MCA 2017 – EXAMINATION PAPER

1. A college has 10 basketball players. A 5-member team and a captain will be selected out of these 10 players. How many different selections can be made?
1) 1260 2) 1400 3) 1250 4) 1600

2. A man sitting in a train which is travelling at 50 kmph observes that a goods train, travelling in opposite direction, takes 9 seconds to pass him. If the goods train is 280 m long, find its speed?
1) 60 2) 62 3) 64 4) 65

3. A, B, C, D are points on a circle with AB = 5 cm, BC = 12 cm, AC - 13 cm and AD = 7 cm. Then, the closest approximation of CD is
1) 9 cm 2) 10 cm 3) 11 cm 4) 14 cm

4. A chocolate bar having m x n unit square tiles is given. Calculate the number of cuts needed to break it completely, without stacking, into individual tiles.
1) $(m \times n)$ 2) $(m-1) \times (n-1)$
3) $(m \times n)-1$ 4) $(m \times n)+1$

5. 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°

6. Three partners shared the profit in a business in the ratio 5:7:8. They had partnered for 14 months, 8 months and 7 months respectively. What was the ratio of their Investments?
1) 5 : 7 : 8 2) 20 : 49 : 64
3) 38 : 28 : 21 4) None of these

7. John and Dani go for an interview for two vacancies. The probability for the selection of John is 1/3 and whereas the probability for the selection of Dani is 1/5. What is the probability that only one of them is selected?
1) 3/5 2) 2/5 3) 1/5 4) 4/5

8. A 20 litre mixture of milk and water contains milk and water in the ratio 3 : 2. 10 litres of the mixture is removed and replaced with pure milk and the operation is repeated once more. At the end of the two removals and replacement, what is the ratio of milk and water in the resultant mixture?
1) 17 : 3 2) 9 : 1 3) 3 : 17 4) 5 :3

9. $(x \hat{} 3-6x \hat{} 2+px+q)$ is exactly divisible by $(x \hat{} 2-3x+2)$ then,
1) $p+q>0$ and $pq>0$ 2) $p+q>0$ and $pq<0$
3) $p+q<0$ and $pq<0$ 4) $p+q<0$ and $pq>0$

10. A student finds the average of 10 positive integers. Each integer contains two digits. By mistake, the boy interchanges the digits of one number say ba for ab. Due to this, the average becomes 1.8 less than the previous one. What was the difference of the two digits a and b?
1) 8 2) 6 3) 2 4) 4

11. How many values can natural number n take, if n! is a multiple of 7^6 but not 7^7?
1) 7 2) 21 3) 14 4) 12

12. 6 different sweet varieties of count 32, 216, 136, 88, 184, 120 were ordered for a particular occasion. They need to be packed in such a way that each box has the same variety of sweet and the number of sweets in each box is also the same. What is the minimum number of boxes required to pack?
1) 129 2) 64 3) 48 4) 97

13. A class in college has 150 students numbered from 1 to 150, in which all the even numbered students are doing CA, whose numbers are divisible by 54 are doing Actuarial and those whose numbers are divisible by 7 are preparing for MBA. How many of the students are doing nothing?
1) 37 2) 45 3) 51 4) 62

14. Find the next number in the series :
4, 5, 7, 11, 19, ...
1) 22 2) 35 3) 27 4) 32

15. Ajay went for a movie nine days ago. He goes to watch movies only on Thursdays. What day of the week is today?
1) Wednesday 2) Friday
3) Saturday 4) Sunday

16. A card is randomly drawn from a deck of 52 cards. What is the probability of getting a five of Spade or Club?
1) 1/52 2) 1/13 3) 1/26 4) 1/12

17. A and B together have 1210 Rupees. 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

18. Select the odd one out from the given alternative:
(64, 83), (100, 121), (16, 25), (36, 49)
1) (64, 83) 2) (100, 121)
3) (16, 25) 4) (36, 49)

Directions Q. (19–23) :
Study the following table carefully to answer the given questions.

Item of expenditure/year	Salary	Fuel and transport	Bonus	Interest on loans	Taxes
1998	288	98	3.00	23.4	83
1999	342	112	2.52	32.5	108
2000	324	101	3.84	41.6	74
2001	336	133	3.38	36.4	88
2002	420	142	3.96	49.4	98

19. The ratio between the total expenditure on taxes for all the years and the total expenditure on Fuel and Transport for all the years respectively is approximately
1) 4 : 7 2) 10 : 13 3) 15 : 18 4) 5 : 8

20. The total expenditure of the Company over these items during the year 2000 is
1) Rs. 544.44 Lakhs 2) Rs. 501.11 Lakhs
3) Rs. 446.46 Lakhs 4) Rs. 478.87 Lakhs

21. What is the average amount of interest per year which the Company had to pay during this period?
1) Rs. 32.43 Lakhs 2) Rs. 33.72 Lakhs
3) Rs. 34.18 Lakhs 4) Rs. 36.66 Lakhs

22. Total expenditure on all these items in 1998 was approximately, what percent of the total expenditure in 2002?
1) 62% 2) 66% 3) 69% 4) 73%

23. The total amount of bonus paid by the Company during the given period is approximately what percent of the total amount of salary paid during this period?
1) 0.1% 2) 0.5% 3) 1% 4) 1.25%

Answer the questions based on the following information.

24. Four sisters – Suvarna, Tara, Uma and Vibha are playing a game such that the loser doubles the money of each of the other players from her share. They played four games and each sister lost one game in alphabetical order. At the end of fourth game, each sister has Rs. 32, How many rupees did Suvarna start with?
1) Rs. 60 2) Rs. 66 3) Rs. 34 4) Rs. 28

25. The head of a newly formed government desires to appoint five of the six elected members A, B, C, D, E and F to portfolios of Home, Power, Defence, Telecom and Finance. F does not want portfolio if D gets one of the five. C wants either Home or Finance or no portfolio. B says that if D gets either power of Telecom then she must get the other one, E insists on a portfolio if A gets one. If A gets Home and C gets Finance, then which is NOT a valid assignment for Defence and Telecom?
1) D-Defence, B-Telecom 2) F-Defence, B-Telecom
3) B-Defence, E-Telecom 4) B-Defence, D-Telecom

26. The sum of three prime numbers is 100. If one of them exceeds another by 36, then one of the numbers is:
1) 7 2) 29 3) 41 4) 67

27. A number when divided by 3 leaves a remainder 1. When the quotient is divided by 2, it leaves a remainder 1. What will be the remainder when the, number is divided by 6?
1) 2 2) 3 3) 4 4) 5

28. A man bought a horse and a carriage for Rs. 3000. He sold the horse at a gain of 20% and the carriage at a loss of 10%, thereby gaining 2% on the whole. Find the cost of the horse.
1) 2200 2) 1800 3) 1200 4) 1000

29. If log 27 = 1.431, then the value of log 9 is
1) 0.934 2) 0.945 3) 0.954 4) 0.958

30. In a garden, there are 12 rows and 14 columns of mango trees. The distance between two trees is 2 metres and a distance of one metre is left from all sides of the boundary of the garden. The length of the garden is
1) 20 m 2) 22 m 3) 24 m 4) 26 m

31. The cross section of a canal is trapezium in shape. The canal is 12m wide at the top and 8m wide at the bottom. If the area of the cross section is 840 sq.m, the depth of the canal is:
1) 42 m 2) 84 m 3) 63 m 4) 8.75 m

32. Two persons start running simultaneously around a circular track of length 400 m from the same point at speeds of 15 kmph and 25 kmph. When will they meet for the first time anywhere on the track if they are moving in the opposite direction?
1) 144 s 2) 36 s 3) 124 s 4) 32 s

33. What is the minimum integral value of n such that the division 55n/124 leaves no remainder?
1) 124 2) 123 3) 62 4) 31

34. Which among the following is the greatest?
1) 2^{3^2} 2) 2^{2^3} 3) 3^{2^3} 4) 3^{3^3}

35. If $5^{2n-1} = 1/(125^{n-3})$, then the value of n is
1) 3 2) 2 3) 0 4) -2

36. The speeds of three motor bikes are in the ratio 5: 4 : 6. The ratio between the time taken by them to travel the same distance is
1) 10 : 12 : 15 2) 12 : 15 : 10
3) 15 : 12 : 10 4) 10 : 15 : 12

37. If 96 is divided into four parts proportional to 5, 7, 4, 8 then the smallest part is
1) 16 2) 14 3) 20 4) 18

38. The value of 40 coins of 10 p and 20 p is Rs. 5.50. The number of 20 p coins is
1) 15 2) 25 3) 30 4) 35

39. The Gross Domestic Product (GDP) in Rupees grew at 7% during 2012-2013. For international comparison, the GDP is compared in US Dollars (USD) after conversion based on the market exchange rate. During the period 2012-2013 the exchange rate for the USD increased from Rs. 50/USD to Rs. 60/USD. India's GDP in USD during the period 2012-2013
1) Increased by 5% 2) Decreased by 13%
3) Decreased by 20% 4) Decreased by 11%

40. Consider the equation : $(7526)_8 - (Y)_8 = (4364)_8$, where $(X)_N$ stands for X to the base N. Find Y.
1) 1634 2) 1737 3) 3142 4) 3162

41. The width of a rectangular hall is 1/2 of its length. If the area of the hall is 450 sq.m, what is the difference between its length and breadth?
1) 8 m 2) 10 m 3) 12 m 4) 15 m

42. Rohit and Rohan can complete a work in 12 days and 6 days respectively. How much time will they take when working together?
1) 4 2) 3 3) 5 4) 2

43. What percent is 2 minutes 24 seconds of an hour?
1) 6% 2) 2% 3) 4% 4) 8%

44. Susan can type 10 pages in 5 minutes. Mary can type 5 pages in 10 minutes. Working together, how many pages can they type in 30 minutes?
1) 15 2) 20 3) 65 4) 75

45. Which of the following is least like the others?
1) cube 2) sphere 3) pyramid 4) circle

46. A sum was put a simple interest at a certain rate for 2 years. Had it been put at 4% higher rate, it would have fetched Rs. 60 more. The sum is
1) Rs. 750 2) Rs. 700 3) Rs. 820 4) Rs. 940

47. If the true discount on a sum due 2 years hence at 14% per annum be Rs. 168, the sum due is
1) Rs. 768 2) Rs. 968 3) Rs. 1960 4) Rs. 2400

48. Some children were taking free throws at the basketball court in school during lunch break Below are some facts about how many baskets these children shot.
i) Ganesh shot 8 baskets less than Ashish.
ii) Dhanraj and Ramesh together shot 37 baskets.
iii) Jagraj shot 8 baskets more than Dhanraj.
iv) Ashish shot 5 baskets more than Dhanraj.
v) Ashish and Ganesh together shot 40 baskets.
Which of the following statement is true?
1) Dhanraj and Jagraj together shot 46 baskets
2) Ganesh shot 18 baskets and Ramesh shot 21 baskets
3) Ramesh and Jagraj together shot 29 baskets
4) Dhanraj shot 3 more baskets than Ramesh

49. There are three positive integers such that 70% of the first number, 58 1/3% of second number and 38 8/9% of the third number are all equal. Which of the following can those three numbers be?
1) 5, 6, 9 2) 10, 12, 18
3) 15, 18, 27 4) All the above

50. In an examination it is necessary for a candidate to get 45 % of the maximum marks to pass. A candidate, who gets 180 marks, fails by 45 marks. Find the maximum marks
1) 450 2) 600 3) 500 4) 550

51. 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

52. In which of the following expressions does the expression 'A > D' does not hold true?
1) $A < B \leq C = D$ 2) $D \geq B > C \geq A$
3) $A \leq B = C < D$ 4) $A > B \leq C = D$

Direction (Q. 53-Q. 57) : Read the following information and answer the questions below :
Pete, Lila, Remo, Symon and Tom are five friends who travelled to five different cities-A, B, C, D, and E by three different modes of transport — train, aeroplane, and car from city Z not necessarily in the same order. Out of the three modes of transport, two modes have been used for by atmost two persons.

Aeroplane has been used as a mode of transport only by the person who travelled to E. Tom went to B by car and Pete went to C by train. One who travelled by train didn't go to city A. Lila travelled by train whereas Remo travelled by car.

53. Which of the following combinations is true for Lila?
1) C-Car 2) B-Train 3) A-Train 4) D-Train

54. Which of the following combinations of person and mode is correct?
1) Tom - Train 2) Pete - Car
3) Remo - Aeroplane 4) Symon -Aeroplane

55. The person travelling to city A went by which of the following modes?
1) Train 2) Aeroplane
3) Car 4) Data inadequate

56. Who among the following travelled to city A?
1) Tom 2) Symon 3) Remo 4) Pete

57. Which of the following combinations of place and mode is not correct?
1) C - Train 2) D - Car
3) B - Car 4) E - Aeroplane

Direction (Q. 58 - Q.62) : *Read the following information and answer the questions below :*

Eight teachers A, B, C, D, E, F, G & H are sitting on a cement bench. Some are facing north and some are facing south. They all like different colours; Green, yellow, blue, white, brown, pink , black and red.

- G is not an immediate neighbour of A.E sits fifth to the right of G
- A & D sitting at the extreme ends and no one sitting at the extreme ends like black or yellow.
- E doesn't like white or black or green, and faces the direction opposite to that of H.
- B faces south. And none of the people who sit at the extreme ends face south.
- The one who likes pink is the immediate neighbour of two north facing teachers. There are four people between A & C
- None of the people who face north likes pink, or white or blue. H likes red.
- G sits third to the right of F and does not sit on any ends. There are as many people between E & H as there is to the right of C.

58. What colour does F like?
1) Black 2) Green
3) Red 4) Cannot be determined

59 Who is sitting third to the left of E?
1) G 2) B
3) The one who likes green 4) The one who liked red

60. Who likes green?
1) A 2) B 3) C 4) A or D

61. Find the odd one out :
1) A 2) F 3) H 4) C

62. If A likes green, what colour does C like?
1) Pink 2) Brown
3) Yellow 4) Cannot be determined

Direction (Q. 63 - Q. 67) : *Read the following information and answer the questions below :*

In each of the following questions, various terms of an alphabet series are given with one or more terms missing as shown by (?). Choose the missing terms out of the given alternatives. In each of the following questions, various terms of an alphabet series are given with one or more terms missing as shown by (?). Choose the missing terms out of the given alternatives.

63. AZ, GT, MN, ?, YB
1) KF 2) RX 3) SH 4) TS

64. AZ, CX, FU, ?
1) IR 2) IV 3) JQ 4) KP

65. AZ, BY, CX, ?
1) EF 2) GH 3) IJ 4) DW

66. DKY, FJW, HIU, JHS, ?
1) KGR 2) LKQ 3) KFR 4) LGQ

67. ?, SIY, OEU, KAQ, GWM, CSI
1) WNE 2) WNB 3) WMC 4) WMD

68. In a family, there are six members A, B, C, D, E and F. A and B are a married couple, A being the male member. D is the only son of C, who is the brother of A. E is the sister of D. B is the daughter-in-law of F, whose husband has died. How is E related to C?
1) Nephew 2) Daughter 3) Sister 4) Son in law

69. There are six persons A, B, C, D, E and F. C is the sister of F. B is the brother of E's husband. D is the father of A and grand father of F. There are two fathers, three brothers and a mother in the group. Who is E's husband?
1) A 2) B 3) C 4) F

70. If in a certain language KINDLE is coded as ELDNIK, how is EXOTIC coded in that code?
1) EOXITC 2) EXOTLC 3) CITOXE 4) COXITE

71. In a certain code, PAPER is written as SCTGW. How is MOTHER written in that code?
1) ORVLGW 2) PQXJJT 3) PQVJGT 4) PQXKJV

Direction (Q. 72 - Q. 75) : Read the following information and answer the- questions below :
Each of the questions below consists of a question and two statements numbered I, II and III given below it. You have to decide whether the data provided in the statements are sufficient to answer the question. Read all the three statements and give answer :

72. How many pens does A have ?
I. A has 12 pens less than what B has
II. C has 18 pens more than what B has
III. D has eight pens, which are forty percent less than what B has
1) Only I 2) Only II
3) Both I and II 4) Both I or III

73. How many students are there between Gopal and Arun in a row of sixty students?
I. Ramesh is twentieth from the left end and Gopal is five places away from Ramesh.
II. Gopal is twenty-second from the left end and Arun is twenty-seventh from the right end.
III. Arun sits at an end
1) Only I 2) Only II
3) Only III 4) Only I and II

74. How is 'Go' written in a given language?
I. 'go to school' is written as 'fa la da' and 'on the way' is written as 'ni da ka'
II. 'way for market' is written as ' sh da pi' and 'way to School' is written as 'ma la fa'
1) Only I 2) Only II
3) Both I and II 4) Either I or II

75. How many days did Rahul take to complete his assignment?
I. Mohan correctly remembers that Rahul took more than 3 days but less than 9 days to complete his assignment.
II. Mithun correctly remembers that Rahul took more than 6 days but less than 11 days to complete his assignment.
1) Only I 2) Only II
3) Both I and II 4) Neither I nor II

76. Which one of the following is true for RAM?
1) It is volatile memory 2) It is temporary memory
3) It is primary memory 4) All of the above

77. Verification of a login name and password is known as
1) configuration 2) accessibility
3) authentication 4) logging in.

78. Which of the following is NOT a type of broadband Internet connection?
1) Cable 2) DSL
3) Dial-up 4) Satellite

79. When data changes in multiple lists and all lists are not updated, this causes
1) data redundancy 2) information overload
3) duplicate data 4) data inconsistency

80. A goal of normalization is to
1) minimize the number of relationships
2) minimize the number of entities
3) minimize the number of tables
4) minimize the number of redundancy

81. Software, such as viruses, worms and Trojan horses, "that has a malicious intent, is known as
1) spyware 2) adware
3) spam 4) malware

82. A Proxy server is used for which of the following?
1) To provide security against unauthorized users
2) To process client requests for web pages
3) To process client requests for database access
4) To provide TCP/IP

83. URL stands for
1) Universal Research List
2) Universal Resource List
3) Uniform Resource Locator
4) Uniform Research Locator

84. In a ring topology, the computer in possession of the _____ can transmit data.
1) packet 2) data
3) access method 4) token

85. System software is the set of programs that enables your computer's hardware devices and _____ software to work together.
1) management 2) processing
3) utility 4) application

86. Word processing, spreadsheet, and photo-editing are examples of
1) application software
2) system software
3) operating system software
4) platform software

87. **_____ is the science that attempts to produce machines that display the same type of intelligence that humans do.**
1) Nanoscience 2) Nanotechnology
3) Simulation 4) Artificial Intelligence (AI)

88. **ASCII codes has _____ bits.**
1) 8 2) 16 3) 10 4) 24

89. **What kind of attempts is made by individuals to obtain confidential information from a person by falsifying their identity?**
1) Computer viruses 2) Spyware scams
3) Phishing scams 4) None of the above

90. **Which one of the following statement is true for Assembly language?**
1) This language need not be translated into machine language.
2) It is the easiest language to write programs
3) It uses alphabetic codes.
4) All of the above

91. **Which language can be directly understood by the CPU?**
1) Assembly language 2) Java
3) C 4) All of the above

92. **The operation of computer is controlled by**
1) Memory system 2) Controlling system
3) Operating system 4) Processing system

93. **When the computer is turned off then the content of which one of the following is lost?**
1) Output 2) Storage 3) Memory 4) Register

94. **The other components of computer system is directed to perform the task specified in the program instructions with the help of**
1) Input unit 2) Control unit
3) ALU 4) System unit

95. **In a computer system where is the processing done?**
1) Monitor 2) CPU 3) RAM 4) ROM

96. **For logical operations or comparisons such as less than or equal to or greater than _____ is used.**
1) ALU 2) Control unit
3) Memory unit 4) Input unit

97. **____ retains its data after the power is turned off**
1) Sequential storage
2) Volatile storage
3) Non-volatile storage
4) Direct storage

98. **From which component the most frequently used instructions of a computer program fetched?**
1) Hard disk 2) RAM
3) Registers 4) Cache memory

99. **Which one of the following is the set of programs that enables your computer's hardware devices and application software to work together?**
1) System software 2) Processing
3) Utility 4) Manage

100. **The difference between a virus and a self-replicating program which is like a virus is that rather than creating copies of itself on only one system it propagate through computer network. What is the self replicating program called?**
1) Kelogger 2) Cracker
3) Worm 4) All of the above

MCA 2017 – ANSWERS

1 1	2 2	3 3	4 3	5 4	6 2	7 2	8 2	9 2	10 3
11 3	12 4	13 3	14 2	15 3	16 3	17 2	18 1	19 2	20 1
21 4	22 3	23 3	24 2	25 4	26 4	27 3	28 3	29 3	30 ..... *
31 2	32 2	33 1	34 4	35 2	36 2	37 1	38 1	39 4	40 3
41 4	42 1	43 3	44 4	45 4	46 1	47 1	48 1	49 4	50 3
51 1	52 3	53 4	54 4	55 3	56 3	57 2	58 4	59 4	60 4
61 3	62 4	63 3	64 3	65 4	66 4	67 3	68 2	69 1	70 3
71 2	72 4	73 2	74 3	75 4	76 4	77 3	78 3	79 4	80 4
81 4	82 2	83 3	84 4	85 4	86 1	87 4	88 1	89 3	90 3
91 3	92 2	93 4	94 2	95 2	96 1	97 3	98 4	99 1	100 3