1. The number of integers between 1 and 250 that are divisible by 2, 5 and 7 is

(A) 2 (B) 3 (C) 5 (D) 8

2. An undirected graph possesses an eulerian circuit if and only if it is connected and its vertices are

(A) all of even degree

(B) all of odd degree

(C) of any degree

(D) even in number

3. A partially ordered set is said to be a lattice if every two elements in the set have

(A) a unique least upper bound

(B) a unique greatest lower bound

(C) both (A) and (B)

(D) none of the above

4. The minimum number of edges in a connected graph with 'n' vertices is equal to

(A) n (n – 1)

(B) n (n – 1)/2

(C) n2

(D) n – 1

5. Consider the problem of connecting 19 lamps to a single electric outlet by using extension cords each of

which has four outlets. The number of extension cords required is

(A) 4 (B) 5 (C) 6 (D) 7

6. The decimal number equivalent of (4057.06)8 is

(A) 2095.75

(B) 2095.075

(C) 2095.937

(D) 2095.0937

7. **AB** +(A+ B) is equivalent to

(A) A⊕̊ B

(B) A⊙B

(C) (A⊕̊B)⊙A

(D) (A⊙B)⊕̊A

Explanation:

Hint: http://en.wikipedia.org/wiki/Logic_gate#Symbols

8. An astable multivibrator has

(A) one stable state

(B) two stable states

(C) no stable states

(D) none of these

9. 12-bit 2's complement of −73.75 is

(A) 01001001.1100

(B) 11001001.1100

(C) 10110110.0100

(D) 10110110.1100

10. Encoding of data bits 0011 into 7-bit even Parity Hamming Code is

(A) 0011110

(B) 0101110

(C) 0010110

(D) 0011100

11. How many of the following declarations are correct ?

int z = 7.0;

double void = 0.000;

short array [2] = {0, 1, 2};

char c = "\n";

(A) None

(B) One is correct

(C) Two are correct

(D) All four are correct

12. The value of the following expression (13 / 4 * 3) % 5 + 1 is

(A) 5.75

(B) 2.95

(C) 1.4875

(D) 5

13. Which one of the following will set the value of y to 5 if x has the value 3, but not otherwise ?

(A) if (x = 3) y = 5

(B) if x = = 3 (y = 5)

(C) if (x = = 3); y = 5

(D) if (x = = 3) y = 5

14. Which one of the following sentences is true ?

(A) The body of a while loop is executed at least once.

(B) The body of a do … while loop is executed at least once.

(C) The body of a do … while loop is executed zero or more times.

(D) A for loop can never be used in place of a while loop.

15. "Black" refers in the "Black-box" testing means

(A) Characters of the movie "Black"

(B) I – O is hidden

(C) Design is hidden

(D) Users are hidden

16. In generalisation, the differences between members of an entity is

(A) maximized

(B) minimized

(C) both (A) & (B)

(D) None of these

17. The dependency preservation decomposition is a property to decompose database schema D, in which each functional dependency X ® Y specified in F,

(A) appeared directly in one of the relation schemas Ri in the decomposed D.

(B) could be inferred from dependencies that appear in some Ri.

(C) both (A) and (B)

(D) None of these

18. Which of the following is an optimistic concurrency control method ?

(A) Validation based

(B) Time stamp ordering

(C) Lock-based

(D) None of these

19. Optical storage is a

(A) high-speed direct access storage device.

(B) low-speed direct access storage device.

(C) medium-speed direct access storage device.

(D) high-speed sequential access storage device.

20. Which of the following is the process by which a user's access to physical data in the application is

limited, based on his privileges ?

(A) Authorization

(B) Authentication

(C) Access Control

(D) All of these

21. What is the maximum number of nodes in a B-tree of order 10 of depth 3 (root at depth 0) ?

(A) 111

(B) 999

(C) 9999

(D) None of the above

22. A binary tree with 27 nodes has _____ null branches.

(A) 54

(B) 27

(C) 26

(D) None of the above

23. The time complexity to build a heap of n elements is

(A) 0(1)

(B) 0(lgn)

(C) 0(n)

(D) 0(nlgn)

24. Linear probing suffers from a problem known as

(A) Secondary clustering

(B) Primary clustering

(C) Both (A) and (B)

(D) None of these

25. Which of the following can be the sequence of nodes examined in binary search tree while searching
for key 88 ?
(A) 90, 40, 65, 50, 88
(B) 90, 110, 80, 85, 88
(C) 190, 60, 90, 85, 88
(D) 65, 140, 80, 70, 88

26. Frequency shift keying is used mostly in
(A) Radio transmission
(B) Telegraphy
(C) Telephone
(D) None of the above

27. The baud rate is
(A) always equal to the bit transfer rate
(B) equal to twice the bandwidth of an ideal channel
(C) not equal to the signalling rate
(D) equal to half of the bandwidth of an ideal channel

28. How much bandwidth is there in 1 micron of spectrum at a wavelength of 1 micron ?
(A) 300 MHz
(B) 3 GHz
(C) 300 THz
(D) 30 KHz

29. Which of the following file transfer protocols use TCP and establishes two virtual circuits
between the local and remote server ?
(A) FTP
(B) TFTP
(C) TELNET
(D) NFS

30. The threshold effect in demodulator is
(A) exhibited by all demodulator, when the input signal to noise ratio is low.

(B) the rapid fall on output signal to noise ratio when the input signal to noise ratio fall below a particular value.

(C) the property exhibited by all A.M. suppressed carrier coherent demodulator.

(D) the property exhibited by correlation receiver.

31. Object code is the output of _____.

(A) Operating System

(B) Compiler or Assembler

(C) only Assembler

(D) only Compiler

32. 'Macro' in an assembly level program is _____.

(A) sub program

(B) a complete program

(C) a hardware portion

(D) relative coding

33. Grammar of the programming is checked at _____ phase of compiler.

(A) semantic analysis

(B) code generation

(C) syntax analysis

(D) code optimization

34. The register or main memory location which contains the effective address of the operand is known as

(A) pointer

(B) special location

(C) indexed register

(D) None of the above

35. Macro-processors are _____.

(A) Hardware

(B) Compiler

(C) Registers

(D) None of the above

36. The dynamic allocation of storage areas with VSAM files is accomplished by

(A) Hashing

(B) Control splits

(C) Overflow areas

(D) Relative recoding

37. Which of the following command the file names in multiple columns ?

(A) IS – X

(B) IS

(C) IS – 1

(D) IS – f – X

38. WINDOWS is a _____ operating.

(A) Real time

(B) Multi–user

(C) Preemptive

(D) Non–preemptive

39. Page making process from main memory to disk is called

(A) Interruption

(B) Termination

(C) Swapping

(D) None of the above

40. A Dead–lock in an Operating System is

(A) Desirable process

(B) Undesirable process

(C) Definite waiting process

(D) All of the above

41. Prototyping is used to

(A) test the software as an end product

(B) expand design details

(C) refine and establish requirements gathering

(D) None of the above

42. Which one of these are not software maintenance activity ?

(A) Error correction

(B) Adaptation

(C) Implementation of Enhancement

(D) Establishing scope

43. The system specification is the first deliverable in the computer system engineering process which does not include

(A) Functional Description

(B) Cost

(C) Schedule

(D) Technical Analysis

44. The COCOMO model was introduced in the book title "Software Engineering Economics" authored by

(A) Abraham Silberschatz

(B) Barry Boehm

(C) C.J. Date

(D) D.E. Knuth

45. The Warnier diagram enables analyst

(A) to represent information hierarchy in a compact manner

(B) to further identify requirement

(C) to estimate the total cost involved

(D) None of the above

46. A data mart may contain

(A) summarised data

(B) de-normalized data

(C) aggregate departmental data

(D) All of the above

47. Data mining is

(A) the process of extracting valid, previously unknown, comprehensible and actionable information from large databases and using it to make crucial business decisions.

(B) a tool that allows end users direct access and manipulation of data from within datawarehousing environment without the intervention of customised programming activity.

(C) a tool that helps end users extract useful business information from large database.

(D) All of the above

48. E-Choupal refers to

(A) calling meeting of Surpanches electronically.

(B) conducting Panchayat meeting using latest electronic gadgets.

(C) providing window of information to villagers and farmers in NIC network.

(D) None of the above

49. The basic concepts of ethics in information society is/are

(A) Responsibility

(B) Accountability

(C) Liability

(D) All of the above

50. One of the distinguished features of super-computer over other category of computer is

(A) parallel processing

(B) highest accuracy level

(C) more speed

(D) more capacity