1. A alone can do a piece of work in 6 days and B alone in 8 days. A and B undertook to do it for ` 3,200. With the help of C, they completed the work in 3 days. How much is to be paid to C?
   1) `375  2) `400
   3) `600  4) `800

2. A vendor bought toffees at 6 for a rupee. How many for a rupee must he sell to gain 20%?
   1) 3  2) 4
   3) 5  4) 6

3. In how many different ways can the letters of the word ‘OPTICAL’ be arranged so that the vowels always come together?
   1) 120  2) 720
   3) 4320  4) 2160

4. 3 pumps, working 8 hours a day, can empty a tank in 2 days. How many hours a day must 4 pumps work to empty the tank in 1 day?
   1) 9  2) 10
   3) 11  4) 12

5. Sakshi invests a part of ` 12,000 in 12% stock at ` 120 and the remainder in 15% stock at ` 125. If his total dividend per annum is ` 1,360, how much does he invest in 12% stock at ` 120?
   1) `4,000  2) `4,500
   3) `5,500  4) `6,000

6. The true discount on a bill of ` 540 is ` 90. The banker's discount is
   1) `60  2) `108
   3) `110  4) `112

7. Simran started a software business by investing ` 50,000. After six months, Nanda joined her with a capital of ` 80,000. After 3 years, they earned a profit of ` 24,500. What was Simran's share in the profit?
   1) `9,423  2) `10,250
   3) `12,500  4) `10,500

8. A tap can fill a tank in 6 hours. After half the tank is filled, three more similar taps are opened. What is the total time taken to fill the tank completely?
   1) 3 hrs. 15 min.  2) 3 hrs. 45 min.
   3) 4 hrs.  4) 4 hrs. 15 min.

9. A bag contains 6 black and 8 white balls. One ball is drawn at random. What is the probability that the ball drawn in white?
   1) 3/4  2) 4/7
   3) 1/8  4) 3/7

10. The angle of elevation of a ladder leaning against a wall is 60° and the foot of the ladder is 4.6 m away from the wall. The length of the ladder is
    1) 2.3 m  2) 4.6 m
    3) 7.8 m  4) 9.2 m

11. How many bricks, each measuring 25 cm X 11.25 cm X 6 cm, will be needed to build a wall of 8 m X 6 m X 22.5 cm?
    1) 5600  2) 6000
    3) 6400  4) 7200

12. The price of 10 chairs is equal to that of 4 tables. The price of 15 chairs and 2 tables together is ` 4,000. The total price of 12 chairs and 3 tables is
    1) `3,500  2) `3,750
    3) `3,840  4) `3,900
13. The interest on ` 750 for 2 years is the same as the true discount on ` 960 due 2 years hence. If the rate of interest is the same in both cases, it is
1) 12%  
2) 14%  
3) 15%  
4) 18%

14. A train running at the speed of 60 km/h crosses a pole in 9 seconds. What is the length of the train?
1) 120 m  
2) 180 m  
3) 324 m  
4) 150 m

15. The length of the bridge, which a train 130 metres long and travelling at 45 km/h can cross in 30 seconds is
1) 200 m  
2) 225 m  
3) 245 m  
4) 250 m

16. What is the speed of the train whose length is 210 metres?
I. The train crosses another train of 300 metres length running in the opposite direction in 10 seconds.
II. The train crosses another train running in the same direction at the speed of 60 km/h in 30 seconds.
1. I alone is sufficient while II alone is not sufficient to answer
2. II alone is sufficient while I alone is not sufficient to answer
3. Either I or II alone is sufficient to answer
4. Both I and II are necessary to answer

17. It was Sunday on Jan. 1, 2006. What was the day of the week Jan. 1, 2010?
1) Sunday  
2) Saturday  
3) Friday  
4) Wednesday

18. The ratio between the length and the breadth of a rectangular park is 3: 2. If a man cycling along the boundary of the park at the speed of 12 km/h completes one round in 8 minutes, then the area of the park (in sq.m.) is

19. What is the unit digit in \((6374^{1793} \times (625)^{317} \times (341)^{491})\)?
1) 0  
2) 2  
3) 3  
4) 5

20. Evaluate: \(((2.39^{12}-1.61)^{2}/(2.39-1.61))\)
1) 2  
2) 4  
3) 6  
4) 8

21. Find the odd man out.
8, 27, 64, 100, 125, 216, 343
1) 27  
2) 100  
3) 125  
4) 343

22. A vessel is filled with liquid, 3 parts of which are water and 5 parts syrup. How much of the mixture must be drawn off and replaced with water so that the mixture may be half water and half syrup?
1) 1/3  
2) 1/4  
3) 1/5  
4) 1/7

23. Given that \(10^{0.48}=x\), \(10^{0.70}=y\) and \(x^2=y^2\), then the value of \(z\) is close to
1) 1.45  
2) 1.88  
3) 2.9  
4) 3.7

24. In a 100 m race, A can give B 10 m and C 28 m. In the same race B can give C
1) 18 m  
2) 20 m  
3) 27 m  
4) 9 m

25. The sum of ages of 5 children born at the intervals of 3 years each is 50 years. What is the age of the youngest child?
1) 4 years  
2) 8 years  
3) 10 years  
4) None of the above

26. The number that should come next in the series: 2, 1, (1/2), (1/4), is
1) 1/3  
2) 1/8  
3) 2/8  
4) 1/6

27. What number should come next in the series? 31, 29, 24, 22, 17
1) 15  
2) 14  
3) 13  
4) 12
28. From the series: F2,____, D8, C16, B32,.....
   Pick out the number that should fill the blank.
   1) A16  2) G4  3) E4  4) E3
29. Fill the series: XXIV, XX, , XII, VIII,
   1) XXII  2) XIII  3) XVI  4) IV
30. Harvest
   1) Autumn  2) Stockpile  3) Tractor  4) Crop
31. Culture
   1) Civility  2) Education  3) Agriculture  4) Customs
32. Cage
   1) Enclosure  2) Prisoner  3) Animal  4) Zoo
33. Fact 1: All dogs like to run
    Fact 2: Some dogs like to swim.
    Fact 3: Some dogs look like their masters.
    If the first three statements are facts, which of the following statements must also be a fact
    I. All dogs who like to swim look like their masters.
    II. Dogs who like to swim also like to run.
    III. Dogs who like to run do not look like their masters.
    1) I only  2) II only  3) II and III only  4) None of the statements is a known fact
34. Four defensive football players are chasing the opposing wide receiver who has the ball. Calvin is directly behind the ball carrier. Jenkins and Burton are side by side behind Calvin. Zeller is behind Jenkins and Burton. Calvin tries for the tackle but misses and falls. Burton trips. Which defensive player tackles the receiver?
   1) Burton  2) Zeller
   3) Jenkins  4) Calvin
35. A four-person crew from Classic Colours is painting Mr. Reid's house. Michael is painting the front of the house. Ross is in the alley behind the house painting the back. Jed is painting the window frames on the north side, Shawn is on the south. If Michael switches places with Jed, and Jed then switches places with Shawn, where is Shawn?
   1) in the alley behind the house  2) on the north side of the house
   3) in front of the house  4) on the south side of the House
36. What is Reena's rank in the class?
   I. There are 26 students in the class
   II. There are 9 students who have scored less than Reena.
   1. Statement I alone is sufficient to answer.
   2. Statement II alone is sufficient to answer
   3. Both the statements together are not sufficient to answer.
   4. Both the statements together are needed.
37. Statements:
   No women teacher can play.
   Some women teachers are athletes.
   Conclusions:
   I. Male athletes can play.
   II. Some athletes can play.
   1. Only conclusion I follows
   2. Only conclusion II follows
   3. Either I or II follows
   4. Neither I nor II follows
38. Statements:
   All aeroplanes are trains. Some trains are chairs.
   Conclusions:
   I. Some aeroplanes are chairs.
   II. Some chairs are aeroplanes.
   III. Some chairs are trains.
   IV. Some trains are aeroplanes.
1. None follows
2. Only I and II follow
3. Only II and III follow
4. Only III and IV follow

39. Statements:
I. The prices of petrol and diesel in the domestic market have remained unchanged for the past few months.
II. The crude oil prices in the international market have gone up substantially in the last few months.
1. Statement I is the cause and statement II is its effect
2. Statement II is the cause and statement I is its effect
3. Both the statements I and II are independent causes
4. Both the statements I and II are effects of independent causes.

40. Statements:
I. The Reserve Bank of India has recently put restrictions on few small banks in the country.
II. The small banks in the private and cooperative sector in India are not in a position to withstand the competitions of the bigger in the public sector.
1. Statement I is the cause and statement II is its effect
2. Statement II is the cause and statement I is its effect
3. Both the statements I and II are independent causes
4. Both the statements I and II are effects of independent causes.

41. Here are some words translated from an artificial language.
gorblflur means fan belt, pixngorbl means ceiling fan, arthtusl means tile roof. Which word could mean "ceiling tile"?
1. gorbltusl
2. flurgorbl
3. arthflur
4. pixnarth

42. Here are some words translated from an artificial language.
malgauper means peach cobbler, malgaport means peach juice, moggagrop means apple jelly. Which word could mean "apple juice"? Of these statements,
1) moggaport 2) malgauper 3) gropport 4) moggagrop

43. In the figure given below:
The rectangle represents bachelors
The square represents Delhi metropolis
The circle represents English language
The triangle represents tourists

The portion representing bachelor tourists, who know the English language is
1. 2
2. 1
3. 7
4. 4

44. Read the below passage carefully and answer the question:
The government of an island nation is in the process of deciding how to spend its limited income. It has $7 million left in its budget and eight programs to choose among. There is no provision in the constitution to have a surplus, and each program coordinator has requested the minimum amount they need; in other words, no program may be partially funded. The programs and their funding requests are:
* Hurricane preparedness: $2.5 million
* Harbour improvements: $1 million
* School music program: $0.5 million
* Senate office building remodelling: $ 1.5 million
* Agricultural subsidy program: $ 2 million
* National radio: $ 0.5 million
* Small business loan program: $ 3 million
* International airport: $ 4 million

Senators from urban areas are very concerned about assuring that there will be funding for a new international airport. Senators from rural areas refuse to fund anything until money for agricultural subsidies is appropriated. If the legislature funds these two programs, on which of the following could they spend the rest of the money.

1. The school music program and national radio
2. Hurricane preparedness
3. Harbour improvements and the school music program
4. Small business loan program

45. Which word does NOT belong with the others?
1) inch
2) ounce
3) centimeter
4) yard

46. Which word does NOT belong with the others?
1) Tulip
2) Rose
3) Bud
4) Daisy

47. Look carefully at the sequence of symbols to find the pattern. Select the correct pattern.

```
EmEmmmEwEw
M E W E
```
1) (1)
2) (2)
3) (3)
4) (4)

48. SCD, TEF, UGH, _____, WKL
1) CMN
2) UJI
3) VIJ
4) IJT

49. Choose the pair that best represents a similar relationship to the one expressed in the original pair of words.
MONK: DEVOTION
1) maniac: pacifism
2) explorer: contentment
3) visionary: complacency
4) rover: wanderlust

50. Choose the pair that best represents a similar relationship to the one expressed in the original pair of words.
Marathon is to race as hibernation is to
1) Winter
2) Bear
3) Dream
4) Sleep

51. A technique used by codes to convert an analog signal into a digital bit stream is known as
1) Pulse code modulation
2) Pulse stretcher
3) Query processing
4) Queue management

52. An optical input device that interprets pencil marks on paper media is
1. O.M.R.
2. Punch card reader
3) Optical scanners
4) Magnetic tape

53. The most important advantage of an IC is its
1) Easy replacement in case of circuit failure
2) Extremely high reliability
3) Reduced cost
4) Low power consumption

54. Which language was devised by Dr. Seymour Cray?
1) APL
2) COBOL
3) LOGO
4) FORTRAN

55. As compared to diskettes, the hard disks are
1. More expensive
2. More portable
3. Less rigid
4. Slowly accessed
56. What is the name given to the molecular-scale computer?
   1) Femtocomputer  2) Nanocomputer
   3) Supercomputer  4) Microcomputer

57. Who is considered the 'father' of the minicomputer and one of the founder fathers of the modern computer industry worldwide?
   1) George Tale  2) Kenneth H. Olsen
   3) Seymour Cray  4) Basic Pascal

58. The first microprocessor produced by Intel Corp. and Texas Instruments were used primarily to control small
   1) Microwave ovens
   2) Washing machines
   3) Calculators
   4) Personal computers

59. The access method used for cassette tape is
   1) Direct  2) Random
   3) Sequential  4) All of the above

60. The arranging of data in a logical sequence is called as
   1) Sorting  2) Classifying
   3) Reproducing  4) Summarising

61. Who is the creator of the PASCAL language?
   1) Niklaus Writh  2) Dijkstra
   3) Donald Knuth  4) Basic Pascal

62. When was punched-card equipment used for the first time to process the British census?
   1) 1910  2) 1907
   3) 1911  4) 1914

63. A hashing scheme is used with
   1) Sequential file organisation
   2) Direct file organisation
   3) Indexed sequential file organisation
   4) Partitioned file organisation

64. What was the total number of UNIVAC-I sold eventually and by which company?
   1) 30, British Tabulating Machine Co.
   2) 40, International Business Machines

3) 48, Remington Rand
4) 40, International Computer Ltd.

65. Which kind of devices allows the user to add components and capabilities to a computer system?
   1) System boards  2) Storage devices
   3) Input devices  4) Expansion slots

66. When an input electrical signal A = 10100 is applied to a NOT gate, its output signal is
   1) 01011  2) 10001
   3) 10101  4) 00101

67. Large computer system typically uses
   1) Line printers  2) Ink-jet printers
   3) Dot-matrix printers  4) Daisy wheel printers

68. Which one of the following bus types is used by the Apple Macintosh computer?
   1) ISA  2) NuBus
   3) EISA  4) MCA

69. When the time to establish link is large and the size of data is small, the preferred mode of data transfer is
   1) Circuit switching  2) Packet switching
   3) Time division multiplexing  4) All of the above

70. File specification books are created primarily for the use of
   1) Systems analysts  2) Programmers
   3) Operators  4) Managers

71. The microprocessor of a computer cannot operate on any information if that information is not in its
   1) Secondary storage  2) Main storage
   3) ALU  4) Control unit

72. How many digits of the DN1C (Data Network Identification Code) identify the country?
   1) First three  2) First four
   3) First five  4) First six
73. A device that links two homogeneous packet-broadcast local networks is
1) Gateway  2) Repeater  
3) Bridge  4) Hub

74. Telecommunications network come in a wide range of speed and capacity capabilities. Select the best fit
1) Bandwidth alternatives 
2) Switching alternating 
3) Inter organisational networks
4) Extranets

75. A modem is connected in between a telephone line and a
1) Network  2) Computer  
3) Communication Adaptor  4) Serial port

76. Find out the alternative figure which contains figure (X) as its part 

(X)  (1)  (2)  (3)  (4)

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

77. Find out the alternative figure which contain: figure (X) as its part 

(X)  (1)  (2)  (3)  (4)

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

78. Find the number of triangles in the given figure.

1) 8  2) 10  
3) 12  4) 14

79. The number of triangles in the given figure is

1) 12  2) 18  
3) 22  4) 26

80. Select a suitable figure from the four alternatives that would complete the figure matrix.

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

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

81. Select the figure which satisfies the same conditions of placement of the dots as in Figure-X

(X)  (1)  (2)  (3)  (4)

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

82. Select the figure which satisfies the same conditions of placement of the dots as in Figure-X

(X)  (1)  (2)  (3)  (4)

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

83. Choose the alternative which closely resembles the mirror image of the given combination
ANS43Q12
1) 2)
3) 4)
1) (1) 2) (2)
3) (3) 4) (4)

84. Choose the figure which is different from the rest

![Figure Options]

1) CD 2) (2)
3) (3) 4) (4)

85. Select a suitable figure from the answer figures that would replace the question mark (?) Problem Figures Answer Figures

![Problem Figures](A) (B) (C) (D) ![Answer Figures](1) (2) (3) (4)
1) (1) 2) (2)
3) (3) 4) (4)

86. Select a suitable figure from the answer figures that would replace the question mark (?)

![Problem Figures](A) (B) (C) (D) ![Answer Figures](1) (2) (3) (4)
1) (1) 2) (2)
3) (3) 4) (4)

87. Select a suitable figure from the answer figures that would replace the question mark (?)

![Problem Figures](A) (B) (C) (D) ![Answer Figures](1) (2) (3) (4)
1) (1) 2) (2)
3) (3) 4) (4)

88. Find out which of the figures (1), (2), (3) and (4) can be formed from the pieces given in figure (X)

![Figure Options]

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

89. Select the alternative which represents three out of the five alternative figures which when fitted into each other would form a complete square

![Figure Options](1) (2) (3) (4) (5)
1) 234 2) 134
3) 345 4) 245

90. Select the alternative which represents three out of the five alternative figures which when fitted into each other would form an equilateral triangle.

![Figure Options](1) (2) (3) (4) (5)
1) 234 2) 134
3) 345 4) 245

91. Select a figure from the given four alternatives which fits exactly into Figure-X to form a complete square.

![Figure Options](X) (1) (2) (3) (4)
1) (1) 2) (2)
3) (3) 4) (4)

92. Group the given figures into three classes using each figure only once
93. Group the given figures into three classes using each figure only once

1) 3, 4, 9; 5, 7, 8; 1, 2, 6
2) 1, 5, 6; 2, 4, 8; 3, 7, 9
3) 4, 6, 8; 3, 5, 7; 1, 2, 9
4) 1, 2, 7; 3, 5, 9; 4, 6, 8

94. Choose the box that is similar to the box formed from the given sheet of paper (X)

1) (1) and (2) only
2) (2) and (3) only
3) (1) and (4) only
4) (1), (2), (3) and (4)

95. Observe the dots on a dice (one to six dots) in the following figures. How many dots are contained on the face opposite to that containing four dots?

1) 2
2) 3
3) 6
4) Cannot be determined

96. Three different positions of a dice are shown below. How many dots lie opposite to 2 dots?

1) 1
2) 3
3) 5
4) 6

97. Identify the figure that completes the pattern shown in the Figure (X)

1) 1
2) 2
3) 3
4) 4

98. Identify the figure that completes the pattern shown in Figure (X)

1) 1
2) 2
3) 3
4) 4

99. Identify the figure that completes the pattern shown in Figure (X)
100. Choose the set of figures which follows the given rule.
Rule: Closed figures losing their sides and open figures gaining their sides.

MCA 2012- ANSWERKEY

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MBA 2012 – DETAILED SOLUTIONS

1. (2)
Let C can complete the work in x days.

\[
\frac{1}{6} + \frac{1}{8} + \frac{1}{x} = \frac{1}{3}
\]
\[
\Rightarrow \frac{1}{x} = \frac{1}{3} - \frac{1}{6} - \frac{1}{8}
\]
\[
= \frac{24 - 4 - 3}{24} = \frac{17}{24}
\]
\[
\therefore x = 24
\]

work efficient of A : B : C
\[
= \frac{1}{6} : \frac{1}{8} : \frac{1}{24} = 4:3:1
\]

Amount paid to C = \(\frac{1}{4} \times 3200 = \frac{3200}{4} = 800\)

2. (3)
Cost price of 6 toffees = `1
\[
\therefore \text{Cost price of 1 toffee} = \frac{1}{6}
\]
Profit % = 20%
\[
\therefore \text{Selling price} = \left(1 + \frac{\text{Profit} \%}{100}\right) \times \text{C.P}
\]
\[
= \frac{100 + 20}{100} \times \frac{1}{6}
\]
\[
= \frac{120}{100} \times \frac{1}{6} = \frac{1}{5}
\]
For 1 rupee number of toffees sold = \(\frac{1}{(\frac{1}{5})} = 5\)

3. (2)
In OPTICAL, O, I, A are vowels. Consider it as one block.
Three vowels can be arranged in 3! = 6 ways.
In OPTICAL there are seven letters. Considering vowels as one letter there are 5 letters.
\[
\therefore \text{Number of arrangements} = 5! \times 3!
\]
\[
= 120 \times 6 = 720
\]

4. (4)
M, T, D, W = M_2T_2D_2W_1

5. (1)
Let invest in 12% stock be `x

Then investment in 15% stock = \(\frac{12000 - x}{12000}\)
\[
\frac{12x}{120} + \frac{15}{125}(12000 - x) = 1360
\]
\[
\Rightarrow \frac{x}{10} + \frac{3}{25}(12000 - x) = 1360
\]
\[
\Rightarrow 5x + 72000 - 6x = 13600
\]
\[
\Rightarrow x = 72000 - 68000 = 4000
\]

6. (2)
Present worth = 540-90 = `450
S.I. on `450 = 90
S.I. on Rs. 540 = \(\frac{90}{450} \times 540 = 108\)
\`
Banker’s discount = `108

7. (4)
Profit share of Simran: Nanda
\(50000 \times 3\) : \(80000 \times 2\)
\[
= 50000 \times 3 = 80000 \times \frac{5}{2}
\]
\[
= 15:20 = 3:4
\]
Simran’s share in the profit
\[
= \frac{3}{3+4} \times 24500
\]
\[
= \frac{3}{7} \times 24500 = `10,500
\]

8. (3)
Time taken to fill half tank = \(\frac{6}{2} = 3\) hrs.
Part of the tank filled by the tap in one hour = \(\frac{1}{6}\)
Part of the tank filled by 3 similar taps in one hour = \(3 \times \frac{1}{6} \times \frac{1}{2}\)
\[
\therefore \text{Three taps can fill the tank in 2 hours.}
\]
\[
\therefore \text{Three taps can fill half tank in 1 hour.}
\]
\[
\therefore \text{Total time} = 3 + 1 = 4 \text{ hrs.}
\]
9. (2) Required probability = \( \frac{8}{8+6} + \frac{8}{14} = \frac{4}{7} \)

10. (4)

Let AC be the Ladder
Then \( \cos 60^\circ = \frac{AB}{AC} \)
\( \Rightarrow \frac{1}{2} = \frac{4.6}{AC} \)
AC = 2 \times 4.6 = 9.2 m

11. (3)
Dimension of the wall
= 8 m \times 6 m \times 22.5 cm
= 8 \times 100 \text{ cm} \times 6 \times 100 \text{ cm} \times 22.5 \text{ cm}
∴ Required number of bricks
= \( \frac{8 \times 100 \times 6 \times 100 \times 22.5}{25 \times 11.25 \times 6} \) = 6400

12. (4)
Let the price of 1 chair and 1 table be \( x \) and \( y \) respectively.
Then 10\( x \) = 4\( y \)
\( x = \frac{4}{10} y = \frac{2y}{5} \)
Now
15\( x \)+2\( y \) = 4000
15\( \left( \frac{2y}{5} \right) \)+2\( y \) = 4000
6\( y \)+2\( y \) = 4000
∴ \( y \) = 4000
\( y = \frac{4000}{8} = \$500 \)
\( x = \frac{2 \times 500}{5} = \$200 \)
Price of 12 chair and 3 tables
= 12 \times 200 + 3 \times 500 = \$3900

13. (2)

S.I. on \$750 = True discount on \$960 This
means present worth of \$960 due 2 years
hence is \$750
∴ True discount = (960-750) = \$210
S.I on Rs. 750 for 2 years= \$210
∴ Rate = \( \frac{100 \times 210}{750 \times 2} \)
= 14%

14. (4)
Speed of the train = 60 kmph
= 60 \times \frac{5}{18} \text{ m/sec.}
Length of the train = speed \times \text{time taken to}
cross the pole
= 60 \times \frac{5}{18} \times 9
= 150 m

15. (3)
Let the length of the bridge be \( x \) meters
Speed of the train = 45 kmph
= 45 \times \frac{5}{18} \text{ /sec.}
\text{Speed} = \frac{\text{Length of the bridge} + \text{Length of the train}}{\text{Time taken}}
45 \times \frac{5}{18} = \frac{x+130}{30} = 375
x+130 = \frac{45 \times 5 \times 30}{18}
∴ x = 375-130 = 245 m

16. (4)
Let the lengths of the second train be \( x \) and \( y \) respectively.
From statement (I)
\( \frac{210 + 300}{x+y} = 10 \)
I alone is not sufficient.
From statement (II)
\( \frac{210 + \ell}{x-60} = 30 \)
∴ II alone is not sufficient
From I and II
\( \ell = 300; \ y = 60 \)
\( \therefore \frac{210 + 300}{x-60} = 30 \)
x - 60 = \frac{510}{30}

∴ \begin{align*} x &= \frac{510}{30} + 60 \\ \therefore \text{Both I and II are necessary to find the speed } x. \end{align*}

17. (3)

2000 has 0 odd days

<table>
<thead>
<tr>
<th>Year</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Odd days</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

2005 2006 2007 2008 2009

1 1 1 2 1

Total = 11 odd days = 4 odd days

In 1st January 2010 has 1 odd day

Total number of odd days = 0+4+1=5=day 5 = Friday

∴ 1st January is Friday.

18. (2)

Let the length and breadth of the park be 3x and 2x respectively.

Perimeter = 2(3x+2x) = 10x

Speed = 12 km/hr

= 12 × \frac{5}{18} = m/sec

= \frac{10}{3} m/sec

Time taken = 8 min

= 8×60 seconds

\[
\frac{\text{Distance covered}}{\text{Time}} = \text{Speed}
\]

\[
\frac{10x}{8×60} = \frac{10}{3}
\]

\[
\therefore x = \frac{10×8×60}{10×3} = 160
\]

Length = 3x = 3×160 = 480 m

Breadth = 2x = 2×160 = 320

∴ Area = 480×320 = 153600 sq.m.

19. (1)

Unit digit of 6374^{1793} = Unit digit of 4^{1793}

= (Unit digit 4)^{\text{Rem}} \left(\frac{1793}{4}\right)

20. (2)

Formula: \(a^2-b^2 = (a-b)(a+b)\)

\[
\frac{(2.39)^2-(1.61)^2}{(2.39-1.61)(2.39+1.61)} = \frac{2.39-1.61}{2.39+1.61}
\]

= 2.39 + 1.61 = 4

21. (2)

2^3 = 8

3^3 = 27

4^3 = 64

5^3 = 125

6^3 = 216

7^3 = 343

∴ Odd man = 100

22. (3)

Water: Syrab = 3:5

Let the water be 30 litres and syrab be 50 litres

Then Total mixture = 30 + 50 = 80 ltrs.

Consider option (3)

Let \(\frac{1}{5}\) of 80 ltrs. mixture taken out

i.e., \(\frac{1}{5} \times 80 = 16\) ltrs. of mixture drawn off

Remaining mixture = 80−16 = 64

Water in Remaining mixture

= \frac{3}{3+8} \times 64 = \frac{3}{8} \times 64

= 24 ltrs.

Syrab in Remaining mixture

= 64−24 = 40 ltrs.

If 16 ltrs. of water added
then New mixture = 64+16 = 80 ltrs.
Water in new mixture = 24+16 = 40 ltrs.
Syrab in new mixture = 40 ltrs.
∴ New mixture contains half water and half syrup.

23. (3)
\[ x = 10^{0.48}, \ y = 10^{0.70} \]
\[ x^2 = y^2 \]
\[ (10^{0.48}) = (10^{0.70})^2 \]
\[ 10^{0.48z} = 10^{1.4} \]
\[ 10^{0.48z} = 1014 \]
\[ \Rightarrow 0.48z = 1.4 \]
\[ \therefore z = \frac{1.4}{0.48} = 2.9 \]

24. (2)
When A covers 100 m,
B covers 100-10 = 90 m and
C covers 100-28 = 72 m
Therefore when B covers 90 m
C covers 72 m
This implies when B covers 100 m, C 
\[ = \frac{72}{90} \times 100 = 80 \text{ m} \]
∴ B can give C = 100-80 = 20 m

25. (1)
Let the age of the youngest child be \( x \) years
Then ages of others are \( x + 3, x + 6, x + 9, \) \( x + 12 \)
Sum = \( x + x + 3 + x + 6 + x + 9 + x + 12 = 50 \)
\[ \Rightarrow 5x + 30 = 50 \]
\[ 5x = 50 - 30 = 20 \]
\[ \therefore x = \frac{20}{5} = 4 \text{ years} \]

26. (2)
\[ 2 \div 2 = 1 \]
\[ 1 \div 2 = \frac{1}{2} \]
\[ \frac{1}{2} \div 2 = \frac{1}{4} \]
\[ \frac{1}{4} \div 2 = \frac{1}{8} \]

27. (1)
From the options,
Celing tile - pixnarth

42. (1)
malga uper — peach cobbler
malga port — peach juice
moggagrop — apple jelly
From first two
malga — peach
juice — port
Therefore from the given options
apple juice - Moggaport

43. (2)
Portion representing bachelor tourists, who
know English language = Intersection of
rectangle, triangle and circle = 1

44. (2)
Except ounce, others are measures of
length.

46. (3)
Except Bud, others are names of flowers.

47. (3)
The middle symbol changes after every
two figures.

48. (3)
Small Triangles:
(1, 2, 3, 6, 7, 8) Total = 6
Triangles with two parts:
(23, 76, 35, 47) Total = 4
Triangles with three parts:
(247, 356, 768) Total = 3
Triangles with four parts
(1247) Total = 1
Total triangles = 6 + 4 + 3 + 1 = 14

79. (2)

Triangles with one part
(1, 2, 4, 5, 6, 7, 8, 9) Total = 8
Triangles with two parts
(26, 37, 48, 67, 78) Total = 5
Triangles with three parts
(526, 678, 489) Total = 3
Triangle with four parts
(1234) Total = 1
Full Triangle ABC = 1
Total = 8 + 5 + 3 + 1 + 1 = 18

80. (4)
In each row, the design-in the first figure disappears in the third figure and the design appear in the second figure remains in the third figure.

81. (4)
One dot appears in the intersection of circle, square and another dot appears in the intersection of circle, square and triangle.

82. (2)
The dot appears in the intersection of the square, triangle and circle.

83. (2)

84. (2)
Except (2) all others has base.

85. (3)
In each subsequent figure, the half shaded leaf move 135° and 45° alternatively in anticlockwise direction. The other leaf moves 135° in clockwise direction.
86. (1)
   Second figure is a mirror image (mirror kept at bottom) of the first figure.

87. (3)
   From A to B shaded region moves one step in anti clockwise direction. Also the outer star moves one corner in anti-clockwise direction. Similar changes happen in (C) to (D).

88. (1)

89. (4)
   For 245 we have

90. (3)
   For 3, 4, 5 we have equilateral triangle.

91. (1)

93. (4)
   In option (4) 1, 2, 7 ; 3, 5, 9 ; 4, 6, 8 has the following common property.

94. (4)
   All are correct

95. (1)
   Common faces are 1 and 5. Therefore the face opposite to the face with number 4 is 2.

97. (4)
   Opposite to 2 dots is face with 5 dots
1. Alfred buys an old scooter for Rs. 4,700 and spends Rs. 800 on its repairs. If he sells the scooter for Rs. 5,800, his gain percent is
   1) 32/7%  
   2) 60/11%  
   3) 10%  
   4) 12%

2. The cost price of 20 articles is the same as the selling price of x articles. If the profit is 25%, then the value of x is
   1) 15  
   2) 16  
   3) 18  
   4) 25

3. If selling price is doubled, the profit triples. Find the profit percent
   1) 200/3%  
   2) 100%  
   3) 316/3%  
   4) 120%

4. In a certain store, the profit is 320% of the cost. If the cost increases by 25% but the selling price remains constant, approximately what percentage of the selling price is the profit?
   1) 30%  
   2) 70%  
   3) 100%  
   4) 250%

5. A man mixes two types of rice (X and Y) and sells the mixture at the rate of Rs. 17 per kg. Find his profit percentage.
   I. The rate of X is Rs. 20 per kg.
   II. The rate of Y is Rs. 13 per kg.
   1) I alone sufficient while II alone not sufficient to answer  
   2) II alone sufficient while I alone not sufficient to answer  
   3) Either I or II alone sufficient to answer  
   4) Both I and II are not sufficient to answer

6. By selling a product with 20% profit, how much profit was earned?
   I. The difference between cost and selling price, is Rs. 40.  
   II. The selling price is 120 percent of the cost price.  
   1) I alone sufficient while II alone not sufficient to answer  
   2) II alone sufficient while I alone not sufficient to answer  
   3) Either I or II alone sufficient to answer  
   4) Both I and II are not sufficient to answer

7. By selling an article what is the profit percent gained?
I. 5% discount is given on list price.
II. If discount is not given, 20% profit is gained.
III. The cost price of the articles is Rs. 5,000. Decide which of the statements) Is/are necessary to answer the question.  
1) Only I and II  2) Only II  
3) Only I and III  4) All I, II and III

8. What was the percentage of discount given?  
I. 23.5% profit was earned by selling an almirah for Rs. 12,350.  
II. If there were no discount, the earned profit would have been 30%.  
III. The cost price of the almirah was Rs. 10,000. Decide which of the statement(s) is/are necessary to answer the question,  
1) Only I and II  2) Only II and III  
3) Only I and III  4) None of these

9. What is the percent profit earned by the shopkeeper on selling the articles in his shop?  
I. Labeled price of the articles sold was 130% of the cost price.  
II. Cost price of each article was Rs. 550.  
III. A discount of 10% on labeled price was offered. Decide whether any information provided in the statement(s) is redundant and can be dispensed with while answering the given question.  
1) Only I  2) Only II  
3) I and III  4) All the three are required

10. From a group of 7 men and 6 women, five persons are to be selected to form a committee so that at least 3 men are there on the committee. In how many ways can it be done?  
1) 564  2) 645  
3) 735  4) 756

11. In how many different ways can the letters of the word 'LEADING' be arranged in such a way that the vowels always come together?  
1) 360  2) 480  
3) 720  4) 5040

12. Out of 7 consonants and 4 vowels, how many words of 3 consonants and 2 vowels can be formed?  
1) 210  2) 1050  
3) 25200  4) 21400

13. In how many ways can the letters of the word 'LEADER' be arranged?  
1) 72  2) 144  
3) 360  4) 720

14. Given that $10^{0.48} = x$, $10^{0.70} = y$ and $x^2 = y^2$. then the value of $z$ is close to  
1) 1.45  2) 1.88  
3) 2.9  4) 3.7

15. If $5^a = 3125$, then the value of $5^{(a-3)}$ is  
1) 25  2) 125  
3) 625  4) 1625

16. If $3^{(x-y)} = 27$ and $3^{(x+y)} = 243$, then $x$ is equal to  
1) 0  2) 2  
3) 4  4) 6

17. An accurate clock shows 8 o’clock in the morning. Through how many degrees will the hour hand rotate when the clock shows 2 o’clock in the afternoon?  
1) 144°  2) 150°  
3) 168°  4) 180°

18. A clock is started at noon. By 10 minutes past 5, the hour hand has turned through.  
1) 145°  2) 150°  
3) 155°  4) 160°

19. A right triangle with sides 3 cm, 4 cm and 5 cm is rotated with the isde of 3 cm to form a cone. The volume of the cone so formed is  
1) $12\pi$ cm$^3$  2) $15\pi$ cm$^3$  
3) $316\pi$ cm$^3$  4) $20\pi$ cm$^3$
20. In a shower, 5 cm of rain falls. The volume of water that falls on 1.5 hectares of ground is
   1) 75 cu.m.  2) 750 cu.m.  3) 7500 cu.m.  4) 75000 cu.m.

21. 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
   1) 720  2) 900  3) 1200  4) 1800

22. 66 cubic centimeters of silver is drawn into a wire 1 mm in diameter. The length of the wire in metres will be
   1) 84  2) 90  3) 168  4) 336

23. 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 weights 8 g/cm³, then the weight of the pipe is
   1) 3.6 kg  2) 3.696 kg  3) 36 kg  4) 36.9 kg

24. A and B together have Rs. 1,210. If 4/15 of A’s amount is equal to 2/5 of B’s amount; how much amount does B have?
   1) Rs. 460  2) Rs. 484  3) Rs. 550  4) Rs. 664

25. Two numbers are respectively 20% and 50% more than a third number. The ratio of the two numbers is
   1) 2: 5  2) 3: 5  3) 4: 5  4) 6: 7

26. A sum of money is to be distributed among A, B, C, D in the proportion of 5:2:4:3. If C gets Rs. 1,000 more than D, what is B’s share?
   1) Rs.500  2) Rs. 1,500  3) Rs. 2,000  4) None of these

27. Seats for Mathematics, Physics and Biology in a school are in the ratio 5:7:8. There is a proposal to increase these seats by 40%, 50% and 75% respectively. What will be the ratio of increased seats?
   1) 2: 3: 4  2) 6: 7: 8  3) 6:8:9  4) None of these

28. In a mixture 60 litres, the ratio of milk and water 2: 1. If the ratio is to be 1: 2, then the quantity of water to be further added is
   1) 20 litres  2) 30 litres  3) 40 litres  4) 60 litres

29. A man has Rs. 480 in the denominations of one-rupee notes, five-rupee notes and ten-rupee notes. The number of notes of each denomination is equal. What is the total number of notes that he has?
   1) 45  2) 60  3) 75  4) 90

30. If a-b=3and a²+b² = 29, find the value of ab.
   1) 10  2) 12  3) 15  4) 18

31. In a family E is the father of two sons and a daughter who is unmarried. Daughter-in-law is an officer whose brother-in-law A is Engineer. C is doctor. The sister of B is Violinist who learnt Violin from B’s wife. Then what is the relationship between A and B
   1) FATHER  2) SON  3) BROTHER  4) SISTER

32. Senior managers warned the workers that because of the introductory of Japanese industry in the car market. There is the threat to the workers. They also said that there will be the reduction in the purchase of the sales of car in public. The interest rates of the car will be increased with the loss in demand. Which of the following statement/s are false.
   I. Japanese workers are taking over the jobs of Indian industry.
II. Managers said car interests will go down, after seeing the raise in interest rates.
III. Japanese investments are ceasing to end in the car industry.
1) I and III  2) only I  3) only II  4) All three

33. In the past helicopters are forced to ground or crash because of the formation of the ice on the rotors and engines, a new electronic device has been developed which can detect the water content in the atmosphere and warns the pilot if the temperature is below freezing temperature about the formation of the ice on the rotors and wings. Which of the following statement/s are false
I. The electronic device can avoid formation of the ice on the wings.
II. There will be the malfunction of rotor and engine because of formation of ice.
III. The helicopters are to be crashed or down.
1) only I  2) only II  3) only III  4) All three

34. The total of the ages of Amar, Akbar and Anthony is 80 years. What was the total of their ages three years ago?
1) 71 years  2) 72 years  3) 74 years  4) 77 years

35. An institute organised a fete and 1/5 of the girls and 1/8 of the boys participated in the same. What fraction of the total number of students took part in the fete?
1) 2/13  2) 13/40  3) Data inadequate  4) None of these

36. A is 3 years older to B and 3 years younger to C, while B and D are twins. How many years older is C to D?
1) 2  2) 3  3) 6  4) 12

37. A tailor had a number of shirt pieces to cut from a roll of fabric. He cut each roll of equal length into 10 pieces. He cut at the rate of 45 cuts a minute. How many rolls would be cut in 24 minutes?
1) 32 rolls  2) 54 rolls  3) 108 rolls  4) 120 rolls

38. In a class, there are 18 boys who are over 160 cm tall. If these constitute three-fourths of the boys and the total number of boys is two-thirds of the total number of students in the class, what is the number of girls in the class?
1) 6  2) 12  3) 18  4) 24

39. A, P, R, X, S and Z are sitting in a row. S and Z are in the centre. A and P are at the ends. R is sitting to the left of A. Who is to the right of P?
1) A  2) X  3) S  4) Z

40. A, B, C, D and E are sitting on a bench. A is sitting next to B, C is sitting next to D, D is not sitting with E who is on the left end of the bench. C is on the second position from the right. A is to the right of B and E. A and C are sitting together. In which position A is sitting?

41. Find the number of triangles in the given figure.
1) 8  2) 10  3) 12  4) 14

42. Find the number of triangles in the given figure.
43. Find the number of trianles in the given figure.

1) 18 2) 20 3) 24 4) 27

44. Find the minimum number of straight lines required to make the given figure.

1) 9 2) 11 3) 15 4) 16

45. Count the number of squares in the given figure.

1) 32 2) 30 3) 29 4) 28

46. Find the number of quadrilaterals in the given figure.

1) 6 2) 7 3) 9 4) 11

47. Count the number of triangles and squares in the given figure.

1) 36 triangles, 7 squares 2) 38 triangles, 9 squares 3) 40 triangles, 7 squares 4) 42 triangles, 9 squares

48. Select the figure which satisfies the same conditions of placement of the dots as in Figure-X.

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

49. Select the figure which satisfies the same conditions of placement of the dots as in Figure-X.

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

50. Select the figure which satisfies the same conditions of placement of the dots as in Figure-X.

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

51. Choose a figure which would most closely resemble the unfolded form of Figure (Z).

1) (X) 2) (Y) 3) (Z)
52. Choose a figure which would most closely resemble the unfolded form of Figure (Z)

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

53. Choose a figure which would most closely resemble the unfolded form of Figure (Z)

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

54. Identify the figure that completes the pattern.

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

55. Identify the figure that completes the pattern.

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

56. Look at this series: 2, 1, (1/2), (1/4), .... What number should come next?

1) 1/3   2) 1/8   3) 2/8   4) 1/16

57. Look at this series: 7, 10, 8, 11, 9, 12..... What number should come next?

1) 7   2) 10   3) 12   4) 13

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

28 25 5 21 18 5 14

1) 11 5   2) 10 7   3) 11 8   4) 5 10

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

11 21 15 18 21 22

1) 25 18   2) 25 21   3) 25 29   4) 24 21

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

42 40 38 35 33 31 28

1) 25 22   2) 26 23   3) 26 24   4) 25 23

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

6 10 14 18 22 26 30

1) 36 40   2) 33 37   3) 38 42   4) 34 38

62. Look at this series: 664, 332, 340, 170, _____ 89, .... What number should fill the blank?

1) 85   2) 97   3) 109   4) 178

63. In these series, you will be looking at both the letter pattern and the number pattern. Fill the blank in the middle of the series.
1. SCD, TEF, UGH, ______ WKL
   1) CMN  2) UJI
   3) VIJ  4) IJT

2. B₂CD, ---- BCD₄, B₂CD, BC₃D
   1) B₂C₃D  2) BC₃D
   3) B₂C₄D  4) BCD₄

3. BINDING: BOOK
   1) criminal: gang  2) display: museum
   3) artist: carpenter  4) frame: picture

4. Which word does NOT belong with the others?
   1) Parsley  2) Basi
   3) Dill  4) Mayonnaise

5. Which word does NOT belong with the others?
   1) Rye  2) Sourdough
   3) Pumpernickel  4) Loaf

6. “A_____ could not exist without_______
   Find the word that names a necessary part of the underlined word.
   Wedding
   1) Love  2) Church
   3) Ring  4) Marriage

7. “A_____ could not exist without_______”.
   Find the word that names a necessary part of the underlined word.
   Faulty
   1) Buildings  2) Textbooks
   3) Teachers  4) Meetings

8. If A + B means A is the brother of B; A - B means A is the sister of B and A x B
   means A is the father of B. Which of the following means that C is the son of M?
   1) M-N×C+F  2) F-C+N×M
   3) N+M-F×C  4) M×N-C+F

9. Introducing a boy, a girl said, "He is the son of the daughter of the father of my
   uncle." How is the boy related to the girl?
   1) Brother  2) Nephew
   3) Uncle  4) Son-in-law

10. A is the son of C; C and Q are sisters; Z is the mother of Q and P is the son of Z.
    Which of the following statements is true?
    1) P and A are cousins
    2) P is the maternal uncle of A
    3) Q is the maternal grandfather of A
    4) C and P are sisters

11. Here are some words translated from an artificial language.
    tamceno means sky blue
cenorax means blue cheese
aplmitl means star bright Which word could mean "bright sky"?
    1) Cenotam  2) Mitltam
    3) Raxmitl  4) Aplceno

12. An informal gathering occurs when a group of people get together in a casual, relaxed manner. Which situation below is the best example of an informal gathering?
    1) The book club meets on the first Thursday evening of every month
    2) After finding out about his promotion, Jeremy and a few co-workers decide to go out for a quick drink after work
    3) Mary sends out 25 invitations for the bridal shower she is giving for her sister
    4) Whenever she eats at the Mexican restaurant, Clara seems to run into Peter

13. Posthumous Publication occurs when a book is published after the author's death. Which situation below is the best example of Posthumous Publication?
    1) Richard's illness took his life before he was able to enjoy the amazing early reviews of his novel
    2) Melissa's publisher cancels her book contract after she fails to deliver the manuscript on time
    3) Clarence never thought he'd live to see the third book in his trilogy published
4) Elizabeth is honoured with a prestigious literary award for her writing career and her daughter accepts the award on behalf of her deceased mother.

76. Statement: Should India encourage exports, when most things are insufficient for internal use itself?
Arguments:
I. Yes. We have to earn foreign exchange to pay for our imports
II. No. Even selective encouragement would lead to shortages
1) Only argument I is strong
2) Only argument II is strong
3) Either I or II is strong
4) Neither I nor II is strong

77. Statement: Should all the drugs patented and manufactured in Western countries be first tried out on sample basis before giving licence for sale to general public in India?
Arguments:
I. Yes. Many such drugs require different doses and duration for Indian population and hence it is necessary.
II. No. This is just not feasible and hence cannot be implemented.
1) Only argument I is strong
2) Only argument II is strong
3) Either I or II is strong
4) Neither-I nor II is strong

78. Statement: Should India make efforts to harness solar energy to fulfil its energy requirements?
Arguments:
I. Yes, Most of the energy sources used at present is exhaustible.
II. No. Harnessing solar energy requires a lot of capital, which India lacks in.
1) Only argument I is strong
2) Only argument II is strong
3) Either I or II is strong
4) Neither-I nor II is strong

79. The brain of any computer system is
1) ALU
2) Memory
3) cpu
4) Control Unit

80. What difference does the 5th generation computer have from other generation computer?
1) Technological Advancement
2) Scientific Code
3) Object Oriented Programming
4) All of the above

81. A technique used by codes to convert an analog signal into a digital bit stream is known as
1) Pulse code modulation
2) Pulse stretcher
3) Query processing
4) Queue management

82. An optical input device that interprets pencil marks on paper media is
1) O.M.R.
2) Punch card reader
3) Optical scanners
4) Magnetic tape

83. Data division is the third division of a ___ program.
1) COBOL
2) BASIC
3) PASCAL
4) FORTH

84. The access method used for cassette tape is
1) Direct
2) Random
3) Sequential
4) All of the above

85. The arranging of data in a logical sequence is called
1) Sorting
2) Classifying
3) Reproducing
4) Summarising

86. Hashing scheme is used with
1) sequential file organisation
2) direct file organisation
3) indexed sequential file organisation
4) partitioned file organisation

87. Which of the following is usually a special onetime operation that must be completed over a limited time period?
1) Batch 2) Patch
3) Project 4) World

88. A device or system not directly connected to the CPU is
1) On-line 2) Keyboard
3) Memory 4) Off-line

89. The microprocessor of a computer cannot operate on any information if that information is not its
1) Secondary storage 2) Main storage
3) ALU 4) Logic unit

90. While working with MS-DOS, which command is used to restore files that were backed up using the BACKUP command?
1) COPY 2) DISKCOPY
3) RESTORE 4) STORE

91. The term TSR is an abbreviation for
1) Terminate Stay: Ready
2) Testing System Read
3) Terminal Still Ready
4) Terminate Stay Resident

92. Which of the following refers to the terms "residual error rate"?
1. The number of bit errors per twenty four hours of continuous operation on an asynchronous line
2. The probability that one or more errors will be undetected when an error detection scheme is used,
3. The probability that one or more errors will be detected when an error detection mechanism is used
4. Signal to noise ratio divided by the ratio of energy per bit to noise per hertz

93. An error-detecting code inserted as a field in a block of data to be transmitted is known as
1) Frame check sequence
2) Error detecting code
3) Checksum
4) Flow control

94. Modem is used in data transmission. When was it invented and in which country?
1) 1963, USA 2) 1965, Germany
3) 1950, USA 4) 1950, Japan

95. Communication network is
1. One or more conductors that serve as a common connection for a related group of devices
2. A continuous frequency capable of being modulated or impressed with a second signal
3. The condition with two or more stations attempt to use the same channel at the same time
4. A collection of interconnected functional units that provides a data communications service among stations attached to the network

96. What protocol is used between E-Mail servers?
1) FTP 2) SMTP
3) SNMP 4) POP3

97. In a PC to telephone hookup for long distance communication, modem is connected between the telephone line and
1) PC 2) Synchronous port
3) Crossover cable 4) Asynchronous port

98. Four bits are used for packet sequence numbering in a sliding window protocol used in a computer network. What is the maximum window size?
1) 4 2) 8
3) 15 4) 16

99. What command is used to count the total number of lines, words, and characters contained in a file?
1) countw 2) wc
3) wc 4) count p

100. What command is used to remove the directory?
1) rdir 2) remove
3) rd
4) rmdir

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