\sqrt[3]{3}$
(C) Two are equal
(D) None of the above

42. The fraction equivalent to $\frac{2}{5}\%$ is
(A) $\frac{1}{40}$
(B) $\frac{1}{125}$
(C) $\frac{1}{250}$
(D) $\frac{1}{500}$

43. If $\frac{1}{5} : \frac{1}{x} :: \frac{1}{x} : \frac{1}{1.25}$, then x = ?
(A) 1·5
(B) 2
(C) 2·5
(D) 3·5

44. By selling 100 pencils, a shopkeeper gains the selling price of 20 pencils. His gain per cent is
(A) 25%
(B) 20%
(C) 15%
(D) 12%

45. Two numbers are in the ratio of 3 : 5. If each number is increased by 10, the ratio becomes 5 : 7. The numbers are
(A) 3, 5
(B) 7, 9
(C) 13, 22
(D) 15, 25

46. The simplified value of $\frac{1}{56}+\frac{1}{72}+\frac{1}{90}+\frac{1}{110}+\frac{1}{132}$ is
(A) $\frac{1}{84}$
(B) $\frac{1}{28}$
(C) $\frac{5}{84}$
(D) $\frac{1}{12}$

47. $7 \times 0{\cdot}7 \times 0{\cdot}07 \times 7000$ = ?
(A) 24·01
(B) 2·401
(C) 240·1
(D) 2401

48. The value of $\frac{3}{4}$ of a property is Rs. 21,000, the value of $\frac{4}{7}$ of the same property is
(A) Rs. 16,000
(B) Rs. 28,000
(C) Rs. 14,000
(D) Rs. 19,000

49. The bell of a wall-clock requires 3 seconds to ring 5 times. The time required for the bell to ring 6 times is

(A) 4 seconds
(B) $3\frac{3}{4}$ seconds
(C) 5 seconds
(D) $3\frac{1}{2}$ seconds

50. $1\dot{3}\dot{5} \div 2\cdot\dot{0}\dot{3} = ?$

(A) $0\cdot\dot{3}$
(B) $0\cdot\dot{5}$
(C) $0\cdot\dot{6}$
(D) $0\cdot\dot{7}$

51. In what proportion must water be added to spirit to gain 20% by selling it at the cost price?

(A) 2 : 5
(B) 1 : 5
(C) 3 : 5
(D) 4 : 5

52. $(0\cdot\overline{1})^2[1-9\times(0\cdot1\overline{6})^2] = ?$

(A) $-\frac{1}{162}$
(B) $\frac{1}{108}$
(C) $\frac{1}{109}$
(D) $\frac{7696}{10^6}$

53. Find the odd one out:

(A) 27
(B) 64
(C) 81
(D) 125

54. Rs. 6,400 are divided among three workers in the ratio $\frac{3}{5} : 2 : \frac{5}{3}$. The share of the second worker is

(A) Rs. 2,560
(B) Rs. 3,000
(C) Rs. 3,200
(D) Rs. 3,840

55. *A*, *B*, *C* started a shop by investing Rs. 27,000, Rs. 81,000 and Rs. 72,000 respectively. At the end of one year, *B*'s share of total profit was Rs. 36,000. The total profit was

(A) Rs. 1,08,000
(B) Rs. 1,16,000
(C) Rs. 80,000
(D) Rs. 92,000

56. If $\sqrt{15} = 3{\cdot}8729$, then the value of $\frac{\sqrt{5}+\sqrt{3}}{\sqrt{5}-\sqrt{3}}$ is

(A) 7·8729
(B) 7·7829
(C) 7·2987
(D) 7·8279

57. Find the odd one out:

(A) Ear
(B) Eye
(C) Tounge
(D) Blood

58. A man performs $\frac{2}{15}$ of the total journey by rail, $\frac{9}{20}$ by bus and remaining 10 km on cycle. His total journey is

(A) 30·2 km
(B) 38·4 km
(C) 23 km
(D) 24 km

59. 40 men take 8 days to earn Rs. 2,000. How many men will earn Rs. 200 in 2 days?

(A) 10
(B) 12
(C) 14
(D) 1

60. The least perfect square number which is divisible by 3, 4, 5, 6 and 8 is

(A) 900
(B) 1200
(C) 1600
(D) 3600

61. Fill in the blank in the sequence 3, 15, 4, 16, 5, 17, 6, ___, 7.

(A) 12
(B) 18
(C) 15
(D) 13

62. The greatest possible length which can be used to measure exactly the length 7 m, 3 m 85 cm, 12 m 95 cm is

(A) 15 cm
(B) 25 cm
(C) 35 cm
(D) 42 cm

63. $\left(1-\frac{1}{3}\right)\left(1-\frac{1}{4}\right)\left(1-\frac{1}{5}\right).....\left(1-\frac{1}{99}\right)\left(1-\frac{1}{100}\right)=?$

(A) $\frac{1}{100}$
(B) $\frac{99}{100}$
(C) $\frac{1}{50}$
(D) $\frac{1}{25}$

64. Find the odd one out:

(A) Motor-cycle
(B) Scooter
(C) Bi-cycle
(D) Van

65. What number should come next in the sequence 19, 2, 38, 3, 114, 4, ___?

(A) 228
(B) 256
(C) 356
(D) 456

66. What number should come next in the sequence 0, 2, 8, 14, 24, 34, ___?

(A) 48
(B) 42
(C) 40
(D) 38

67. Which of the following fractions is the largest?

(A) $\frac{7}{8}$
(B) $\frac{13}{16}$
(C) $\frac{31}{40}$
(D) $\frac{63}{80}$

68. Fill the blank in the series looking at both the letter pattern and the number pattern:

B_2CD, _____, BCD_4, B_5CD, BC_6D

(A) B_2C_2D
(B) BC_3D
(C) B_2C_3D
(D) BCD_7

69. If $\frac{1}{25} : \frac{1}{x} :: \frac{1}{x^2} : \frac{1}{78{\cdot}125}$, then x = ?

(A) 1·5
(B) 2
(C) 12·5
(D) 3·5

70. The sum of all exterior angles of a convex polynomial of n sides is

(A) 4 right angle
(B) $\frac{2}{n}$ right angle
(C) $2(n-2)$ right angle
(D) $\frac{n}{2}$ right angle

71. Look carefully for the pattern, and then choose which pair of numbers comes next:

1 10 7 20 13 30 19

(A) 25 40
(B) 40 25
(C) 25 31
(D) 40 50

72. What number should come next in the sequence 3, 8, 15, 24, 35, ____?

(A) 44
(B) 46
(C) 48
(D) 50

73. If the diagonals of a rhombus are 8 cm and 6 cm, the square of its side is

(A) 25 cm^2
(B) 24 cm^2
(C) 55 cm^2
(D) 36 cm^2

74. What comes next in the sequence 1, 3, 7, 15, 31, 63, ____?

(A) 127
(B) 125
(C) 121
(D) 129

75. Find the odd one out:

(A) Rocket
(B) Aeroplane
(C) Helicopter
(D) Van-rickshaw

76. The difference of $1\frac{3}{16}$ and its reciprocal is

(A) $1\frac{1}{8}$
(B) $1\frac{1}{3}$
(C) $\frac{15}{16}$
(D) $\frac{105}{304}$

77. Find the odd one out:

(A) Square
(B) Circle
(C) Parallelogram
(D) Rectangle

78. At what rate of simple interest a certain sum will be doubled in 15 years?

(A) $5\frac{1}{2}\%$ p.a.
(B) 6% p.a.
(C) $6\frac{2}{3}\%$ p.a.
(D) $7\frac{1}{2}\%$ p.a.

79. The area of a square field is 6050 m^2. The length of its diagonal is

(A) 110 m
(B) 112 m
(C) 120 m
(D) 135 m

80. A tree increases annually by $\frac{1}{8}$ of its height. By how much will it increase after 2 years, if it stands today 64 cm high?

(A) 72 cm
(B) 74 cm
(C) 75 cm
(D) 81 cm

81. If $x+\frac{1}{x}=2$, then the value of $x^{2016}+x^{-2016}$ is

(A) 0
(B) –2
(C) 2
(D) 1

82. $(997)^2+(998)^2+(999)^2-997\times998-998\times999-999\times997=?$

(A) 0
(B) 1
(C) 2
(D) 3

83. Two whole numbers whose sum is 64, cannot be in the ratio

(A) 5 : 3
(B) 7 : 1
(C) 3 : 4
(D) 9 : 7

84. On a certain sum, the simple interest at the end of $12\frac{1}{2}$ years becomes $\frac{3}{4}$ of the sum. The rate per cent per annum is

(A) 4%
(B) 5%
(C) 6%
(D) 8%

85. What comes next in the sequence 5·2, 4·8, 4·4, 4, ___ ?

(A) 3
(B) 3·3
(C) 3·5
(D) 3·6

86. If the sides of a triangle are in the ratio 3 : 4 : 5, then the largest angle is

(A) 50°
(B) 75°
(C) 90°
(D) 120°

87. What decimal fraction is 40 ml of a litre?

(A) ·4
(B) 0·04
(C) 0·004
(D) 0·0004

88. In a school, the ratio of boys and girls is 4 : 5. When 100 girls leave the school, the ratio becomes 6 : 7. How many boys are there in the school?

(A) 1300
(B) 1500
(C) 1600
(D) 1200

89. The area of a circle is 24·64 m^2. The circumference of the circle is

(A) 14·64 m
(B) 16·36 m
(C) 17·60 m
(D) 18·40 m

90. *A* can cultivate $\frac{2}{5}$ th of the land in 6 days and *B* can cultivate $\frac{1}{3}$rd of the land in 10 days. Working together *A* and *B* can cultivate $\frac{4}{5}$ th of the land in

(A) 4 days
(B) 5 days
(C) 8 days
(D) 10 days

91. A container contains x kg of milk. From this container, y kg of milk was taken out and replaced by water. This process was further repeated (n–1) times. How much milk is now there in the container?

(A) $x(1-\frac{y}{x})^n$ kg
(B) $x(1-\frac{y}{x})^2$ kg
(C) $x(1-\frac{y}{x})^{n-1}$ kg
(D) $x(1-\frac{y}{x})^3$ kg

92. What number should come next in the sequence 20, 27, 23, 37, 26, ___ ?

(A) 44
(B) 47
(C) 50
(D) 53

93. The value of $\left[(\cdot 98)^3+(\cdot 02)^3+3\times 0\cdot 98\times \cdot 02-1\right]$ is

(A) 1
(B) 1·09
(C) 1·98
(D) 0

94. What number should come next in the sequence 6, 18, 72, 360, 2160, ___ ?

(A) 12120
(B) 13120
(C) 14120
(D) 15120

95. A student was asked to divide a number by 3, but instead of dividing it, he multiplied it by 3 and got 29·7. The correct answer was

(A) 3·3
(B) 9·3
(C) 9·8
(D) 9·9

96. If a : b = 3 : 4, then (7a+3b) : (7a−3b) = ?

(A) 4 : 3
(B) 5 : 2
(C) 11 : 3
(D) 37 : 19

97. What number should come next in the sequence 7, 14, 23, 34, 47, ____ ?

(A) 62
(B) 60
(C) 64
(D) 66

98. Which of the following sets of numbers is in ascending order?

(A) $\frac{9}{11}, \frac{7}{8}, \frac{5}{7}$
(B) $\frac{7}{8}, \frac{5}{7}, \frac{9}{11}$
(C) $\frac{5}{7}, \frac{9}{11}, \frac{7}{8}$
(D) $\frac{5}{7}, \frac{7}{8}, \frac{9}{11}$

99. The least number which when diminished by 5, is divisible by each one of 21, 28, 36, 45 is

(A) 425
(B) 1259
(C) 1260
(D) 1265

100. How many digits are required for numbering the pages of a book having 300 pages?

(A) 299
(B) 492
(C) 789
(D) 792

101. The least number of square tiles required to pave the ceiling of a room 15m 17cm long and 9m 2cm broad is

(A) 656
(B) 738
(C) 814
(D) 902

102. What number should come next in the sequence 3, 7, 13, 27, 53, ____ ?

(A) 105
(B) 106
(C) 107
(D) 108

103. Find the odd one out:

(A) Zoology
(B) Physiology
(C) Botany
(D) Philosophy

104. A commission agent allows a rebate of 2% to an investor while the company pays on interest of 15% on the investment. What rate of interest does the investor actually earn on his investment?

(A) 15%
(B) $16\frac{3}{8}\%$
(C) 17%
(D) $15\frac{15}{49}\%$

105. How many $\frac{1}{8}$'s are there in $37\frac{1}{2}$?

(A) 300
(B) 400
(C) 500
(D) Cannot be determined

106. Gold is 19 times as heavy as water and copper is 9 times as heavy as water. The ratio in which these two metals be mixed so that the mixture is 15 times as heavy as water, is

(A) 1 : 2
(B) 2 : 3
(C) 3 : 2
(D) 19 : 135

107. The simplified value of $\frac{1}{1000}\left(\frac{1}{5}+999\frac{494}{495}\times 99\right)$ is

(A) 99
(B) 990
(C) 9900
(D) 99000

108. Look carefully for the pattern, and then choose which pair of numbers comes next:

9 12 11 14 13 16 15 ___

(A) 14 13
(B) 18 21
(C) 18 17
(D) 17 18

109. Mean proportional to 0·32 and 0·02 is

(A) 0·8
(B) 0·08
(C) 0·008
(D) 0·4

110. Find the odd one out:

(A) Doctor
(B) Teacher
(C) Student
(D) Head-master

111. When expressed $8\cdot0\overline{63}$ as a vulgar fraction is

(A) $8\frac{7}{110}$
(B) $8\frac{9}{11}$
(C) $8\frac{4}{11}$
(D) $8\frac{5}{11}$

112. If 20% of (P+Q) = 50% of (P−Q), then P : Q is

(A) 5 : 7
(B) 7 : 5
(C) 7 : 3
(D) 7 : 8

113. $\left(\frac{1}{4}\right)^{-2}-3\times(8)^{\frac{2}{3}}\times 4^{\circ}+\left(\frac{9}{16}\right)^{-\frac{1}{2}}=?$

(A) $4\frac{1}{3}$
(B) $5\frac{1}{3}$
(C) $4\frac{1}{2}$
(D) $5\frac{1}{2}$

114. A fisherman can row 2 km against the stream in 20 minutes and return in 15 minutes. The speed of the boat in still water is

(A) 7 km/hr
(B) 2 km/hr
(C) 3 km/hr
(D) $1\frac{1}{2}$ km/hr

115. Two trains running in opposite directions cross a man standing on the platform in 27 sec. and 17 sec. respectively and they cross each other in 23 sec. The ratio of their speeds is

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

116. Find the odd one out:

(A) Earth
(B) Moon
(C) Mars
(D) Venus

117. What comes next in the sequence 2, 6, 18, 54, ___?

(A) 108
(B) 148
(C) 162
(D) 216

118. A pump can fill a tank with water in 2 hours. Because of a leak in the tank, it takes $2\frac{1}{3}$ hours to fill the tank. The leak can empty the filled tank in

(A) $2\frac{1}{3}$ hours
(B) 7 hours
(C) 8 hours
(D) 14 hours

119. $\sqrt{248+\sqrt{51+\sqrt{169}}} = ?$

(A) 18
(B) 17
(C) 16
(D) 15

120. What number should come next in the sequence 4, 5, 7, 10, 11, 13, 16, ___ ?

(A) 17
(B) 18
(C) 19
(D) 21

121. What comes next in the sequence 2, 5, 10, 17, 26, ___ ?

(A) 33
(B) 35
(C) 36
(D) 37

122. If 2A = 3B = 4C, then A : B : C is

(A) 2 : 3 : 4
(B) 4 : 3 : 2
(C) 6 : 4 : 3
(D) 3 : 4 : 5

123. What number should come next in the sequence 6, 11, 21, 36, 56, ___ ?

(A) 78
(B) 81
(C) 82
(D) 86

124. The product of two co-primes is 117; their L.C.M. should be

(A) 1
(B) 117
(C) equal to their H.C.F.
(D) Cannot be calculated

125. $\sqrt{20+\sqrt{20+\sqrt{20+}}....} = ?$

(A) 2
(B) 3
(C) – 4
(D) 5

126. A hiker walks into a cave, and finds an old man, who has 9 identical looking cubes. The old man gives him a weighing scale and says; ''8 cubes are made of copper, and 1 is made of gold. The gold cube is marginally heavier than the copper cubes. If you can tell me which is the gold cube with the minimum number of weighing(s), you may have it.''

Find the number of weighing(s) needed for the man to guarantee he walks away with the gold cube.

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

127. A number of bacteria are placed in a glass. One second later each bacterium divides in two, the next second each of the resulting bacteria divides in two again, etc. After one minute the glass is full. When was the glass half-full?

(A) At 30 seconds
(B) At 45 seconds
(C) At 49 seconds
(D) At 59 seconds

128. Examine the following statements:

(i) George attends Music classes on Monday.

(ii) He attends Mathematics classes on Wednesday.

(iii) His Literature classes are not on Friday.

(iv) He attends History classes on the day following the day of his Mathematics classes.

(v) On Tuesday, he attends his Sports classes.

If he attends just one subject in a day and his Sunday is free, then he is also free on

(A) Monday

(B) Thursday

(C) Saturday

(D) Friday

129. Members of a club is organized into four committees according to the following rules:

(i) Each member belongs to exactly two committees.

(ii) Each pair of committees has exactly one member in common.

Then the number of members of the club

(A) equals 4

(B) equals 6

(C) equals 8

(D) cannot be determined from the given information.

130. Two cars start towards each other, from two places A and B which are at a distance of 160 km. They start at the same time 08:10 AM. If the speeds of the cars are 50 km and 30 km per hour respectively, they will meet each other at

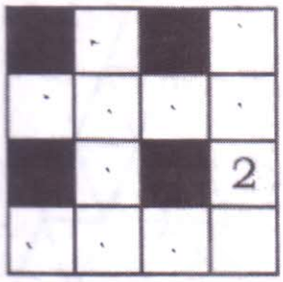
(A) 10:10 AM

(B) 10:30 AM

(C) 11:10 AM

(D) 11:20 AM

131. Fill in the number grid with the numbers listed. Which of the numbers won't fit?



2937, 7328, 8329, 8928, 9827

(A) 2937

(B) 7328

(C) 8928

(D) 9827

132. Fill in the word grid with the words listed. Which word won't fit?

NEWS, SENT, TEST, TOWN, WINE

(A) NEWS

(B) TEST

(C) TOWN

(D) WINE

133. A water tank can be filled up by two pumps in 20 minutes and 30 minutes respectively. They were started together, but due to some technical fault, the 1st pump stopped after some time and the 2nd pump worked alone for the last 10 minutes. How long did they work together.

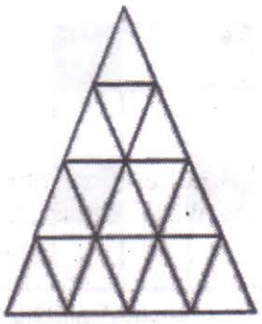
(A) 4 minutes

(B) 6 minutes

(C) 8 minutes

(D) 10 minutes

134. How many triangles are there in the image below?



(A) 26
(B) 27
(C) 20
(D) 30

135. If $(a - b)$ is 6 more than $(c + d)$ and $(a + b)$ is 3 less than $(c - d)$, then $(a - c)$ is

(A) $\frac{1}{2}$
(B) 1
(C) $1\frac{1}{2}$
(D) 2

136. The average score of 10 students in a test is 25. The lowest score is 20. Then the highest score is at most

(A) 30
(B) 70
(C) 75
(D) 100

137. If $64^2 = 36^2 + 20z$, the value of z is

(A) 70
(B) 120
(C) 140
(D) 180

138. There are 5 people, A, B, C, D, E, that are standing in a line facing front. A can see no one, while E can see everyone. Starting with A, each of them is asked "How many people standing before you are also taller than you are?" The replies from each of them were 0, 1, 1, 0 and 1 respectively.

Assuming that no two people have the same height, arrange these 5 people according to their height, starting with the shortest.

(A) ABCED
(B) BAEDC
(C) BACED
(D) BCAED

Instruction for Question Nos. 139 and 140

Read the following passage and answer the 2 (two) questions that follow:

Once my brother stole my wallet and put it behind a locked door. Then he laid out 5 coloured keys, only one of them unlocking the door.

Using the clues below, answer the next two questions.

(i) The Red key is somewhere to the left of the key to the door.
(ii) The Blue key is not at one of the ends.
(iii) The Green key is three spaces away from the key to the door (2 between).
(iv) The Yellow key is next to the key to the door.
(v) The Orange key is in the middle.

139. Which one is the correct key?

(A) Blue
(B) Orange
(C) Yellow
(D) Green

140. How were the keys arranged?

(A) Blue, Yellow, Orange, Green, Red
(B) Blue, Green, Orange, Red, Yellow
(C) Green, Red, Orange, Blue, Yellow
(D) Yellow, Blue, Orange, Red, Green

141. The letters L, M, N, O, P, Q, R, S and T in their order are substituted by nine integers 1 to 9 but not in that order. 4 is assigned to P. The difference between P and T is 5. The difference between N and T is 3. What is the integer assigned to N?

(A) 7
(B) 5
(C) 4
(D) 6

142. If A, B, C are distinct digits and

$$\begin{array}{cccc} & A & B & C \\ & B & C & A \\ + & C & A & B \\ \hline A & B & B & C \end{array}$$

Then the value of A + B + C is

(A) 16
(B) 17
(C) 18
(D) 19

143. It is known that 20% of the mangoes are rotten. If the number of rotten mangoes is 35, then the total number of mangoes is

(A) 150
(B) 175
(C) 180
(D) 185

144. When the price of onion is decreased by 25% it becomes Rs. 48/kg. What was the previous price?

(A) Rs. 56/kg
(B) Rs. 64/kg
(C) Rs. 80/kg
(D) Rs. 96/kg

Instruction for Question Nos. 145 and 146

Read the following passage and answer the 2 (two) questions that follow:

A, B, C, D, E and F are cousins. Assume that the ages are in whole number and no two cousins are of the same age. The youngest is 17 years old and the oldest E is 22 years old. F is somewhere between B and D in age. A is older than B. C is older than D. A is one year older than C.

145. Which one of the following is possible?

(A) F is 18 years old.
(B) F is 19 years old.
(C) F is 20 years old.
(D) D is 20 years old.

146. What is the number of logically possible orders of all six cousins in terms of increasing age?

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

147. The school nurse is recording the heights of students in a class. When comparing their heights, the students find that

(i) Alex is taller than Brian but shorter than Charllie.
(ii) Daniel is taller than Edward but shorter than Alex.

Who is the tallest?

(A) Alex
(B) Brian
(C) Charlie
(D) Daniel

148. Recall that for any positive integer n, $n! = 1 \times 2 \times \ldots \times n$. If $x! = \frac{(7!)!}{7!}$, then x equals

(A) 6!
(B) 7!
(C) 7! – 1
(D) (6!)!

149. All pangs are pings. Some pings are pongs. Therefore some pangs are pongs. True or false?

(A) True! All pangs are pongs.
(B) False! Some pangs are pongs.
(C) False! There might not be a pang that is a pong.
(D) False! None of the pangs can be pongs.

150. If RAM is coded as WFR, then how is SITA coded?

(A) NDOV
(B) NDOF
(C) XNYF
(D) XMWF

151. In a particular month of some year, there are three Mondays which have even dates. On which day of the week does the 15th of that month fall?

(A) Monday
(B) Wednesday
(C) Friday
(D) Sunday

152. A caterpillar crawls up a pole 75 inches high, starting from the ground. Each day it crawls up 5 inches, and each night it slides down 4 inches. When will it first reach the top of the pole?

(A) The 70th day
(B) The 71st day
(C) The 72nd day
(D) The 75th day

153. Let $X_1, X_2, \ldots, X_{100}$ be 100 numbers such that $X_i + X_{i+1} = 100$ for all i. If $X_{10} = 1$, then the value of X_1 is

(A) 100
(B) 99
(C) 101
(D) 1

154. In a group of six women there are four dancers, four vocal musicians, one actress and three violinists. Girija and Vanaja are among the violinists while Jalaja and Shailaja do not know how to play on the violin. Shailaja and Tanuja are among the dancers. Jalaja, Vanaja, Shailaja and Tanuja are all vocal musicians and two of them are also violinists. If Pooja is an actress, who among the following is certainly a dancer and a violinist?

(A) Jalaja
(B) Pooja
(C) Shailaja
(D) Tanuja

155. Sandy says, "I went to the market."
Teresa says, "Sandy went to the market or the theater."
If we know that Sandy lied and Teresa spoke the truth, which of these statements must be true?

(A) Sandy did not go to the market.
(B) Sandy went to the market.
(C) Sandy went to the theater.
(D) Sandy did not go to the theater.

156. A vessel contains syrup, and another vessel contains an equal amount of water. From the first vessel, a cupful of syrup is transferred to the second vessel and mixed well. Then a cupful (using the same cup) of the mixture in the second vessel is transferred to the first vessel and mixed well. Then

(A) the ratio of syrup to water in the first vessel is greater than the ratio of water to syrup in the second vessel.
(B) the ratio of syrup to water in the first vessel is less than the ratio of water to syrup in the second vessel.
(C) the ratio of syrup to water in the first vessel is same as the ratio of water to syrup in the second vessel.
(D) which ratio is larger depends on the size of the cup.

157. The letters of the word UNDERTAKING are arranged in alphabetic order. Which letter will be in the middle position?

(A) N
(B) K
(C) I
(D) G

158. Candidates in a competitive examination consisted of 60% men and 40% women. 70% men and 75% women cleared the qualifying test and entered the final test where 80% men and 70% women were successful.

Which of the following statements is correct?

(A) Success rate is higher for women.
(B) Overall success rate is below 50%.
(C) More men cleared the examination than women.
(D) Both (A) and (B) above are correct.

159. In a box of marbles, there are three less white marbles than the red ones and five more white marbles than the green ones. If there are a total of 10 white marbles, how many marbles are there in the box?

(A) 26
(B) 28
(C) 32
(D) 36

160. In a family the father took $\frac{1}{4}$ of the cake and he had 3 times as much as others had. The total number of family members is

(A) 3
(B) 10
(C) 12
(D) 15

161. In a plane, line X is perpendicular to line Y and parallel to line Z; line U is perpendicular to both lines V and W; line X is perpendicular to line V.

Which one of the following statements is correct?

(A) Z, U and W are parallel.
(B) X, V and Y are parallel.
(C) Z, V and U are all perpendicular to W.
(D) Y, V and W are parallel.

162. Three friends, Mr. Green, Mr. Red and Mr. Blue, were returning from a party. One man wore a green suit, one wore a red suit, and one wore a blue suit.

The man in the blue suit said to the others: Have you noticed that none of us is wearing a suit color that matches our name?"

Mr. Red then turned to him and exclaimed "You're absolutely right !"

Assume everyone spoke the truth, what color suit was Mr. Green wearing?

(A) Green
(B) Red
(C) Blue
(D) Cannot be determined from the given information.

163. Find the odd one out:

(A) Cylinder
(B) Cone
(C) Sphere
(D) Hemisphere

164. Between 6 PM and 7 PM the minute hand of a clock will be ahead of the hour hand by 3 minutes at

(A) 6:15 PM
(B) 6:18 PM
(C) 6:36 PM
(D) 6:48 PM

165. Find the odd one out:

(A) Conscience
(B) Morality
(C) Conduct
(D) Weight

166. Let $X_1, X_2 \ldots, X_{100}$ be 100 integers such that the sum of any five of them is 20. Then

(A) the largest X_i equals 5
(B) the smallest X_i equals 3
(C) $X_{17} = X_{83}$
(D) None of the foregoing statements is true.

167. Veena who is the sister-in-law of Ashok, is the daughter-in-law of Kalyani. Dheeraj is the father of Sudeep who is the only brother of Ashok. How Kalyani is related to Ashok?

(A) Mother-in-law
(B) Mother
(C) Aunt
(D) Wife

Instruction for Question Nos. 168 and 169

Read the following passage and answer the 2 (two) questions that follow:

Four persons, Alok, Bhupesh, Chander and Dinesh have a total of Rs. 100 among themselves. Alok and Bhupesh between them have as much money as Chander and Dinesh between them, but Alok has more money than Bhupesh; and Chander has only half the money that Dinesh has. Alok has in fact Rs. 5 more than Dinesh.

168. Who has the maximum amount of money?

(A) Alok
(B) Bhupesh
(C) Chander
(D) Dinesh

169. Who has the least amount of money?

(A) Alok
(B) Bhupesh
(C) Chander
(D) Dinesh

170. X walked 35 m towards South, then turned left and walked 25 m and again turned left and walked for 35 m. He then turned to his right and walked 20 m. At what distance and direction from the starting point is X now standing?

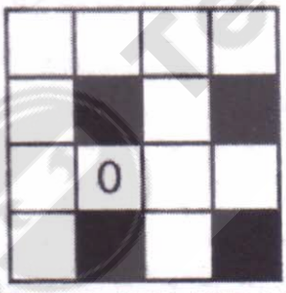
(A) 20 m West
(B) 45 m East
(C) 5 m East
(D) 45 m North

171. Several friends are planning a road trip. If John goes on the road trip, then Kelly also goes. If Kelly does not go, then Lawrence does not go. Which of the following statements must be true?

(i) If John goes on the road trip, then Lawrence goes too.
(ii) If John does not go on the road trip, then Kelly too does not go.
(iii) If John does not go on the road trip, then Lawrence goes.
(iv) If Lawrence goes on the road trip, then John goes.
(v) If Lawrence goes on the road trip, then Kelly goes.

(A) (ii)
(B) (iii)
(C) (iv)
(D) (v)

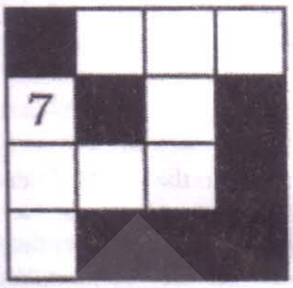
172. Fill in the number grid with the numbers listed. Which of the numbers won't fit?



2670, 2790, 7096, 9027, 9672

(A) 2670
(B) 2790
(C) 7096
(D) 9027

173. Fill in the number grid with the numbers listed. Which of the numbers won't fit?



137, 173, 301, 731, 770

(A) 137
(B) 173
(C) 301
(D) 731

174. John tells the truth on Mondays, Thursdays and Saturdays, but lies on every other day.

One day he said, "I will tell the truth tomorrow."

On which day of the week did he make this statement?

(A) Sunday
(B) Monday
(C) Tuesday
(D) Wednesday

175. There are three boxes. The first box contains 10 red balls, the second box contains 10 blue balls, and the third box contains 5 red and 5 blue balls. The boxes are wrongly labelled as red, blue and red-blue. You have to correctly label each box.

You are allowed to open one box, pick one ball at random, see its color and put it back into the box, without seeing the color of the other balls.

What is the smallest number of such operations necessary to correctly label the boxes?

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

176. Johnny's mother had three children. The first child was named April. The second child was named May. What was the third child's name?

(A) June
(B) July
(C) Cannot be determined from the given information
(D) None of the above

177. BACON is coded as 2131514, hence DARING is coded as

(A) 4116947
(B) 41619147
(C) 419146
(D) 41189147

178. Going 50 m to the south of her house, Radhika turns left and goes another 20 m. Then turning to the north, she goes 30 m and then starts walking to her house. In which direction is she walking now?

(A) North
(B) South East
(C) North West
(D) West

179. The distinct letters of the word EXTRAORDINARY are arranged in alphabetic order. Then the letter in the fifth position from left is

(A) N
(B) O
(C) I
(D) A

180. From the two statements below, which of the following conclusions can be drawn?

(i) Eating red meat increases the risk of heart attacks
(ii) Most Indians are vegetarians.

(A) Indians should eat more meat.
(B) Americans should reduce their beef consumption.
(C) Indians have lower risk of heart attacks.
(D) Doctors and statisticians are liars.

181. John, Aries and Joseph are brothers with different ages. Given that

(i) Aries is the oldest.
(ii) Joseph is not the oldest.
(iii) John is not the youngest.

Who is the youngest?

(A) Aries
(B) John
(C) Joseph
(D) Cannot be determined from the given information.

182. Find the odd one out:

(A) Coffee
(B) Milk
(C) Sugar
(D) Tea

183. In a row 'A' is in the 11th position from the left and 'B' is in the 10th position from the right. If 'A' and 'B' interchange, then 'A' becomes 18th from the left. How many persons are there in the row other than 'A' and 'B'?

(A) 27
(B) 26
(C) 25
(D) 24

184. The perimeter of a rectangle and a square is same, i.e. 80 metres. But length and breadth of the rectangle is in the ratio 3:5. The ratio of area of rectangle:square is

(A) 3 : 5
(B) 9 : 25
(C) 16 : 15
(D) 15 : 16

185. Choose the two correct numbers in the '•' marked places of the multiplication below:

$$\begin{array}{cccccc} & & \bullet & 7 & \bullet & 9 \\ & & & & \times & 5 \\ \hline 3 & 3 & 9 & 4 & 5 & \end{array}$$

(A) 8, 4
(B) 6, 8
(C) 4, 8
(D) 8, 6

186. Six persons are seated around a hexagonal table. Anup is seated opposite Belal, who is between Chirag and Derek. Anup is between Ela and Farook. Ela is to the left of Derek. Which of the following pairs is facing each other?

(A) Ela and Farook
(B) Derek and Ela
(C) Chirag and Ela
(D) Chirag and Derek

187. For Physical Education, students at a particular school have to choose exactly one of three games: Basketball, Water polo, and Tennis.

Ellen said, "I played neither basketball nor water polo." If Ellen lied, which of the following statements must be true?

(A) Ellen did not play basketball
(B) Ellen did not play water polo
(C) Ellen did not play tennis
(D) None of the above

188. A cow costs more than 4 goats but less than 5 goats. If a goat costs between Rs. 600 and Rs. 800, which of the following is a most valid conclusion?

(A) A cow costs more than Rs. 2,500.
(B) A cow costs less than Rs. 3,600.
(C) A cow costs between Rs. 2,600 and Rs. 3,800.
(D) A cow costs between Rs. 2,400 and Rs. 4,000.

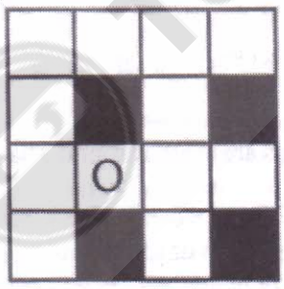
189. A car goes from city A to city B with a speed of 40 km/hr and returns to City A with a speed of 60 km/hr. What is the average speed of the car?

(A) 45 km/hr
(B) 48 km/hr
(C) 50 km/hr
(D) Depends on the distance between the two cities.

190. D is taller than C and E. A is not as tall as E. C is taller than A. D is not as tall as B. Then, who is the 2nd tallest person?

(A) B
(B) C
(C) D
(D) E

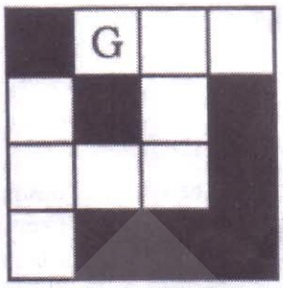
191. Fill in the word grid with the words listed. Which word won't fit?



FATE, FLAT, FORT, ROLE, TILL

(A) FATE
(B) FLAT
(C) ROLE
(D) TILL

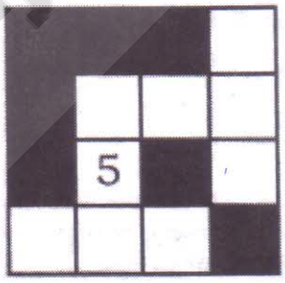
192. Fill in the word grid with the words listed. Which word won't fit?



AGE, ELM, GEL, GUM, LAG

(A) AGE
(B) ELM
(C) GUM
(D) LAG

193. Fill in the number grid with the numbers listed. Which of the numbers won't fit?



305, 359, 530, 593, 950

(A) 305
(B) 359
(C) 530
(D) 950

194. A society consists of only two types of people—fighters and cowards. Two cowards are always friends. A fighter and a coward are always enemies. Fighters are indifferent to one another. It is known that A and B are enemies, C and D are friends, E and F are indifferent to each other, A and E are not enemies, while B and F are enemies.

Which of the following statements is true?

(A) B, C and F are cowards.
(B) A, E and F are fighters.
(C) B and E are in the same category.
(D) A and F are in different categories.

195. There are 3 boxes, exactly one of which has a gold bar. You can keep the gold bar if you pick the correct box.

On each box there is a statement, exactly one of which is true.

- Box 1: The gold bar is in this box.
- Box 2: The gold bar is not in this box.
- Box 3: The gold bar is not in box 1.

Which box has the gold bar?

(A) Box 1
(B) Box 2
(C) Box 3
(D) Cannot be determined from the given information.

196. Location of B is north of A and location of C is east of A. The distances AB and AC are 5 km and 12 km respectively. The shortest distance (in km) between the locations B and C is

(A) 60
(B) 13
(C) 17
(D) 7

197. Two men, Anil and David, and two women, Shabnam and Rekha are in a sales group. Only two speak Tamil. The other two speak Marathi. Only one man and one woman can drive a car. Shabnam speaks Marathi. Anil speaks Tamil. Both Rekha and David can drive.

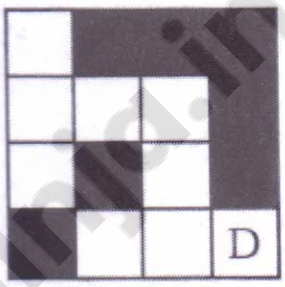
Which of the following statements is true?

(A) Both the Tamil speakers can drive a car.
(B) Both the Marathi speakers can drive a car.
(C) Both of those who can drive a car speak Marathi.
(D) One of those who can drive a car speaks Tamil.

198. In a knock-out tournament—that is a tournament in which the winner in any match moves to the next round and the loser gets eliminated—there are 22 participants. Then the total number of matches to be played in the tournament is

(A) 20
(B) 21
(C) 22
(D) depends on the way the fixture is prepared.

199. Fill in the word grid with the words listed. Which word won't fit?



AND, ARE, EAR, RED, RUN

(A) AND
(B) ARE
(C) EAR
(D) RUN

200. A is C's son. C and Q are sisters. Z is Q's mother. P is son of Z. How is P related to A?

(A) Brother
(B) Maternal uncle
(C) Uncle
(D) Grandfather