ASEA1/19

Register Number

PAPER – I

CS, ECE, EEE AND IT

(Deg. Std.)

Time Allowed : 3 Hours]

[Maximum Marks : 200

Read the following instructions carefully before you begin to answer the questions.

IMPORTANT INSTRUCTIONS

1. The applicant will be supplied with Question Booklet 15 minutes before commencement of the examination.
2. This Question Booklet contains **140** questions. Prior to attempting to answer the candidates are requested to check whether all the questions are there in series and ensure there are no blank pages in the question booklet. **In case any defect in the Question Paper is noticed it shall be reported to the Invigilator within first 10 minutes and get it replaced with a complete Question Booklet. If any defect is noticed in the Question Booklet after the commencement of examination, it will not be replaced.**
3. Answer **all** questions. Question Nos. 1– 80 carry one mark each and question Nos. 81 – 140 carry 2 marks each.
4. You must write your Register Number in the space provided on the top right side of this page. Do not write anything else on the Question Booklet.
5. An answer sheet will be supplied to you, separately by the Room Invigilator to mark the answers.
6. You will also encode your Question Booklet Number <u>with Blue or Black ink Ball point pen</u> in the space provided on the side 2 of the Answer Sheet. If you do not encode properly or fail to encode the above information, action will be taken as per commission's notification.
7. Each question comprises *four* responses (A), (B), (C) and (D). You are to select ONLY ONE correct response and mark in your Answer Sheet. In case you feel that there are more than one correct response, mark the response which you consider the best. In any case, choose ONLY ONE response for each question. Your total marks will depend on the number of correct responses marked by you in the Answer Sheet.
8. In the Answer Sheet there are **four** circles Ⓐ , Ⓑ, Ⓒ and Ⓓ against each question. To answer the questions you are to mark with Blue or Black ink Ball point pen ONLY ONE circle of your choice for each question. Select one response for each question in the Question Booklet and mark in the Answer Sheet. If you mark more than one answer for one question, the answer will be treated as wrong. *e.g.* If for any item, Ⓑ is the correct answer, you have to mark as follows :

Ⓐ ● Ⓒ Ⓓ

9. You should not remove or tear off any sheet from this Question Booklet. You are not allowed to take this Question Booklet and the Answer Sheet out of the Examination Hall during the time of examination. <u>After the examination is concluded, you must hand over your Answer Sheet to the Invigilator. You are allowed to take the Question Booklet with you only after the Examination is over.</u>
10. **Do not mark any marking in the question booklet except in the sheet before the last page of the question booklet, which can be used for rough work. This should be strictly adhered.**
11. Applicants have to write and shade the total number of answer fields left blank on the boxes provided at side 2 of OMR Answer Sheet. An extra time of 5 minutes will be given to specify the number of answer fields left blank.
12. Failure to comply with any of the above instructions will render you liable to such action or penalty as the Commission may decide at their discretion.

1. The Time period of IC 555 Monostable multivibrator operation is

   (A) 1.38 RC   (B) ✓ 1.1 RC

   (C) 1.45 RC   (D) 13.8 RC

2. In queue insertion takes place ————— end.

   (A) front   (B) ✓ rear

   (C) top   (D) bottom

3. Preorder is also known as

   (A) symmetric order   (B) asymmetric order

   (C) ✓ depth first order   (D) breadth first order

4. The complexity of Binary search algorithm is

   (A) $O(n)$ (B) $O(n^2)$

   (C) ✓ $O(\log n)$ (D) $O(n \log n)$

5. The another name for header node is

   (A) ✓ list header   (B) list node

   (C) tail header   (D) push header
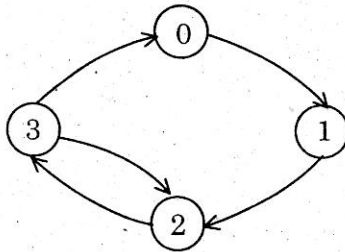
6. A flip-flop whose state changes on the rising or falling edge of a clock pulse is said to be

   (A) Edge triggered flip flop ✓

   (B) Level triggered flip flop

   (C) Edge and Level triggered flip flop

   (D) Triggering

7. A multiplexer is also known as

   (A) data provider   (B) data selector ✓

   (C) selector   (D) multiplier

8. For any pair of random variables X, Y $F_{XY}(\infty, \infty)$ is

   (A) ∞ (B) 1 ✓

   (C) -1 (D) 0

9. Consider the following transition graph of a Markov Chain

   The period of the state '0' is

   (A) 2   (B) 3

   (C) 4 ✓   (D) 6

10. —————— is the separation of user logical memory from physical memory.

    (A)   Main Memory   (B)   Cache Memory

    (C) ✓   Virtual Memory   (D)   External Memory

11. —————— access allows a user to transfer files without having an account on the remote system.

    (A)   Unknown   (B)   Arbitrary

    (C) ✓   Anonymous   (D)   Remote

12. —————— consists of all processes residing on disk awaiting allocation of main memory.

    (A)   Memory Pool   (B)   CPU Pool

    (C) ✓   Job Pool   (D)   Interrupt Pool

13. A cloud environment available via the internet to any one willing to pay is

    (A) ✓   Public cloud   (B)   Remote cloud

    (C)   Hybrid cloud   (D)   Private cloud

14. Which RAID level represents an Error – correcting codes (ECC) can be used directly in disk arrays by striping bytes across disks

   (A) ✓ RAID Level 2   (B) RAID Level 3

   (C) RAID Level 4   (D) RAID Level 5

15. An index that is based on a uniform distribution of values across a range of brackets is called

   (A) ordered index   (B) ✓ multi level index

   (C) multi layer index   (D) Hash index

16. The storage class used for global and local variables are

   (A) ✓ extern, auto   (B) auto, static

   (C) static, auto   (D) auto, extern

17. If the array is declared as int $a[5][5]$, how many elements it can store?

   (A) 10   (B) ✓ 25

   (C) 15   (D) 20

18. A method that is declared ————— cannot be overridden in a sub-class.

(A) final

(B) public

(C) private

(D) protected

19. Initialization of 'static' data member must be done

(A) outside the class

(B) right after class definition

(C) in main( ) function

(D) in member function

20. ————— is an example of compile time polymorphism.

(A) Virtual function

(B) Member function

(C) Function overloading

(D) Friend function

21. XCHG instruction in 8085 provides exchange of data between

(A) HL and DE

(B) HL and BC

(C) BC and DE

(D) HL and Accumulator

22. What is the immediate super class of Applet Class?

    (A)   Object

    (B)   Window

    ✓(C)   Panel

    (D)   Component

23. An applet can play an audio file by Audioclip interface, which method is used to replay continually?

    (A)   Public Void Play( )

    ✓(B)   Public Void Loop( )

    (C)   Public Void Repeat( )

    (D)   Public Void Stop( )

24. An XML vocabulary that can be used to communicate structured data

    ✓(A)   SOAP

    (B)   WSL

    (C)   Schema

    (D)   DTD

25. A file that records information about every HTTP request processed by the server

    (A)   Web Server Log

    ✓(B)   Access Log

    (C)   Message Log

    (D)   Directory Log

26. Which of the following is a more sophisticated load balance?

   (A) Workload Managers

   (B) Workspace Managers

   (C) Rackserve Managers

   (D) Delivery Spot

27. The process of preventing or inhibiting the normal use or management of communication facilities is called as

   (A) Masquerade

   (B) Replay

   (C) Denial of service

   (D) Blocking

28. The Digital Signature Standard (DSS) makes use of ———————— algorithm.

   (A) Super Hash Algorithm

   (B) Secure Hash Algorithm

   (C) Signature Hack Algorithm

   (D) Signature Hide Algorithm

29. Say True or False :

   (i) DES is a secret key cryptography

   (ii) AES is a public key cryptography

   (A) (i) – True, (ii) – True

   (B) (i) – True, (ii) – False

   (C) (i) – False, (ii) – True

   (D) (i) – False, (ii) – False

30. Time series prediction is an example for

(A) Clustering (B) Classification

✓(C) Regression (D) Model selection

31. Which of the following can be modelled using Markov model?

(A) writing style of a person

✓(B) base pairs in a DNA sequence

(C) words in a sentence

(D) characters in a word

32. $P(x_i / \theta) = \sum_{K=1}^{K} \pi_K p_K(x_i / \theta)$ is the ——————— model.

(A) weighted model (B) ensemble model

✓(C) mixture model (D) voting model

33. The IP address encodes ——————— and ———————.

(A) Range number and byte

✓(B) Network number and host number

(C) Class number and bit

(D) Security number and host number

34. Which phase of the unified process transfers the software from the developer to the end-user for beta testing and acceptance?

(A) Production phase

(B) Transition phase ✓

(C) Construction phase

(D) Elaboration phase

35. The risks that threaten the viability of the software to be built are

(A) project risks

(B) process risks

(C) technical risks

(D) business risks ✓

36. The performance attribute is measured by

(A) response time ✓

(B) extensibility

(C) human factors

(D) accuracy of output results

37. The testing approach that begins with the atomic modules is referred to as

(A) bottom-up integration ✓

(B) top-down integration

(C) component testing

(D) unit testing

38. The capacitance of a varactor diode increases when reverse voltage across it

   (A) ✓ decreases   (B) increases

   (C) breaks down   (D) stores charge

39. In an integrated circuit, the SiO_2 layer provides

   (A) electrical connection to external circuit

   (B) physical strength

   (C) ✓ isolation

   (D) conducting path

40. Barkhausen criterion for sustained oscillations

   (A) $|\beta A| > 1$, total phase shift 180°

   (B) $|A\beta| = 1$, total phase shift 180°

   (C) ✓ $|A\beta| = 1$, total phase shift 360°

   (D) $|A\beta| < 1$, total phase shift 180°

41. A triangular – wave generator can be formed by cascading

   (A) ✓ an integrator and a square wave form generator

   (B) an differentiator and a square wave form generator

   (C) an integrator and a sine wave form generator

   (D) an differentiator and a sine wave form generator

42. ———————— is an almost complete binary tree such that the content of each node is greater than or equal to the contents of its father.

(A) ✓ Min heap

(B) Max heap

(C) Min–Max heap

(D) Max–Min heap

43. ———————— permits a microprogram to be loaded initially from an auxiliary memory.

(A) Control Memory

(B) RAM

(C) ✓ Dynamic Microprogramming

(D) Cache Memory

44. The universal logic gates are

(A) AND, OR and NOT

(B) EXOR and OR

(C) AND and OR

(D) ✓ NAND and NOR

45. In canonical sum of products, a sum of product form of logic expression consisting of only

(A) Maxterms

(B) ✓ Minterms

(C) Both Minterms and Maxterms

(D) Variables

46.   In a birth-death process transition occur

(A)   from any state to any state

(B)   from one state to itself

(C) ✓ to the neighbouring state only

(D)   only when there is a birth

47.   In the probability distribution of arrival and departures, the probability distribution of number of arrivals in a fixed time interval follows

(A) ✓ Poisson distribution

(B)   Exponential distribution

(C)   Erlang distribution

(D)   Normal distribution

48.   In a single server queuing system with Poisson input and exponential service time with limited queue the steady state probability distribution of the n number of customers in the system is given by

(A) $\dfrac{\rho^n}{1+\rho^{N+1}}, \; \rho = \dfrac{\lambda}{\mu}$

(B) $p_n = \dfrac{(1+\rho)\rho^n}{1+\rho^{N+1}}, \; \rho = \dfrac{\lambda}{\mu}$

(C) ✓ $p_n = \dfrac{(1-\rho)\rho^n}{1-\rho^{N+1}}, \; \rho = \dfrac{\lambda}{\mu}$

(D) $\dfrac{1+\rho}{1+\rho^{N+1}}, \; \rho = \dfrac{\lambda}{\mu}$

49. The task of terminating a thread before it has completed is known as

   (A)   Thread abortion   (B)   Thread termination

   ✓(C)   Thread cancellation   (D)   Thread interruption

50. The execution of a single query in parallel on multiple processors and disk is called

   (A)   Interquery Parallism

   ✓(B)   Intraquery Parallism

   (C)   Interoperation Parallism

   (D)   Intraoperation Parallism

51. Special type of table, which can only be accessed and updated by the database system itself called

   (A)   Data Storage   ✓(B)   Data Dictionary

   (C)   DBMS   (D)   Tuples

52. Which construct can be used to test for the absence of Duplicate Tuples in a relation?

   (A)   exist   ✓(B)   unique

   (C)   distinct   (D)   all

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                                                          [Turn over

53. Which header file is used for dynamic memory allocation in C?

(A)   stdio.h   (B)   conio.h

(C) ✓   stdlib.h   (D)   math.h

54. A preprocessor directive is always preceded by a symbol

(A)   *   (B)   //

(C) ✓   #   (D)   %

55. Binary search is used in which list

(A)   unordered list   (B) ✓   sorted list

(C)   binary list   (D)   linear way of list

56. —————— are sometimes called parameterized classes or functions.

(A)   Array   (B) ✓   Templates

(C)   Parameters   (D)   Buffer

57. —————— is an object that contains data or other objects.

(A)   Iterator   (B) ✓   Container

(C)   Array   (D)   Vector

58. The 8086 instruction, MOV AX, (DI + 06) is

   (A) Register Relative Addressing Mode ✓

   (B) Register Indirect Addressing Mode

   (C) String Addressing Mode

   (D) Direct Addressing Mode

59. 8086 is a ————— bit microprocessor intended to be used as the CPU in a microcomputer.

   (A) 8 – bit

   (B) 16 – bit ✓

   (C) 20 – bit

   (D) 32 – bit

60. The multiplexed bus $AD_7 - AD_0$ is demultiplexed in 8085 using a signal

   (A) Ready

   (B) Hold

   (C) ALE ✓

   (D) $IO/\overline{M}$

61. If the task executes the service codes and gets the system resources at that instance, it is said to be in

   (A) idle

   (B) ready

   (C) blocked

   (D) running ✓

62. The method that handle the request made by the client

    (A) Init( )   (B) do Get( )

    (C) do Post( )   (D) getservlet info( )

63. Which of the following environment best describes Workxpress?

    (A) 3 GL   (B) 4 GL

    (C) 5 GL   (D) 10 GL

64. Which of the following is essential concept related to cloud?

    (A) Reliability   (B) Productivity

    (C) Abstraction   (D) Hardware

65. Which of the following is a property of composable component?

    (A) Stateful   (B) Stateless

    (C) Symmetric   (D) Vertical

66. _____ is a cloud computing service model in which hardware is virtualized in the cloud.

    (A) Iaas   (B) Caas

    (C) Paas   (D) Waas

67. The key size of AES algorithm is

    (A)   56, 112 or 168   (B)   112, 168 or 256

    (C)   128, 192 or 256   (D)   112, 128 or 192

68. Which of the following is true for Euler's theorem? If a and n are relatively prime

    (A) $a^{\phi(n)} = 1 \bmod n$ (B) $a^{\phi(n)} = 2 \bmod n$

    (C) $a^{\phi(n)} = n \bmod 1$ (D) $a^{\phi(n)} = n \bmod 2$

69. _____ is the measure of impurity used in Decision tree induction.

    (A)   Entropy

    (B)   Gini Index

    (C)   Misclassification error

    (D)   All the above

70. Choose the right option :

    (i)   Forward selection starts with full set of attributes and removes attribute in remaining set

    (ii) Backward elimination starts with empty set and adds attributes in subsequent iterations.

    (A)   (i) – True, (ii) – False

    (B)   (i) – True, (ii) – True

    (C)   (i) – False, (ii) – True

    (D)   (i) – False, (ii) – False

71. ――――――― is an open source project of the Apache foundation.

   (A)   Java   (B)   C++

   (C) ✓ Hadoop   (D)   C

72. Metastore contains ――――――― of hire tables.

   (A)   Error log   (B)   Monitor

   (C) ✓ System catalog   (D)   Database

73. Mongo DB provides ――――――― to support storage of binary data

   (A)   LFS   (B)   CFS

   (C) ✓ Grid FS   (D)   Point FS

74. R is ――――――― tool.

   (A)   Developer   (B) ✓ Statistical

   (C)   Incomplete   (D)   Dynamic

75. Mongo DB is

   (A)   RDBMS

   (B) ✓ document oriented DBMS

   (C)   object oriented DBMS

   (D)   key value store

76. A connection that allows traffic only one way is called

(A) ISBN (B) Simplex ✓

(C) Complex (D) Half – duplex

77. PPP is a byte-oriented protocol using byte stuffing with the escape byte

(A) 11001100 (B) 00110011

(C) 01111111 (D) 01111101 ✓

78. The final Ethernet Field is the

(A) Checksum ✓ (B) Source Address

(C) Destination Address (D) Pad

79. RARP is called as

(A) Rare Address Reverse Protocol

(B) Reverse Address Resolution Protocol ✓

(C) Right Address Reverse Protocol

(D) Reverse Address Right Protocol

80. Software is

(A) instructions that when executed provide desired features, function and performance

(B) data structures that enable the programs to adequately manipulate information

(C) documents that describe the operation and use of the programs

(D) all the above ✓

81. The postfix form of given infix expression A – B/ (C * D $ E) is

   (A)   – A / B * C $ D E   (B)   ABC DE $ * / –

   (C)   AB – CD * $ E /   (D)   ABCDE * $ / –

82. Two basic methods of dealing with a hash clash are ——————— and ———————.

   (A)   rehashing, open addressing

   (B)   primary clustering, rehashing

   (C)   rehashing, chaining

   (D)   secondary clustering, chaining

83. Convert the binary number 110.111 into its equivalent decimal number

   (A)   6.875   (B)   0.875

   (C)   0.6875   (D)   68.75

84. Convert binary number to a decimal number : 10101101_2

   (A) 172_{10} (B) 173_{10}

   (C) 169_{10} (D) 45_{10}

85. Random variables X and Y have joint PDF $f_{X,Y}(x, y) = \begin{cases} \dfrac{1}{15}, & 0 \leq x \leq 5, 0 \leq y \leq 3 \\ 0 & \text{otherwise} \end{cases}$

What is $P[A] = P[Y > X]$?

(A) ✓ $\dfrac{3}{10}$

(B) $\dfrac{5}{10}$

(C) $\dfrac{8}{10}$

(D) $\dfrac{9}{10}$

86. If X is binomial (n, p), the $Var\ (X)$ is

(A) ✓ $nP(1-P)$

(B) $P(1-P)$

(C) nP

(D) $n(1-P)$

87. If a program's physical memory address is 300040 and the limit is 120900, then the program can legally access all addresses between —————— and ——————.

(A) ✓ 300040, 420940

(B) 300040, 420939

(C) 120900, 420939

(D) 120900, 420940

88. Algorithm Evaluation of CPU scheduling, Little's formula is used to evaluate algorithm. Because of it is valid for

(A) arrival distribution

(B) ✓ any algorithm and arrival distribution

(C) any algorithm

(D) none of these

89. If you want to store a set of polygons in a database and to query the database to find all the polygons that intersects a given polygon. Which data is suitable for storing this information?

(A) parallel database

(B) multimedia database

(C) ✓ spatial database

(D) multidimensional database

90. The retrieval of audio and video types of data has the requirement that data delivery must proceed at a guaranteed steady state, such data are called some times

(A) ✓ isochronous data

(B) discrete data

(C) multimedia data

(D) non continuous media data

91. A traveller's information system that provides data on hotels, roadside service and the like to motorist. What type of queries is suitable for processing such type of information?

(A) Range of queries

(B) ✓ location-dependent queries

(C) hybrid queries

(D) fixed queries

92. Main ( )

{

int arr [ ] = {10, 20, 30, 40} ;

int * ptr ;

ptr = arr ;

printf ("u % d", * (arr + 2) ;

}

What is the output in C?

(A)   20   (B)   40

✓(C)   30   (D)   10

93. Choose the data types with size in order.

(a)   short int   1.   1

(b)   long int   2.   2

(c)   signed char   3.   8

(d)   double   4.   4

	(a)	(b)	(c)	(d)
(A)	3	1	4	2
✓(B)	2	4	1	3
(C)	3	4	1	2
(D)	2	1	4	3

94.   In an 8051 programming, given below, find the data stored in A register and over flow flag
       after addition operation.

       MOV A, # 80 H

       ADD A, # 81 H

       (A)   FF and 01   (B)   01 and 01 ✓

       (C)   FF and 0   (D) · 01 and 0

95.   The 8 KB EPROM is interfaced with 8085. Calculate the number of address lines needed and
       the range of memory address.

       (A)   13, 0000 to 0FFFH   (B)   13, 0000 to 1FFFH ✓

       (C)   12, 0000 to 0FFFH   (D)   12, 0000 to 1FFFH

96.   LDR $r4$, [$r5, \#9$] instruction is used to

       (A)   save data in $r4$ to address pointed by $r5 - 9$

       (B) ✓ load $r4$ with data pointed by $r5 + 9$

       (C)   load $r4$ with data pointed by $r5 - 9$

       (D)   save data in $r4$ to address pointed $r5 + 9$

97.   The method that returns the value of the initialization parameter

       (A)   getservlet context ( )   (B) ✓ getinit ( )

       (C)   getservlet name ( )   (D)   getservlet config ( )

98.   A ———————— is one where the cloud has been organized to serve a common function or purpose.

   (A)   brand cloud   ✓(B)   community cloud

   (C)   need cloud   (D)   section cloud

99.   Which of the following is a standard for interoperable cloud based key management?

   ✓(A)   KMIP   (B)   PMIK

   (C)   AIMK   (D)   SIMP

100.   Which of the following is the simplest unmanaged cloud storage device?

   ✓(A)   file transfer utility   (B)   antivirus utility

   (C)   online image utility   (D)   storage utility

101.   In RSA algorithm if p = 17, q = 11 and d = 23. What is the plain text for the cipher text 11?

   (A)   86   (B)   96

   ✓(C)   88   (D)   98

102. Which of the following are advantages of large value of K in K-NN algorithm?

    (A)   Less sensitive to noise

    (B)   Better probability estimates for discrete classes

    (C)   Larger training sets allow larger value of K

    (D) ✓ All the above

103. What is the sequence of steps followed in training a perceptron?

    (i)   for a sample input, compute an output

    (ii)   initialize weights of perceptron randomly

    (iii) go to next batch of dataset

    (iv)   If the prediction does not match the output change the weight

    (A) ✓ (ii), (i), (iv), (iii)   (B)   (i), (ii), (iii), (iv)

    (C)   (i), (iv), (iii), (ii)   (D)   (ii), (iii), (iv), (i)

104. Which of the following statement is true about different types of learning?

    (A) ✓ Single linkage suffers from chaining

    (B)   Average linkage suffers from chaining

    (C)   Complete linkage suffers from chaining

    (D)   None of the above

105. Fundamental activities common to all software process are

    (A)   analysis, coding, testing

    (B)   implementation, verification, delivery

    (C)   emergence, transformation, maintenance, delivery

    (D)   ✓ specification, design and implementation, validation, evolution

106. What is CASE?

    (A)   ✓ Software systems intended to provide automated support for software process activities

    (B)   Computer hardware assisting software process activities

    (C)   Software systems to activate system equipments

    (D)   Connectivity aids for software process activities

107. One of the advantages of using the "Lines of Code" metric is that

    (A)   it is programming language dependent

    (B)   it does not accommodate non-procedural language

    (C)   it is poor software design may lead to excessive and unnecessary lines of code

    (D)   ✓ it is simple to measure

108. The IMAP server listens to port

    (A)   142   (B)   ✓ 143

    (C)   124   (D)   123

109. A JFET has $I_{Dss} = 32$ mA, $V_{GS\,(off)} = -8$V, $V_{GS} = -4.5$ V. The value of drain current is

   (A)   6.012 mA   (B)   6.12 mA ✓

   (C)   61.2 mA   (D)   0.612 mA

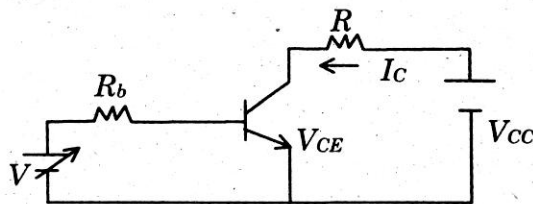110. The dynamic resistance of a pn junction diode that has $\eta = 1$, $V_T = 25$ mV and forward current of 2 mA is

   (A)   10 Ω   (B)   12.5 Ω ✓

   (C)   1.25 Ω   (D)   100 Ω

111. In the circuit shown in Fig. as I_B increases the V_{CE}

   (A)   increases   (B)   decreases ✓

   (C)   constant   (D)   independent of I_B

112. ——————— creates a new node and ——————— destroys a node.

   (A)   next node, real node   (B)   free node, get node

   (C)   avail node, next node   (D)   get node, free node ✓

113. The characteristic equation of T-Flip flop is

(A) $Q(t+1) = T$

(B) $Q(t+1) = Q(t) + T$

(C) $Q(t+1) = Q(t) \odot T$

(D) $Q(t+1) = Q(t) \oplus T$ ✓

114. The transition probability matrix of a Markov chain $\{X_n\}$, $n = 1, 2, 3 \cdots$ having 3 states 1, 2, 3 is

$$P = \begin{bmatrix} 0.1 & 0.5 & 0.4 \\ 0.6 & 0.2 & 0.2 \\ 0.3 & 0.4 & 0.3 \end{bmatrix}$$ and the initial distribution is $P^{(0)} = (0.7, 0.2, 0.1)$. The value of $P\{X_2 = 3\}$ is

(A)   0.25

(B)   0.279 ✓

(C)   0.297

(D)   0.2

115. The random variable N has probability mass function.

$$P_N(n) = \begin{cases} C(1/2)^n, & n = 0, 1, 2 \\ 0, & \text{otherwise} \end{cases}$$

The value of the constant C is

(A)   4/5

(B)   3/5

(C)   2/7

(D)   4/7 ✓

116. In file system mounting, a mount point is

(A) full content directory

(B) empty directory

(C) new directory to be created

(D) not a directory

117. Consider the following 4 processes, with the length of the CPU-burst time given in milliseconds. What will be the average waiting time, if the processes are scheduled using pre-emptive SJF scheduling algorithm.

Processes	Arrival time	Burst time
$P_1 \longrightarrow$	$0 \longrightarrow$	8
$P_2 \longrightarrow$	$1 \longrightarrow$	4
$P_3 \longrightarrow$	$2 \longrightarrow$	9
$P_4 \longrightarrow$	$3 \longrightarrow$	5

(A) 6.0 milliseconds

(B) 6.5 milliseconds

(C) 7.5 milliseconds

(D) 7.75 milliseconds

118. FLWOR (for, let, where, order by and return) expressions is represented in

(A) SQL query

(B) ✓ X query

(C) PL/SQL

(D) JAVA language

119. Choose the dynamic memory allocation function with statement

(a) Malloc   1. Alters the size of allotted memory

(b) Calloc   2. Released the allotted memory

(c) Free   3. Allocates block of memory

(d) Realloc   4. Allocates memory

	(a)	(b)	(c)	(d)
(A)	3	2	4	1
(B)	3	4	2	1
(C) ✓	4	3	2	1
(D)	4	2	3	1

120. What is the output of the following statement in C?

int $x = 10$, $y = 15$;

large $= (x > y) ? x : y$;

printf ("%d ", large);

(A) 10

(B) ✓ 15

(C) 25

(D) 5

121. Private data are accessible to

    (A) objects directly

    (B) objects through public member functions ✓

    (C) main function

    (D) inline function

122. In the multiple 'catch' statement, the number of the 'throw' statement is

    (A) same as the catch statement ✓

    (B) twice the catch statement

    (C) only one throw statement

    (D) one half of the number of catch statement

123. Which of the following component is not used to act as a input/output stream in Java?

    (A) file   (B) class ✓

    (C) a pipe   (D) array of bytes

124. Select the correct template definition

    (A) template <class T> ✓   (B) class <template>

    (C) template <T>   (D) template class <T>

125. <!DOCTYPE = rss

system "http:// sample.com/publish/formats/rss – 0.91. d + d>"

<rss version = "0.91">

This script is an example of

(A)   XHTML

(B)   HTML 5

(C) ✓ CSS Feed XML

(D)   CSS 3

126. The method the return substring of string started at given location

(A) ✓ slice (Number, Number)

(B)   Concat (String)

(C)   Charat (Number)

(D)   Replace (String)

127. The file that allows a user to specify a value for the cookie

(A) ✓ addcookie

(B)   addservlet

(C)   getcookie

(D)   getattribute

128. ———————— is a virtual machine technology presently owned by Oracle that can run various operating systems.

(A)   v machines

(B) ✓ virtual box

(C)   thought police

(D)   virtual share

129. Which of the following is not present in Authentication header?

(A) payload length

(B) sequence number
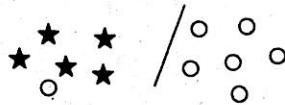
(C) security parameters index

(D) ✓ checksum

130. Which of the following is correct in PGP services?

(A) digital signature – RSA/SHA ; Email compatibility – Radix 8 conversion

(B) digital signature – DSS/SHA ; Email compatibility – Radix 16 conversion

(C) digital signature – RSA/SHA ; Email compatibility – Radix 32 conversion

(D) ✓ digital signature – DSS/SHA ; Email compatibility – Radix 64 conversion

131. In Diffie Hellman key exchange, if $q = 353$; $\alpha = 3$; $XA = 97$ and $XB = 233$. (X_A and X_B are secret keys of user A and user B respectively) what is the public key of user B.

(A) 40

(B) ✓ 248

(C) 160

(D) 50

132. What would be the ideal complexity of the curve which can be used for separating the two classes in the image below?

(A) ✓ linear

(B) quadratic

(C) cubic

(D) insufficient data

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133. Hadoop runs on large clusters of

(A) Commodity machines ✓   (B) Storage

(C) Slave   (D) Files

134. Association rule mining is a

(A) Static and dynamic technique

(B) Data analysis and data mining technique ✓

(C) Fast and slow technique

(D) Consequent and clustering technique

135. Name Node uses ——————— to store file system namespace.

(A) OS Image   (B) FS Image ✓

(C) SS Image   (D) DS Image

136. Eventually consistency is a consistency model used in distributed computing to achieve high

(A) Availability ✓   (B) Storage

(C) Fetching   (D) Process

137. ———————————— internet service providers provide direct service to the end users in internet.

(A) International

(B) National

(C) Regional

(D) ✓ Local

138. In ———————————— ethernet, the MAC sublayer governs the operation of the access method.

(A) Fast

(B) Gigabit

(C) ✓ Standard

(D) Ten-gigabit

139. ———————————— traffic is given the highest priority in IPV6 packet.

(A) Attended data

(B) Unattended data

(C) Interactive

(D) ✓ Control

140. Which OSPF message is used to discover who the neighbors are?

(A) Link state update

(B) Database description

(C) Link state request

(D) ✓ Hello

———————————————

SPACE FOR ROUGH WORK