MCA Model Paper 4

1. The digit in the unit place of the number represented by (7^{95} - 3^{58}) is :
(1) 7 (2) 0 (3) 6 (4) 4

2. The units digit in the product $(2467)^{153}$ x $(341)^{72}$ is :
(1) 1 (2) 3 (3) 7 (4) 9

3. Which of the following numbers should be added to 11158 to make it exactly divisible by 77?
(1) 9 (2) 8 (3) 7 (4) 5

4. The traffic lights at three different road crossings change after every 48 sec. 72 sec. and 108 sec. respectively. If they all change simultaneously at 8 : 20 : 00 hours, then they will again change simultaneously at :
(1) 8 : 27 : 12 hours (2) 8 : 27 : 24 hours
(3) 8 : 27 : 36 hours (4) 8 : 27 : 48 hours

5. The sum of two numbers is 528 and their H.C.F. is 33. The number of pairs of such numbers satisfying the above condition is :
(1) 6 (2) 12 (3) 8 (4) 4

6. The present age of father is five times the age of the son. Five years ago the age of father was ten times the age of his son at that time. How old is father at present?
(1) 45 years (2) 40 years (3) 48 years (4) 49 years

7. Four years ago the average age of A and B was 19 years with C joining then now the average becomes 22 years. How old is C now?
(1) 20 years (2) 25 years (3) 28 years (4) 30 years

8. A sum of money is to be divided among P, Q and R in the ratio of 2 : 3 : 5. If the total share of P and R together is Rs 400 more than that of Q, what is R's share in it?
(1) Rs 400 *(2)* Rs 500 (3) Rs 600 *(4)* Rs 7.50

***9.* A box contains Rs. 56 in the form of coins of one rupee, 50-paise and 25-paise. The number of 50-paise coins is double the number of 25 paise coins and four times the number of one rupee coins. How many 50 paise coins are there in the box?**
(1) 64 *(2)* 32 (3) 16 (4) Data inadequate

10. On increasing the price of T.V. sets by 30 %, their sales decreases by 20%. What is the effect on the revenue receipts of the shop?
(1) 4% increase *(2)* 4% decrease *(3) 8%* increase *(4)* 8% decrease

11. An article when sold for Rs 840 earns a profit which is double the amount of loss when the same article is sold for Rs. 600. What is the C.P. of the article?
(1) Rs. 500 *(2)* Rs. 680 (3) Rs. 720 (4) Data inadequate

12. The sum of five terms of an in arithmetic progression is 70. The product of the extreme terms is 132. Find the series
(1) 8,12…. (2) 10,12,14…… (3) 6,10,14…… (4) 8,12,16…….

13. Avinash borrowed Rs. 5000 from Sanjay at simple interest. After 3 years, Sanjay get Rs. 300 more than what he had given to Avinash. What was the rate of interest per annum?
(1) 2% (2) 5% *(3)* 8% *(4)* 10%

14. The difference in compound interest and simple interest on a certain amount at 10% per annum at the end of the third year is Rs. 620. What is the principal amount?
(1) Rs. 40,000 (2) Rs. 1,20,000 (3) Rs. 10,000 (4) Rs. 20,000

15. Bombay Express left Delhi for Bombay at 14 : 30 hours, travelling at speed of 60 kmph and Rajdhani Express left Delhi for Bombay on the same day at 60 : 30 hours, travelling at a speed of 80 kmph. How for away from Delhi will the two trains meet?
(1) 120 km *(2)* 260 km *(3)* 480 km *(4)* 500 km

16. A person walks at 5 kmph for 6 hours and at 4 kmph for 12 hours. The average speed of the man is :
(1) 4 km/h *(2)4 1/3km/h* *(3)4 1/2km/h* *(4) 4 2/3 km/h*

17. A car can finish a certain journey in 10 hours at a speed of 48 kmph. In order to cover the same distance in 8 hours, the speed of the car must be increased by :
(1) 6 km/h *(2)* 7.5 km/h *(3)* 12 km/h (4) 15 km/h

18. I have to be at a certain place at a certain time and find that I shall be 20 minutes too late if I walk at 3 km/h and 10 minutes too soon if I walk at 4 km/h. How far I have to walk?
(1) 6 km *(2)* 10 km (3) 12 km (4) 16 km

19. A can do a certain job in 12 days. B is 60% more efficient than A. The number of days, it takes B to do the same piece of work is :
(1) 6 (2) 6 1/4 (3) 7 1/2 *(4)* 8

***20.* 12 children take 16 days to complete a work which can be completed by 8 adults in 12 days. 16 adults started working and after 3 days, 10 adults left and 4 children joined them. How many days will it take them to complete the remaining work?**
(1) 6 *(2)* 8 *(3) A* *(4)* 3

21. Two pipes can fill a tank in 10 hours and 12 hours respectively while a third pipe empties the full tank in 20 hours. If all the three pipes operate simultaneously, in how much time the tank will be filled?
(1) 7 hours *(2)* 8 hours (3) 7 hours 30 min *(4)* 8 hours 30 min

***22. A* man row a boat at 10 kmph in still water. If the speed of the stream is 6 kmph, the time taken to row a distance of 50 km down the stream is.**
(1) 8 hours *(2)* 5 hours *(3)* 10 hours *(4)* 20 hours

23. In seven given numbers, the average of first four numbers is 4 and that of the last four numbers is also 4. If the average of these seven numbers is 3, the fourth number is :
(1) 3 *(2)* 4 (3) 7 *(4) 11*

24. $2\log 169 - 3\log 143 + \log 1100 - \log 1300 + \log 121$
(1) 0 (2) 1 (3) 10 (4) None of these

25. If $5\sqrt{5} \times 5^3 \div 5^{-3/2} = 5^{a+2}$, the value of *a* is :
(1) 4 (2) 5 (3) 6 (4) 8

26. Find the length of the longest pole that can be placed in *a* room 12 m long, 9m broad and 8 metres high
(1) 15 m (2) 16 m (3) 17 m (4) 18 m

27. **A cylindrical piece of metal of radius 2 cm and height 6 cm is shaped into a cone of same radius. The height of the cone is :**

(1) 8 cm *(2)* 12 cm *(3)* 14 cm (4) 18 cm

28. A cylindrical vessel 60 cm in diameter is partially filled with water. A sphere 30 cm in diameter is dropped into it. The increase in the level of water in the vessel is

(1) 2 cm (2) 3 cm (3) 4cm (4) 5cm

29. 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?

(1) 159 *(2)* 194 (3) 205 *(4)* 209 (e) None of these

30. In how many ways can the letters of the word 'LEADER' be arranged?

(1) 72 *(2)* 144 *(3)* 360 *(4)* 720 (e) None of these

Directions for Questions 31 - 35:

In a group of seven girls, Aruna is taller than Divya but shorter than Hema who is not the tallest girl. Divya is not as short as Priya who is not the shortest. Shilpa is shorter than 4 girls including Geetha and taller than the other girls. No data is available about the remaining girl Bama.

31. The tallest girl is

1) Divya 2) Aruna 3) Bama 4) Geetha

32. The shortest girl is

1) Bama 2) Divya 3) Shilpa 4) Hema

33. The girl who stands middle in the height is

1) Divya 2) Aruna 3) Priya 4) Hema

34. The number of girls taller than Aruna is

1) One 2) Two 3) Three 4) Four

35. Find the missing number in the sequence 2, 7, 10, 63,?, 215, 50

1) 26 2) 28 3) 80 4) 126

Directions for Questions 36 - 39 :

Three adjacent faces of a cube having a common vertex are painted with green colour and the other three faces are painted with red colour. The cube is cut into 216 equal small cubes.

36. How many small cubes have green paint en one face and red paint on another face and no paint on the remaining four faces?

1) 12 2) 24 3) 48 4) 96

37. How many small cubes have no paint on any of the faces?

1) 48 2) 64 3) 96 4) 125

38. How many small cubes have paint only on one face?

1) 96. 2)72 3) 64 4) 48

39. How many small cubes have red colour on - two faces and green colour one one face and no paint on the other three faces?

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

Directions (Questions 40 to 47) : The following questions are based on the diagram given below :

(1) Rectangle represents males.
(2) Triangle represents educated.
(3) Circle represents urban.
(4) Square represents civil servants.

40. Who among the following is an educated male who is not an urban residents?
(1) 4 (2) 5 (3) 9 (4) 11

41. Who among the following is neither a civil servant nor educated but is urban and not a male?
(1) 2 *(2)* 3 (3) 6 (4) 10

42. Who among the following is a female, urban resident and also a civil servant?
(1) 6 (6) 7 (3) 10 (4) 13

43. Who .among the following is an educated male who hails from urban area?
(1) 4 *(2)* 2 (3) ll (4) 5

44. Who among the following is uneducated and also an urban male?
(1)2 (2)3 (3)ll (4)12

45. Who among the following is only a civil servant but not a male nor urban oriented and uneducated ?
(1) 7 (2) 8 (3) 9 (4) 14

46. Who among the following is a male, urban oriented and also a civil servant but not educated ?
(1) 13 (6)12 (3) 6 (4) 10

47. Who among the following is a male civil servant, who is neither educated nor belongs to urban area?
(1) 7 (6) 13 (3) 4 (4) 1

Directions: Each question below is followed by two labelled facts [labelled as (1) and (2)]. You are to determine whether the data given in the statement are sufficient for answering the questions. Use the data given, plus your knowledge of Mathematics and every day facts, to choose amongst possible answer from (1) to (5),

1) If you can get the answer from (1) alone but not from (2) alone.
2) If you can get the answer from (2) alone but not from (1) alone.
3) If you can get the answer from both (1) and (2) but not from (1) alone or (2) alone.
4) If you cannot get the answer from statement (1) and (2) together, but need even more data.

48. 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.

49. Who is the father of M ?

I. A and B are brothers.

II. B's wife is sister of M's wife.

50. What day is the fourteenth of a given month ?

I. The last day of the month is a Wednesday.

II. The third Saturday of the month was seventeenth.

51. Among four friends A, B, C and D, who is the heaviest ?

I. B is heavier than A, but lighter than D.

II. C is lighter than B.

52. It is 8.00 p.m., when can Hemant get next bus for Ramnagar from Dhanpur ?

I. Buses for Ramnagar leave after every 30 minutes, till 10 p.m.

II. Fifteen minutes ago, one bus has left for Ramnagar.

53. In a certain code '13' means 'stop smoking" and '59' means 'injurious habit'. What is the meaning of '9' and '5' respectively in that code?

I. '157' means 'stop bad habit'.

II. '839' means 'smoking is injurious'.

54. When is Manohar's birthday this year ?

I. It is between January 13 and 15, January 13 being Wednesday.

II. It is not on Friday.

55. On which day the flat was purchased by Rohan in 1996 ?

I. Certainly before 18th December, 1996 but definitely not before 15th December, 1996.

II. Certainly after 16th December, 1996 but not later than 19th December, 1996.

56. Is Arun taller than Sachin ?

I. Dinesh is of the same height as Arun and Sachin.

II. Sachin is not shorter than Dinesh.

57. Buses are always punctual in city X. How long, at the most, will Mr. Roy have to wait for the bus ?

I. Mr. Roy has come to the bus stand at 9 A.M.

II. There is a bus at 10 A.M. and possibly another bus even earlier.

58. The Chairman of a big company visits one department on Monday of every week except for the Monday of third week of every month. When did he visit the Purchase department?

I. He visited Accounts department in the second week of September after having visited Purchase department on the earlier occasion.

II. He had visited Purchase department immediately after visiting Stores department but before visiting Accounts department.

59. How is D related to A ?

I. B is the brother of A.

II. B is D's son.

60. Is D brother of F ?

I. B has two sons of which F is one.

II. D's mother is married to B.

Direction : In a school, there were five teachers. A and B were teaching Hindi and English. C and B were teaching English and Geography. D and A were teaching Mathematics and Hindi. E and B were teaching History and French.

61. Who among the teachers was teaching maximum number of subjects?
(1) A (2) B (3) C (4) D (e) E

62. Which of the following pairs was teaching both Geography and Hindi?
(1) A and B (2) B and C (3) C and A (4) D and B (e) None of these

63. More than two teachers were teaching which subject?
(1) History (2) Hindi (3) French (4) Geography (e) Mathematics

64. D, B and A were teaching which of the following subjects?
(1) English only (2) Hindi and English (3) Hindi only
(4) English and Geography (e) Mathematics and Hindi

65. Who among the teachers was teaching less than two subjects?
(1) A (2) B (3) D (4) Data inadequate
(e) There is no such teacher

Directions (Questions 66 to 70) : In each of the questions you are given two statements (1) and (2) followed by two conclusions I and II. You have to take the two statements to be true even if they seem to be at Variance from the commonly known facts. You are to decide which of the given conclusions definitely follows from the given statements.
Indicate your answer as :

(1) If only conclusion I follows.
(2) If only conclusion II is followed.
(3) If either conclusion I or II follows.
(4) If neither I nor II follows.

66. Statements : *(1)* Some books are cars,
(2) Some car are boxes.
Conclusions : I. Some books are boxes.
II. Some boxes are books.

67. 'Statements : *(1)* Some kings are queens.
(2) All queens are beautiful.
Conclusions : I. All kings are beautiful.
II. All queens are kings.

68. Statements : *(1)* *No* papers are pens.
(2) *No* pencils are pens.
Conclusions I. Some pens are pencils.
II. Some pens are papers.

69. 'Statements : (1) Some nurses are nuns
(2) Madhu is nun
Conclusions I. Some nuns are nurses
II Some nurses are not nuns

70. 'Statements : (1) All poles are guns
(2) Some boats are not poles.
Conclusions I. All guns are boats
II. Some boats are not guns

71. Second generation computers are manufactured using
(1) Vacuum tubes (2) Transistors
(3) Integrated circuit chips (4) Micro Processors

72. Which of the following is an example of a volatile memory?
(1) RAM (2) PROM (3) ROM (4) HARD DISK

73. In 7 bit ASCII mode these are -------- zone bits
(1) 4 (2) 3 (3) 2 (4) 5

74. First fully electronic computer is
(1) UNIVAC (2) ENIAC (3) MANIAC (4) EDVAC

75. Who developed C + + ?
(1) Michael shrayer (2) Bjarne stoustrup
(3) Bushnell (4) None of these

76. The clock speed of Intel 8085 is
(1) 8 MHz (2) 3 MHz (3) 12 MHz (4) 20 MHz

77. How many keys are in the usual key board?
(1) 98 (2) 107 (3) 108 (4) 101

78. The UNIVAC 1 was the first computer to
(1) use transistors (2) use a stored program
(3) used for business data processing (4) all of the above

79. A certain small computer has a 4k RAM and a 12k ROM. The number of locations in memory are available both for introducing and retriving data is
(1) 1024 (2) 4096 (3) 5048 (4) None of these

80. A buffer is
(1) a channel for high-speed I/O devices
(2) comparable to
(3) low
(4) none of the above

81. Electronic Numerical Integrator and calculator, means
(1) ENAC (2) ENIAC (3) ENIACR (4) Calculator

82. The Base and weights for Binary system are .....
(1) 10, 2 (2) 2, 2 (3) 8, 2 (4) 2, 8

83. What is the octal equivalent of the binary number 101001?
(1)57 (2) 52 (3) 67 (4) 51

84. Find the hexadecimal equivalent of the octal number 453
(1) 10 C (2) 132 (3)11C (4)12B

85. A micro processor
(1) is a programmable logic device
(2) has computing and decision making capability
(3) is a data processing unit of a computer
(4) all the above

86. Compiler is a program that translates a ..... language into the ..... language
(1) high-level, machine (2) low-level, machine
(3) high-level, assembly (4) none of these

87. Generally I/O devices are ..... devices
(1) low speed (2) high speed (3) medium speed (4) none of these

88. A collection of card is called a
(1) graphic row (2) deck (3) CRT (4) None of these

89. FORTRAN, COBOL, BASIC, PL/1 etc. are called
(1) high level languages (2) low level languages
(3) assembly languages (4) machine languages

90. In ..... generation of computers, microprogramming concept was introduced
(1) First (2) Second (3) Third (4) Fourth

91. The register which outs as a buffer between the CPU and the memory is
(1) PC (2) MAR (3) MBR (4) 1R

92. The portion of the operating system selects each program one after another depending on the availability of CPU is called
(1) Time-sharing (2) Spooling (3) Scheduling (4) None of these

93. A formalised systematic procedure for problem-solving is
(1) program (2) algorithm C} flow chart (4) none of these

94. What is a 'mega flop'?
(1) high capacity data transmission
(2) large storage device
(3) one million flooting point operations per second
(4) measurement of primary storage capacity

95. A monitor is
(1) software (2) part of the CPU
(3) output hardware (4) Input/output hardware

96. "DRAM" and "SRAM" arc
(1) types of memory (2) access methods
(3) types of disk drives (4) device speed measurements

97. Which is an example of a Query language?
(1) BASIC (2) RPG (3) SQL (4) OS/2

98. Which of the following is a UNIVERSAL gate?
(1) AND (2) OR (3) NOT (4) NAND

99. A diskette is divided into ..... tracks
(1) 20 (2) 40 (3) 45 (4) 50

100. A word processor can be used
(1) to print a text only if it is edited (2) to shout at a mischievous boy
(3) to write and edit any text (4) None of these