

Roll No.

Set – C

UCET – 2015

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For office use only :

Correct number of answer	Marks (A)	Incorrect number of answer	Marks to subtract (B)	Marks obtained (A) – (B)

Time : 3 Hours

F. M. : 420

There are 105 multiple choice questions.

(Section A : 45, Section B : 40, Section C : 20 in sequence)

Write A, B, C or D in the box provided against each question for the correct choice. Each correct answer carries 4 marks and each incorrect answer carries a penalty of 1 mark. Use ball pen. Calculators are not allowed.

## Section – A (Computer Awareness)

- An internet utility used for remote log in is :
 

(A) Telnet	(B) Firewall	<input type="checkbox"/>
(C) Cookies	(D) Crakers	
- 'C' language is written by :
 

(A) Dennis Rector	(B) Dennis Ritchie	<input type="checkbox"/>
(C) Danial Ritchie	(D) None of these	
- What language was the first 'C' compiler written in ?
 

(A) Quora	(B) Quire	<input type="checkbox"/>
(C) Quota	(D) None of these	
- In which lab 'C' language is written ?
 

(A) Bell Labs	(B) Dennins Labs	<input type="checkbox"/>
(C) Edu Labs	(D) None of these	
- How many layers are in OSI ?
 

(A) 3	(B) 4	<input type="checkbox"/>
(C) 7	(D) 5	

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6. MODEM stands for :
- (A) Modulator Demodulator (B) Modulator Disintegrators
- (C) Motivator Demodulators (D) None of these
7. ROM stands for :
- (A) Remote Only Memory (B) Random Only Memory
- (C) Read Only Memory (D) None of these
8. CDMA stands for :
- (A) Code Data Multiple Access (B) Code Division Multiple Access
- (C) Copy Division Multiple Access (D) None of these
9. GIAS stands for :
- (A) Gateway Intranet Access Service
- (B) Gateway Internet Access Service
- (C) Gateway Internal Access Service
- (D) None of these
10. X-25 is :
- (A) Layer (B) Scheme
- (C) Protocol (D) Packet
11. What are the type of linkages ?
- (A) Internal and external (B) External, Internal and none
- (C) External and none (D) Internal
12. Which of the following cannot be checked in switch-case statement ?
- (A) Character (B) Integer
- (C) Float (D) Enum
13. If a variable is a pointer to a structure, then which of the following operator is used to access data members of the structure through the pointer variable ?
- (A) . (B) &
- (C) \* (D) #

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14. What is (void\*) 0 ?
- (A) Representation of null                      (B) Representation of void pointer
- (C) Error    (D) None of these
15. What are the different types of real data type in C ?
- (A) float, double                                  (B) short int, double, long int
- (C) float, double, long double                  (D) double, long int, float
16. Software which presents external access to a system is termed :
- (A) Firewall    (B) Gateway
- (C) Router    (D) Virus checker
17. How many colour dots make up one colour pixel on a screen ?
- (A) 256    (B) 16
- (C) 3    (D) 1
18. What natural element is the primary ingredient in computer chips ?
- (A) Silicon    (B) Carbon
- (C) Iron    (D) Uranium
19. USB stands for :
- (A) Unshielded System Board                      (B) Universal System Board
- (C) Unidentified System Bus                      (D) Universal Serial Bus
20. The first generation computers generated lots of heat when they were in operation because :
- (A) They were very big in size                      (B) Of the use of vacuum tubes
- (C) No cooling fans were used                      (D) Of the use of big transistors
21. DDL stands for :
- (A) Data Definition Language                      (B) Data Dictionary Language
- (C) Data Description Language                      (D) None of these

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22. DML stands for :
- (A) Data Manipulation Language      (B) Data Maintained Language
- (C) Data Multiple Language      (D) None of these
23. The duplication of data is known as :
- (A) Data redundancy      (B) Domain
- (C) Attribute      (D) None of these
24. RDBMS for :
- (A) Restricted Database Management System
- (B) Relational Database Management System
- (C) Resolution Database Management System
- (D) None of these
25. MAN stands for :
- (A) Mega Area Network      (B) Mini Area Network
- (C) Medium Area Network      (D) Metropolitan Area Network
26. The speed of the PC is measured in :
- (A) Nano seconds      (B) Megabyte
- (C) Kilo seconds      (D) Gigahertz
27. Which one of the following is an example of Browser Software ?
- (A) Microsoft word      (B) Microsoft publisher
- (C) Internet navigator      (D) Internet explorer
28. RAM stands for :
- (A) Remote Access Memory      (B) Random Access Memory
- (C) Both (A) and (B)      (D) None of these
29. FTP stands for :
- (A) File Transmission Protocol      (B) File Transfer Property
- (C) File Transfer Protocol      (D) None of these

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30. Which one of the following is an OS software ?
- (A) Windows 2000 (B) Word 2000
- (C) Access 2000 (D) Publisher 2000
31. ....was the first network based on TCP/IP
- (A) NFS (B) NFSNET
- (C) ARPANET (D) ARCNET
32. SMTP stands for :
- (A) Simple Mail Trapping Protocol (B) Simple Mail Transport Protocol
- (C) Simple Mail Transpose Protocol (D) Simple Mail Transfer Protocol
33. The term attribute refers to a ..... of a table.
- (A) Attribute (B) Instance
- (C) File (D) None of these
34. SQL stands for :
- (A) Simple Query Language (B) Structured Quarter Language
- (C) Structured Query Language (D) None of these
35. Which one of the following is an input device ?
- (A) Plotter (B) Printer
- (C) RAM (D) Mouse
36. Process data is called :
- (A) Knowledge (B) Bit
- (C) Information (D) None of these
37. In which one of the following is data processed the slowest ?
- (A) Floppy disc (B) Rom
- (C) RAM (D) Hard Disk

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38. LAN stands for :
- (A) Local Area Network (B) Large Area Network
- (C) Both (A) and (B) (D) None of these
39. WAN stands for :
- (A) Windows Area Network (B) Wide Area Network
- (C) Wide Architecture Network (D) None of these
40. Which of the following layer is not in OSI model ?
- (A) Physical Layer (B) Internet Layer
- (C) Network Layer (D) Transport Layer
41. What is the decimal equivalent of the binary number 11011 ?
- (A) 21 (B) 23
- (C) 27 (D) 42
42. What is the decimal equivalent of the binary number 10111 ?
- (A) 25 (B) 28
- (C) 39 (D) 40
43. Which component of the computer is known as the brain of the computer ?
- (A) Monitor (B) CPU
- (C) Printer (D) Memory
44. The smallest unit of information is :
- (A) A byte (B) A bit
- (C) A nibble (D) A block
45. The decimal number 45796 to its equivalent octal number is :
- (A) 131345 (B) 131344
- (C) 231344 (D) None of these

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## Section – B (Mathematics)

46. Value of  $\sin^{-1} x + \cos^{-1} x$  is equal to :
- (A) 0 (B)  $\pi$
- (C)  $\pi/2$  (D)  $2\pi$
47. Value of Total number of integral values of 'n' so that  $\sin x (\sin x + \cos x) = n$  has at least one solution is :
- (A) 2 (B) 1
- (C) 3 (D) zero
48. In a  $\Delta ABC$ ,  $\cos A = \frac{3}{5}$  and  $\cos B = \frac{5}{13}$ . The value of  $\cos C$  can be :
- (A)  $\frac{7}{13}$  (B)  $\frac{12}{13}$
- (C)  $\frac{33}{65}$  (D) None of these
49. In a  $\Delta ABC$ ,  $a = 2b$  and  $|A - B| = \frac{\pi}{3}$ . The measure of  $\angle C$  is :
- (A)  $\frac{\pi}{4}$  (B)  $\frac{\pi}{3}$
- (C)  $\frac{\pi}{6}$  (D) None of these
50. If  $\cos A + \cos B + 2 \cos C = 2$ , then the side of the  $\Delta ABC$  are :
- (A) AP (B) GP
- (C) HP (D) None of these
51. The radius of the circle passing through the points (1, 2), (5, 2) and (5, -2) is :
- (A)  $2\sqrt{5}$  (B)  $3\sqrt{2}$
- (C)  $5\sqrt{2}$  (D)  $2\sqrt{2}$

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52. The number of points on the circle  $2x^2 + 2y^2 - 3x = 0$  which are at a distance 2 from the point  $(-2, 1)$  is :
- (A) 2 (B) 0
- (C) 1 (D) None of these
53. A vendor sells 4 oranges at the cost price of 16 oranges. His loss/gain percent is :
- (A) -300% (B) -400%
- (C) 400% (D) 300%
54. A cloth merchant claims to sell his material at cost price but used a scale which reads 1m for 95m. Find his gain percentage :
- (A) 5.26% (B) 6.2%
- (C) 6.5% (D) 7.5%
55. The average of two numbers is M. If one number is N, then the other number is :
- (A) 2N (B) 2M
- (C) M - N (D) 2M - N
56. Complete the series 5, 7, 11, 13, 17, 18, 23, .....
- (A) 26 (B) 27
- (C) 29 (D) 31
57. Complete the series 54, 165, 276, 387, .....
- (A) 498 (B) 496
- (C) 497 (D) 501
58. Complete the series 11, 23, 48, 99, 202, .....
- (A) 409 (B) 408
- (C) 407 (D) 406
59. Complete the series 5, 7, 10, 15, 12, .....
- (A) 31 (B) 38
- (C) 32 (D) None of these



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60. Find the wrong number in the series 9, 19, 37, 75, 149, 297 :  
 (A) 75 (B) 37   
 (C) 19 (D) None of these
61. The angle between the pair of lines given by the equation  $x^2 + 2xy - y^2 = 0$  is :  
 (A)  $\frac{\pi}{3}$  (B)  $\frac{\pi}{6}$    
 (C)  $\frac{\pi}{2}$  (D) 0
62. Differential coefficient of  $\sin^{-1} \frac{1-x}{1+x}$  with respect to  $\sqrt{x}$  is :  
 (A)  $\frac{1}{2\sqrt{x}}$  (B)  $\frac{\sqrt{x}}{\sqrt{1-x}}$    
 (C) 1 (D) None of these
63. From the root of 15m high house the angle of elevation of a point located 15 m distant to the base of the house is :  
 (A)  $45^\circ$  (B)  $30^\circ$    
 (C)  $60^\circ$  (D)  $90^\circ$
64. The angle between the pair of straight lines  $x^2 + y^2 - 2xy - 1 = 0$  is :  
 (A)  $0^\circ$  (B)  $30^\circ$    
 (C)  $90^\circ$  (D)  $36^\circ$
65. The number that exceeds its square by the greatest number is :  
 (A) -1 (B) 0   
 (C)  $\frac{1}{2}$  (D) 1
66. A is a  $2 \times 2$  matrix such that  $A \begin{bmatrix} 1 \\ -1 \end{bmatrix} = \begin{bmatrix} -1 \\ 2 \end{bmatrix}$  and  $A^2 \begin{bmatrix} 1 \\ -1 \end{bmatrix} = \begin{bmatrix} 1 \\ 0 \end{bmatrix}$ . The sum of the element of A is :  
 (A) -1 (B) 0   
 (C) -2 (D) 5

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67. If A and B are two non singular matrices such that  $AB = C$  then  $|B|$  is equal to :

(A)  $\frac{|C|}{|A|}$

(B)  $\frac{|A|}{|C|}$

(C)  $|C|$

(D) None of these

68. A six faced dice is so biased that it is twice as likely to show an even number as an odd number when thrown. It is thrown twice, the probability that the sum of two numbers thrown is even is :

(A)  $\frac{1}{12}$

(B)  $\frac{1}{6}$

(C)  $\frac{1}{3}$

(D)  $\frac{5}{9}$

69. Two players toss four coins each. The probability that they both obtained the same number of head is :

(A)  $\frac{5}{256}$

(B)  $\frac{1}{16}$

(C)  $\frac{35}{128}$

(D) None of these

70. The maximum sum of the series  $20 + 19\frac{1}{3} + 18\frac{2}{3} + \dots$  is :

(A) 310

(B) 300

(C) 320

(D) None of these

71. The geometric mean between  $-9$  and  $-16$  is :

(A) 12

(B)  $-12$

(C)  $-13$

(D) None of these

72. If  $x$ ,  $2x + 2$  and  $3x + 3$  are the first three terms of a G. P., then the 4<sup>th</sup> term is :

(A) 27

(B)  $-27$

(C) 13.5

(D)  $-13.5$

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73. The 15<sup>th</sup> term of the series  $2\frac{1}{2} + 1\frac{7}{13} + 1\frac{1}{9} + \frac{20}{23} + \dots$  is :
- (A)  $\frac{10}{39}$  (B)  $\frac{10}{21}$
- (C)  $\frac{10}{23}$  (D) None of these
74. The  $f(x) = 1 + |\cos x|$  is :
- (A) Continuous no where (B) Continuous every where
- (C) Non continuous of  $x = 0$  (D) None of these
75. If  $z$  is any complex number such that  $|z + 4| \leq 3$  then the least value and greatest value of  $|z + 1|$  are :
- (A) 1, 6 (B) 0.6
- (C) 2, 8 (D) None of these
76.  $\lim_{x \rightarrow 0} \frac{x \tan 2x - 2x \tan x}{(1 - \cos 2x)^2}$  is :
- (A) 2 (B) -2
- (C)  $\frac{1}{2}$  (D)  $-\frac{1}{2}$
77. The function of  $y = \sqrt{\left(\frac{1}{2}\right) - \cos^2 x}$  is continuous at :
- (A)  $x = \frac{\pi}{4}$  (B)  $x = 3\frac{\pi}{4}$
- (C)  $x = 5\frac{\pi}{4}$  (D) All of these
78.  $\sqrt{2i}$  is equal to :
- (A)  $1 + 1$  (B)  $1 - 1$
- (C)  $-\sqrt{2i}$  (D) None of these

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79. If the sum of  $n$  terms of the series  $2^3 + 4^3 + 6^3 + \dots$  is 3528, then  $n$  equal to :
- (A) 6 (B) 7
- (C) 8 (D) 9
80. If the first two terms of a harmonic progression be  $1/2$  and  $1/6$ , then the third term is :
- (A)  $1/8$  (B)  $1/10$
- (C) 8 (D) 10
81. In order that a relation  $R$  defined in a non empty set  $A$  to be an equivalence relation, it is sufficient that  $R$  :
- (A) Is reflexive (B) Is symmetric
- (C) Is transitive (D) Possesses all the above properties
82. Mapping  $f : \mathbb{R} \rightarrow \mathbb{R}$  which is defined as  $f(x) = \cos x, x \in \mathbb{R}$  is :
- (A) Neither one one nor onto (B) One one
- (C) Onto (D) One one and onto
83.  $\lim_{x \rightarrow a} \frac{x^n - a^n}{x - a} =$
- (A)  $na^n$  (B)  $na^{n-1}$
- (C)  $na$  (D) Does not exist
84. The number of points at which the function  $f(x) = 1/\log |x|$  is discontinuous is :
- (A) 1 (B) 2
- (C) 3 (D) 4
85. The value of the derivative of  $|x - 1| + |x - 3|$  at  $x = 2$  is :
- (A)  $-2$  (B) 0
- (C) 2 (D) Not defined

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## Section – C (Reasoning)

86. In a certain code language TAP a written as SZO, then in the same code language FREEZE is written as :
- (A) EQDFYG (B) ESDFYF
- (C) GQFDYF (D) EQDDYD
87. If PRINT is coded as 74128 and EXCEL is coded as 93596, then how would you decode ACCEPT ?
- (A) 455978 (B) 547978
- (C) 554978 (D) 735961
88. If the day before yesterday was Thursday, when will be Sunday ?
- (A) Today (B) Two days after today
- (C) Tomorrow (D) Day after tomorrow
89. Sarika is 7 ranks ahead of Suman in a class of 39. If Suman's rank is seventeenth from the last, what is Sarika's rank from the start ?
- (A) 14th (B) 15th
- (C) 16th (D) 17th
90. In class of 60, the number of girls are twice that of boys. Kamal ranked seventeenth from the top. If there are nine girls ahead of Kamal, how many boys are after him in rank ?
- (A) 3 (B) 7
- (C) 12 (D) 23
91. How many pairs of letters are there in the word "CONTEMPORARY" which have as many letters between them in the word as in the alphabets ?
- (A) ONE (B) TWO
- (C) THREE (D) NINE
92. How many rational numbers exist between any two distinct rational numbers ?
- (A) 2 (B) 3
- (C) 11 (D) Infinite number of rational numbers

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93. The distance between  $-9$  and  $0$  is :
- (A)  $0$  (B)  $9$   
(C)  $8$  (D)  $-9$
94. A quantity which expresses as a part of the whole is called a/an :
- (A) Fraction (B) Prime number  
(C) Integer (D) None of these
95.  $12$  men complete a work in  $20$  days. If only  $8$  men are employed then the time required to complete the same work is :
- (A)  $24$  days (B)  $25$  days  
(C)  $30$  days (D)  $35$  days
96.  $10\%$  of  $15\%$  of  $20\%$  of Rs.  $500$  is :
- (A)  $0.50$  (B)  $3.50$   
(C)  $1.50$  (D)  $2.50$
97. In selling an article of Rs.  $76$ , a shopkeeper gains  $52\%$ . The gain by selling that for Rs.  $74$  is :
- (A)  $45\%$  (B)  $48\%$   
(C)  $49\%$  (D)  $50\%$
98. Reena earns  $20\%$  more than Sunil. Then by how much percent Sunil earns less than Reena ?
- (A)  $14\frac{2}{3}\%$  (B)  $15\frac{2}{3}\%$   
(C)  $16\frac{2}{3}\%$  (D)  $17\frac{2}{3}\%$
99. A train running at a speed of  $45$  km/h takes  $10$  seconds to pass a certain point. Then the length of the train is :
- (A)  $120$ m (B)  $125$ m  
(C)  $128$ m (D)  $450$ m
100. A calander for the year  $1982$  can be again used for the year :
- (A)  $1986$  (B)  $1987$   
(C)  $1988$  (D) None of these

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101. Choose the word which is least like the other words in the Group :

- (A) Ear (B) Lung  
(C) Eye (D) Heart

102. Spot out the stranger in the following group out :

- (A) Rose (B) Lotus  
(C) Marigold (D) Lily

103. Find the odd-one out :

- (A) Shoulder (B) Foot  
(C) Elbow (D) Arm

104. Choose the numeral pair which is different from others :

- (A) 42-4 (B) 36-6  
(C) 15-23 (D) 16-24

105. Drama is related to Director in the same way as Magazine is related to :

- (A) Story (B) Editor  
(C) Reader (D) Printer



Space for rough works