PAPER – II

COMPUTER SCIENCE

Note : Attempt all the questions. Each question carries *two* (2) marks.

1. Let A = { a , b , c ,d , e } and B={ a , b , c , d , e , f , g , h }then A - B is

1) A

2) B

3) $A \cap B$

4) Φ

2. A Relation *R* on a Set A is called a partial order, if (A, R) is

1) Reflexive relation

2) Symmetric relation

3) Reflexive, Anti-Symmetric and Transitive relation

4) Reflexive, Symmetric and Transitive relation

3. If A and B are two independent events such that P(A) =0.5 and $P(A \cup B) = 0.8$ then $P(B)$ is

1) 0.6

2) 0.5

3) 0.8

4) 0.05

4. A Context – free grammar G is ambiguous if there is some string w belongs to L(G) that has two distinct

1) Graph only

2) Parse trees

3) Grammars

4) Ordered

5. An FSM can be considered to be a TM

1) Of finite tape length, rewinding capability and unidirectional tape movement

2) Of finite tape length, without rewinding capability and unidirectional tape movement

3) Of finite tape length, without rewinding capability and bidirectional tape movement

4) Of finite tape length, rewinding capability and bidirectional tape movement

6. The functional difference between SR flip-flop and JK flip-flop is that

1) JK flip-flop is faster than SR flip-flop

2) JK flip-flop has a feed back path

3) JK flip-flop accepts both inputs

4) JK flip-flop does not require external clock

7. The black box in the following figure consists of a minimum complexity circuit that uses only AND, OR and NOT gates. The function $f(x, y, z) = 1$ whenever x, y are different and 0 otherwise. In addition the 3 inputs x, y, z are never all the same value. Which of the following equation lead to the correct design for the minimum complexity circuit?

1) $x'y + xy'$

2) $x + y'z$

3) $x'y'z' + x\,y'\,z$

4) $xy + y'z + z'$

8. The dual of the switching function $x + yz$ is:

1) $x + yz$

2) $\overline{x} + \overline{y}\,\overline{z}$

3) $x(y + z)$

4) $\overline{x}(\overline{y} + \overline{z})$

9. The sum of two hexadecimal numbers 23D and 9AA gives the hexadecimal number

1) AF7

2) BF6

3) BE7

4) BE5

10. An AND gate has 7 input. How many input words are in its truth table?

1) 64

2) 32

3) 16

4) 128

11. Functions defined with class name are called as

1) Inline function

2) Friend function

3) Constructor

4) Static function

12. Identify the incorrect file opening mode from the following.

1) r

2) w

3) x

4) a

13. Choose the correct statement that is a combination of these two statements,

Statement 1: char *p;

Statement 2: p = (char*) malloc(100);

1) char p = *malloc(100);

2) char *p = (char*)malloc(100);

3) char *p = (char) malloc(100);

4) None of the above

14. Which operator is having the highest precedence?

1) postfix

2) unary

3) shift

4) equality

15. The operator used for dereferencing or indirection is

1) *

2) &

3) ->

4) ->>

16. A relation is in ———————— if an attribute of a composite key is dependent on an attribute of other composite key.

1) Normal Form

2) BCNF

3) 1NF

4) 2NF

17. ———————— refers to the accuracy and consistency of data stored in a database.

1) Entity

2) Attributes

3) Primary Key

4) Data Integrity

18. ———————— act as a cross-reference between tables.

1) Primary Key

2) Candidate Key

3) Foreign Key

4) Super Key

19. A synonym is an alias for ———————— object

1) Schema

2) Sequence

3) Segment

4) View

20. ———————— type of relational database which incorporate concepts of object database

1) Functional object system

2) Behavioral relational system

3) Extended relational system

4) Extended objects system

21. The Postfix equivalent of prefix expression /+*PQ-RS* is

1) PQ+RS/-

2) PQ+RS-/

3) PQRS+-/

4) PQ+/RS-

22. Which of the following data structure is most suitable for implementing recursive computations?

1) Stack

2) Queue

3) Array

4) Linked List

23. Which type of traversal on a binary tree resembles the depth first search of a graph?

1) Postorder

2) Preorder

3) Inorder

4) Level Order

24. Find the indegree of node V_2 for a directed Graph *G*, represented in the following adjacency matrix

	V_1	V_2	V_3	V_4
V_1	0	1	1	0
V_2	0	0	0	0
V_3	0	1	0	0
V_4	0	1	0	0

1) 0
2) 1
3) 2
4) 3

25. The average search time of hashing with linear probing will be less if the load factor

1) is far less than one
2) equals one
3) is far greater than one
4) is greater than one

26. Which of the following connects two or more networks and provides necessary translation?

1) Protocol
2) Interface
3) Gateway
4) Physical medium

27. "BAUD" rate means

1) The number of bits transmitted per unit time
2) The number of bytes transmitted per unit time
3) The rate at which the signal changes
4) The number of bits transmitted per unit second

28. The entire hostname has a maximum of

1) 255 characters
2) 127 characters
3) 63 characters
4) 31 characters

29. Which of the following devices direct network traffic based not by MAC addresses but by software-configured network addresses?

1) Router
2) Hub
3) Bridge
4) NIC

30. Telephone companies normally provide a voltage of ———————— to power telephones

1) +24 volts DC

2) –24 volts DC

3) +48 volts DC

4) –48 volts DC

31. The identification of common sub-expression and replacement of run-time computations by compile-time computations is

1) local optimisation

2) loop optimization

3) constant folding

4) data flow analysis

32. ———————— is the first step in the evolution of programming languages.

1) machine language

2) assembly language

3) code language

4) high level language

33. Which of the following *allows data transfer between memory and peripherals*?

1) Microprocessor

2) DMA technique

3) Register

4) Decoder

34. What is the function of YACC command in compilation process?

1) token splitting

2) parser generation

3) intermediate-code generation

4) code generation

35. From this context-free grammar E => E * E,

which of the following can be arrived by leftmost-derivation?

(a) E => E * I

(b) E => I * E

(c) E => a * E

1) only (a)

2) only (b)

3) only (c)

4) both (b) and (c)

36. Fork is

1) the dispatching of a task

2) the creation of a new job

3) the creation of a new process

4) increasing the priority of a task

37. If there are 32 segments, each of size 1 K byte, then the logical address should have

1) 13 bits

2) 14 bits

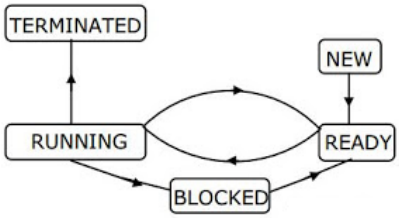
3) 15 bits

4) 16 bits

38. Which of the following scheduling algorithms is non-preemptive?

1) Round Robin
2) First-In First-Out
3) Multilevel Queue Scheduling
4) Multilevel Queue Scheduling with Feedback

39. The process state transition diagram in the following Figure is representative of



1) a batch operating system
2) an operating system with a preemptive scheduler
3) an operating system with a non-preemptive scheduler
4) a uni-programmed operating system

40. The differences between malloc( ) and calloc( ) are:

1) Malloc is used for dynamic allocation of memory, while calloc can't be used for that purpose
2) Malloc needs only one argument. while calloc needs two.
3) unlike malloc, calloc allocates memory and initializes it to 0.
4) Both (2) and (3)

41. The correct formula for Schedule performance index is,

1) SPI = BCWS/BCWP
2) SPI = BCWP/BCWS
3) SPI=BCWP – BCWS
4) SPI=BCWP + BCWS

42. SRD stands for

1) Software Requirements Definition
2) Structured Requirements Definition
3) Software Requirements Diagram
4) Structured Requirements Diagram

43. Changes made to an information system to add the desired but not necessarily the required features is called

1) Preventative maintenance
2) Adaptive maintenance
3) Corrective maintenance
4) Perfective maintenance

44. Optimization, Defect Prevention, and Quality Control. Its come under the

1) CMM Level 2
2) CMM Level 3
3) CMM Level 4
4) CMM Level 5

45. What would be investigated during Requirements analysis?

1) System performance, Test Scheduling, Organizational Structure
2) Languages, Platforms, Competition
3) System Context, User Populations, User Tasks
4) Verification, Formal Methods, Accuracy

46. ———————— command lists the host name, PVM daemon task id, architecture type, and relative speed rating.

1) conf
2) ps-a
3) setenv
4) id

47. DHCP stands for

1) Dynamic Host Configuration Protocol

2) Digital Host Communication Provider

3) Digital Host Communication Protocol

4) Dynamic Host Configuration Provider

48. Which IEEE 802.11 Extension provides AES and DES security standards?

1) 802.11a

2) 802.11b

3) 802.11g

4) 802.11i

49. Given desired class *C* and population P, lift is defined as

1) the probability of class *C* given population *P* divided by the probability of *C* given a sample taken from the population.

2) the probability of population *P* given a sample taken from *P*.

3) the probability of class *C* given a sample taken from population *P*.

4) the probability of class *C* given a sample taken from population *P* divided by the probability of *C* within the entire population *P*.

50. A variation of the star schema that allows more than one central fact table.

1) snowflake schema

2) linked strar schema

3) distributed star schema

4) constellation schema

ROUGH WORK

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