JMI-MCA-2019

Q-1: Which of the following is Not a Language processor:

A Compiler B

C Interpreter D Assembler

Q-2: If $(41)_6 = (121)_b$ then b is:

List-1		List-II				
P	RAM	1	Hertz			
Q	CPU Speed	2	MB			
R	Monitor	3	Bytes/Sec			
S	CD-Rom Speed	4	Inch			

A 1

C 3

В

2

Loader

D 4

Q-3: Mach List-I and List-II and select correct group of matching.

A (P,2), (Q,1), (R,4), (S,3)

В

(P,1), (Q,2), (R,3), (S,4)

C (P,3), (Q,4), (R,2), (S,2)

D (P.4)

(P,4), (Q,3), (R,1), (S,2)

Q-4: Bitcion uses which network technology for transaction and mining.

A Peer to Peer Network

B Distributed Network

C Wide Area Network

D Intranet Network

Q-5: The Binary coding system that represents 256 different characters or bit combination is:

A BCD

B ASCII

C EBCDIC

D both b and c

Q-6: The hexadecimal subtraction of (56)16 from (427)16 results in:

A $(3B1)_{16}$

B
$$(331)_{16}$$

C
$$(371)_{16}$$

D
$$(3D1)_{16}$$

Q-7: Which type of Processors is ideal for Mobile phones and PDAs

- A CISC B RISC
- C VISC D LISC

Q-8: RAID stands for

- A Reproduce Array of Intelligent Disks B Reproduce Array of Inexpensive Disks
- C Redundant Array of Inexpensive Drives D Redundant Array of Inexpensive Disks

Q-9: Choose the ODD one out from the following:

- A QWERTY B SULTRY
- C AZERTY D DVORAK

Q-10: What does XP stands for in the operating system 'Windows XP'?

- A Extra Power B Extended Product
- C Extra Performance D Experience

Q-11: The range of 2's complement representation of n-bit signed integer is:

A
$$-2^n to \ 2^n$$
 B $-(2^{n-1}-1)to \ (2^{n-}-1)$

C
$$-2^{n-1}$$
 to 2^{n-1} D -2^{n-1} to $2^{n-1}-1$

Q-12: Consider the following lists, and then select the correct option after matching them

List-1			
1	Procedural Oriented Language	P	COBOL
2	Object Oriented Language	Q	HTML
3	Business Oriented Language	R	C++
4	Web Page	S	Pascal

Α	(1.S).	(2,Q),	(3.P).	(4.R)
11	$(1, \mathcal{O})$	(~ ,\\\),	(2,1),	(1/17)

B (1,S), (2,R), (3,P), (4,Q)

D (1,S), (2,P), (3,Q), (4,R)

Q-13: When a computer is switched on, the BIOS is loaded from:

B RAM

D CD-ROM

Q-14: Which of the following is not a search engine:

B Google

D Bing

Q-15: 8 GB is equal to:

B 2³³ bytes

D 2²³ bytes

Q-16:
$$x = 0.125E + 01$$
, $x = (1.01)2$ and $y = (1.2)_8$

A x,y and z are equal

B Only x and y are equal

C Only x and z are equal

D All x,y and z are different

Q-17: The product of two binary numbers 00001101 and 00001111 is:

A 11000011

B 01100011

C 00001101

D 00010010

Q-18: Which of the following group of statements are correct:

- P. Mouse, Keyboard and Plotter are all input devices.
- Q. Unix, Windows and Linux are all operating system.
- R. Register, Cache and Hard-disk are all memory modules.
- S. Monitor, Printer and Scanner are all output devices.

A P,Q

B P,S

C R,S

D Q,R

Q-19: Which one is the founder or inventor of BITCOIN the famouse cryptocurrency.

A Satoshi Nakomoto

B Peter Thiel

C Warren Buffet

D Bitcion.org

Q-20: Which of the following group consists of volatile memory:

A RAM and Floppy Disk

B Hard disk and ROM

C RAM and Cache

D Cache and ROM

Q-21: Let A and B be two sets containing 2 elements and 4 elements respective. The number of subsets of $A\times$

B having 3 or more elements is:

A 256

B 220

C 219

D 211

Q-22: If A, B and c are three sets such that $A \cap B = A \cap C$ and $A \cup B = A \cup C$, then

A A = C

B B = C

C $A \cap B = \theta$

D A = B

Q-23: The value of $tan^{-1}(tan13)$ is:

A π -13

B 13

C $4\pi - 13$

D $-4\pi + 13$

Q-24: $(\cot x \cdot \cot 2x - \cot 2x \cdot \cot 3x - \cot 3x \cdot \cot x)$ equals

A $(\cot x - \cot 2x - \cot 3x)$

B $(\cot x - \cot 2x - \cot 3x)$

C 1

D -1

Q-25: Value of $\tan\left(\frac{\pi}{8}\right)$ is:

A 2-√-1

B 1−2−√

C 1–12√

D 1+12√

Q-26: The number of complex numbers Z such that |Z-1| |Z+1| |Z-i|

A 1

B 2

C ∞

D 0

Q-27: If ω is a cube of unity and $(1 + \omega)^7 = A + B\omega$, Then A+B equals.

A -1

B 0

C 2

D -2

Q-28: If x + y + z = 5 and xy + yz + zx = 3, Then the least and greatest value of x are

A $\frac{10}{3}$, 5

B $-1, \frac{13}{3}$

 $C - \frac{17}{3}, 7$

D None

Q-29: The sum of integers from 1 to 100 that are divisible by 2 or 5 is

A 3000

3050

C 3600

D 3250

Q-30: The remainder 2740 when is divided by 12 is

A 3

B 7

C 9

D 11

Q-31: The sum of the series $1 + \frac{1}{4.2!} + \frac{1}{16.4!} + \frac{1}{64.6!} + \dots \infty$ is

A $\frac{e-1}{\sqrt{e}}$

 $\frac{e+1}{\sqrt{e}}$

C $\frac{1-\epsilon}{2\sqrt{\epsilon}}$

D $\frac{1+\epsilon}{2\sqrt{\epsilon}}$

Q-32: The sum of two numbers is 6 times their geometric mean, then the numbers are are in the ratio

A $\frac{3+\sqrt{2}}{3+\sqrt{2}}$

B $\frac{3+2\sqrt{2}}{3-2\sqrt{2}}$

C $\frac{2+\sqrt{3}}{2-\sqrt{3}}$

D $\frac{2+3\sqrt{3}}{2-3\sqrt{3}}$

Q-33: The orthocentre of triangle formed by (0,0),(4,0) and (3,4) is

C

$$(2,0)$$
 $\frac{3}{4}$, 3

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

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

Q-34: A ray of light passing through the point (1,2) reflects on the X axis at point A and the reflects ray passes though the point (5,3), the coordinates of A are

$$C = \frac{13}{5}, 0$$

B
$$-5,0$$

D
$$-\frac{13}{5}$$
, 0

Q-35: From a point on the circle $x^2 + y^2 = a^2$, tangents are drawn to the circle $x^2 + y^2 =$ b^2 the chord of contact of these tangents is tangent at $x^2 + y^2 = c^2$, then a,b and c are in

Q-36: if the chord of contact of tangents from a point P to the parabola $y^2 = 4ax$ touches the parabola $x^2 = 4by$, the locus of P is

Q-37: A man running a race course notes that the sum of the distances from two flag posts from him is always 10m and the distance between the flag posts is 8m. The equation of path traced by man is

A
$$\frac{x^2}{25} + \frac{y^2}{9} = 1$$

$$C \qquad \frac{x^2}{9} - \frac{y^2}{25} = 1$$

B
$$\frac{x^2}{9} + \frac{y^2}{25} = 1$$

D $\frac{y^2}{9} - \frac{x^2}{25} = 1$

$$D \qquad \frac{y^2}{9} - \frac{x^2}{25} = 3$$

Q-38: The vertices of a parallelogram ABCD are A(3,-1,2), B(1, 2, -4) and C (-1,1,2). The fourth vertex D is

Q-39: If all the words with or without meaning, formed using all the letters of the word JAMIA are arranged in a dictionary, then what will be the 50th word

D MAAJI

Q-40: Evaluate $\lim_{x=0} \left[\frac{\sin x}{x}\right]$ where [] denotes the greatest integer function

Q-41: Evaluate
$$\lim_{x\to 0} \left[\frac{\sqrt{1-\cos 2x}}{x} \right]$$

A
$$\sqrt{2}$$

B
$$-\sqrt{2}$$

Q-42: The mean of 5 observation is 4.4 and their variance is 8.24. If three of the observation are 1,2 and 6, the other two observation are

Q-43: Three letters are dictated to three persons and an envelope is addressed to each of them, the letters are inserted into the envelope at random so that each envelope contains exactly ane letter what is the probability that at least one letter is in its proper envelope

A
$$\frac{1}{3}$$

$$C = \frac{2}{5}$$

Q-44: A tourist visits four cities A,B,C and D in a random order. What is the probability that he visits A before B.

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

$$C = \frac{1}{4}$$

D
$$\frac{1}{3}$$

Q-45: The function $f: [0,3] \to [1,29]$ defined by $f(x) = 2x^3 - 15x^2 + 36x + 1$ is

A One-one and onto

B One-one not one-one

C One-one but not onto

D neither one-one nor onto

Q-46: If $f: R \to R$ be given by $f(x) = (3 - x^3)^{\frac{1}{3}}$, then f(f(f(f(x)))) is

A
$$\chi^{\frac{1}{3}}$$

B
$$x^3$$

D
$$3 - x^3$$

Q-47: If the matrix A is both symmetric and skew-symmetric, then

A A is a diagonal matrix

B A is a null matrix

C A is a square matrix

D None

Q-48: If $A = \binom{2}{-4} \binom{3}{1}$ then $adj(3A^2 + 12A)$ is equal to

A
$$\begin{pmatrix} 72 & -84 \\ -63 & 51 \end{pmatrix}$$

B
$$\binom{51 63}{84 72}$$

C
$$\binom{51\,84}{63\,72}$$

D
$$\binom{72 - 63}{-84 \ 51}$$

Q-49: If a,b,c are in A.P, then value of determinant

$$\begin{vmatrix} x+2 & x+3 & x+2a \\ x+3 & x+4 & x+2b \\ x+4 & x+5 & x+2c \end{vmatrix}$$
 is

Q-50: If a determinant of order 3x3 is formed using the numbers 1 or -1, then the minimum value of determinant is

Q-51: Number of points at which the function

f(x) = min(|x|, |x+1|, |x-4|) is not differentiable:

Q-52: Consider two functions f(x) and g(x) such that f(x) = |x| + [x]

and $g(x) = |x| \times [x]$, where [x] denotes the greatest integer function

- f(x) is continuous at x=1, g(x) is continuous Α
- f(x) is continuous at x=1, g(x) is discontinuous at x=1

- at x=1
- f(x) is discontinuous at x=1, g(x) is C continuous at x=1
- f(x) is discontinuous at x=1, g(x) is D discontinuous at x=1

Q-53: $\lim_{x\to\infty} (1 + ax + bx^2)^{2x} = e^2$, then values of a anad b are

 $a \in R, b \in R$ Α

 $a = 1, b \in R$

C $a \in R, b = 2$ D a = 1, b = 2

Q-54: If m is the slope of tangent at any point on the curve $e^y = 1 + x^2$, then

Α |m| > 2 $|m| \leq 1$

C |m| < 2 D $|m| \geq 2$

Q-55: Let $f(x) = (x^3 + ax^2 + bx + 5sin^2x)$ be increasing for all $x \in R$, then a and b satisfy

 $a^3 - 3b - 15 > 0$ Α

- $a^3 3b + 15 < 0$ C
- B $a^3 3b + 15 > 0$ D $a^3 3b 15 < 0$

Q-56: The points of extreme of the function $f(x) = \int_1^x e^{\frac{-t^2}{2}} (1 - t^2) dt$ are

Α ± 1

 $\pm \frac{1}{2}$ C

D ± 2

Q-57: The points of extremum of the function $f(x) = \int_1^x e^{2x} \left(\frac{1}{x} - \frac{1}{2x^2}\right) dx$ is

Α

 $\frac{e^2(e^2+2)}{2}$ C

D $\frac{e^{2}(e^{2}-2)}{2}$ s

Q-58: Values of $\int_{-\frac{x}{2}}^{\frac{x}{2}} (x^3 + x \cdot \cos x + \tan^3 x + 1) dx$ is

Α 0 В π

C 2π

 3π D

Q-59: $\int \frac{d\theta}{1-tan\theta}$ equals to

A
$$\frac{\theta}{2} - \frac{1}{2} log |cos\theta - sin\theta| + C$$

B
$$\frac{\theta}{2} + \frac{1}{2} \log|\cos\theta - \sin\theta| + C$$

$$C \qquad \frac{\theta}{3} - \frac{1}{3} \log|\cos\theta - \sin\theta| + C$$

$$D \qquad \frac{\theta}{3} + \frac{1}{3} \log|\cos\theta - \sin\theta| + C$$

Q-60: If $\begin{vmatrix} 1 \\ a \end{vmatrix} + \frac{1}{h} = \begin{vmatrix} 1 \\ a \end{vmatrix} - \frac{1}{h}$, then

A
$$\frac{1}{a}$$
 is parallel to $\frac{1}{b}$

B
$$\frac{1}{a}$$
 is perpendicular to $\frac{1}{b}$

C
$$\frac{1}{a} = \frac{1}{b}$$

Q-61: Difference between the two place 2x + y + 2z = 8 and 4x + 2y + 4z + 5 = 0 is

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

$$\begin{array}{ccc} & & & \frac{5}{2} \text{ Units} \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & \\ & & & \\$$

C
$$\frac{7}{2}$$
 Units

$$\frac{9}{2}$$
 Units

Q-62: A man known to speak truth 3 out of 4 times. He throws a die and reports that it is a six. The probability that it is actually a six is:

A
$$\frac{1}{8}$$

$$\frac{5}{8}$$

C
$$\frac{7}{8}$$

D
$$\frac{3}{8}$$

Q-63: The probability of shooter hitting a target is $\frac{3}{4}$. The minimum number of times that he must fire so that the probability of hitting the target at least once is more than 0.99 is:

Q-64: If A and B are two independent events such that P(A)=0.3, P(B)=0.6, then P(neither A nor B) is

Q-65: Period of the function $f(x) = cos(\frac{2x}{3}) - sin(\frac{4x}{5})$ is

Α 5π В 10π

C 15π D 20π

Q-66: Which of the following is not an indeterminate form:

Α 0° В 0^{∞}

C ∞^0

1∞ D

Q-67: The area of the region described by $A = \{(x, y): x^2 + y2^{\le}1 \text{ and } y^2 \le 1 - x\}$ is

Q-68: A curve passes through the point $\left(1,\frac{\pi}{6}\right)$. Let the slope of the curve at each point $(x,y)be^{\frac{y}{x}} + sec(\frac{y}{x}), x > 0$. Then the equation of the curve is:

 $\sin\left(\frac{y}{x}\right) = \log x + \frac{1}{2}$

C $\sec\left(\frac{2y}{x}\right) = \log x + 2$

B $\cos\left(\frac{2y}{x}\right) = \log x + 2$ D $\cos\left(\frac{2y}{x}\right) = \log x + \frac{1}{2}$

Q-69: Let $\begin{vmatrix} 0 & \omega \\ \omega & 0 \end{vmatrix}$, Where ω is a cube root of unity. Then P^{24} is:

 P^2 Α

В

C **Identity Matrix** D **Null Matric**

Q-70: The area bounded by the curve $y^2 = x$ and $x^2 = y$ is:

Α

В

C

D

Q-71: Choose the most appropriate word from the options given below to complete the following sentence:

Given the seriousness of the situation that he had to face, his was impressive.

A **Beggary** В nomenclature

C nonchalance D jealousy Q-72: Select option, which would best fill the blanks as follows. Football evokes a response in India compared to cricket, the almost.....the nation. В Α tepid, boilling lukewarm, electrifies \mathbf{C} turbid,fascinating D apocryphal, genuinely fascinates Q-73: Which of the following words have similar meaning: I. Cacophonic II. Cacographic III. Calamitous IV. Catastrophic V. Contraindicative VI. Cataclysmic Α IV and VI Only I,II and V Only C II,V and VI Only D III,IV and VI Only Q-74: I. He is the most of the speakers to address us today. II. The belief in justice is the essence of his talk. III. This hall would have been full but for the rain. IV. Many in the audience have achieved in their respective fields. Which of the following sequences of words would most appropriately fit the blanks in the sentences given above: A Eminent, Imminent, Immanent, Eminence Immanent,Imminent,Imminence,Eminence \mathbf{C} Eminent, Immanent, Imminent, Eminence Eminent,Immanent,Imminent,Imminence D

Q-75: Clinical Practitioners integrated mindfulnesstreatment ofhost of emotional and behavioral disorders,borderline personality disorder, major depression chronic pain, eating disorders. Number of such practitionersincreased substantially.									
A	have, in the, a, such as, has		В	has, in the, the, like, have					
C	were, for, a, like, has		D	have, for, a, like, has					
Q-76: choose the statement where underlined and bold word is used correctly. I. The minister <u>insured</u> the victims that everything would be all right. II. He <u>ensured</u> that the company will not have to bear any loss. III. The actor got himself <u>ensured</u> against any accident. IV. The teacher <u>insured</u> students of good results.									
A	I		В	II					
C	III		D	IV					
Q-77	: The word similar in meaning to	o 'Dreary' is:	9						
A	Cheerful		В	Dreamy					
С	Hard		D	Dismal					
sente	: Choose the appropriate word frence: official answeredthat the	V 7	7						
A	Respectably		В	Respectfully					
C	Reputably		D	Respectively					
Q-79: Which of the following sentence is/are grammatically incorrect: I. Bats are able to fly in the dark. II. Bats can fly in the dark. III. Bats have the ability of flying in the dark, if it does not rain. IV. Bats cannot fly in the dark if it rains. V. Bats have the ability for flying in the dark.									
A	III and V only		В	I only					
C	II and IV only		D	V and II only					
Q-80	: Which is not the antonym of SA	ANITY							

Α LUNACY В **INSANITY** C**RATIONALITY STUPIDITY** D Q-81: A, B and C scored 681 runs such that four times A's run is equal to 5 times B's run which is equal to seven times C's run. Difference between A's and C's run is: Α 105 В 150 C97 D 125 Q-82: when the price of computer was reduced by 20%, the sale increased by 60%. What was the increase in total revenue? 30% Α В 28% C55% 40% D Q-83: A watch ticks 90 times in 95 seconds and an another watch ticks 315 times in 323 seconds. If both the watches are started together, how many times they will tick togther in the first hour? Α 110 times В 101 times C D 210 times 320 times Q-84: Rama gets an elevator at 1111 floor of a multi-story building and rides yp at the rate of 57 floors per minute. At the same time, Somaya gets another elevator at the 51st floor of the same building and rides down at the rate of 63 floors per minute. If they travel at these rates, at which floor they will cross each other? Α 19 В 28 C 30 D 32 Q-85: If 7 paralled lines are intersected by another set of 7 parallel lines, the numbers of parallelograms formed is: Α 441 В 400 C 49 D 98

Q-86: The results of a class were declared. The boy 'X' stood 5^{th} in the class. The girl was 8^{th} from the last. The position of the boy 'Z', was 6^{th} 'x', and in the middle of 'X' and 'Y'. The total number of students in the class was:

A	24		В	29
С	25		D	26
	: A is 300 days older fto B h day was B born?	and C is 50 weeks old	er to A.	If C wss born on Tuesday, on
A	Tuesday		В	Thursday
C	Wednesday		D	Monday
A,B,C a B,C a B,E a C,E a	: Branches of 5 nationalize C,D and E are in Lucknow and E are in kanpur and A and D are in Lucknow and and D are in Allahabad and and D are in Saharanpur are and banks has branches in a	and Kanpur, llahabad, Varanasi, d Saharanpur, nd Moradabad.		tar Pradesh are as follows: d?
A	A	Marie Pala	В	В
C	С	-	D	D
Q-89	: Select ODD ONE OUT f	rom the following pair	rs:	
A	May: January		В	September: November
C	October: April		D	January: December
	: If A+B means A is the davife of B, then $P \times Q - S$ means	•	ns A is t	the son of B and A-B means A is
A	S is the father of P		В	Q is the daughter of S
С	A is the Father of Q		D	None of these
_	: In the following series 50 50,158,481) wrongly placed. Whi	ch num	ber will come at the place of 50
A	51		В	53
C	48		D	49

Q-92: Jamia central library has 510 visitors on Sundays and 240 visitors on other days. Then the average number of visitors per day in a 30 days month beginning with a Sunday is:

A	285	В	276						
С	250	D	280						
Q-93: 9:43:5: ? , then what number can be put at the place of '?'									
A	63	В	52						
C	26	D	31						
	Next term in the following series is: 7,290,,								
A	399	В	400						
C	401	D	402s						
Q-95: S	Select the ODD number from given alternatives	. ®							
A	2197	В	3375						
C	4099	D	2744						
follow	n the following series, how many '8' are there wed by '9': 8,5,4,3,8,9,5,8,9,8,7,7,8,9	vhich are 1	not preceded by '7' and						
A	One	В	Two						
C	Three	D	Four						
Q-97: Looking at a portrait fo a man, Sanjay said, "His mother is the wife of my father's son. Brothers and sisters I have none". At whose portrait was Sanjay looking									
A	His son	В	His nephew						
C	His cousin	D	His uncle						
Q-98: I	n a certain code LATE is written as PEXI then c	ode for TI	RACE is:						
A	XUEGH	В	XVFGI						
С	XVEGI	D	XVELI						

Pg. 16 myteachingrobot.com

Q-99: Statement : S1: Some cats are rats

S2: All rats are bats S3: Some bats are birds

Statement: C1: Some birds are cats

C2: Some bats are cats C3: Some bats are rats C4: No bird is a rat

Which of the conclusion (s) follow from the above statements S1,S2 and S3:

A Only C3 follows B Either C1 or C4 and C3 follows

C Either C1 or C4 and C4 follows D None

Q-100: A liquid container is usually filled up in 8 hrs. Due to a leak since the beginning it took 2 hrs. more of fill up the container. The leak could empty the filled container in:

A 30 hrs. B 40 hrs.

C 28 hrs. D 34 hrs.

Answers: JMI_ MCA_2019

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

Pg. 18 myteachingrobot.com