Question 1

The depth of a hardware circuit is evaluated using which of following techniques:

A   Divide and Conquer

B   Depth first search

C   Topological sorting

D   Branch and bound

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B Depth first search

C **Topological sorting**

D Branch and bound

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A RAW hazard can be handled using

A) Register renaming

B) Operand forwarding

C) Pipeline

D) Super- scalar operation

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B) Operand forwarding

C) Pipeline

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Question 3

The read after write (RAW) hazard is called a

  A Control hazard

  B Data hazard

  C Structure hazard

  D Software hazard

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B **Data hazard**

C Structure hazard

D Software hazard

Question 4

Pipeline is a technique for

A Component level parallelism

B Instruction level parallelism

C Core - level parallelism

D Network level parallelism

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Question 5

Latency of the pipeline is the time taken for

A All the instruction to be completed

B All the instruction fetch to be completed

C All the instruction execute stages to be completed

D The first instruction to be completed .

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Question 6

The number of register to be inserted between two nodes in a DAG representation is decided by

A Size of register

B Ordering in the topological sorting

C Number of nodes in DAG

D Number of edges in DAG

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Question 7

RISC architectures are load factor architectures because of

A Fixed length instruction

B Easiness for compiler

C Less number of instruction

D Large number of instruction

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Question 8

Fragmentation is the state when

A There is not enough space in memory to be located

B The OS is not admitting any new processes

C There is not enough contiguous space in memory

D The memory is full

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Question 9

The degree of multi- program is:

    A   Number of processors in the computer

    B   The number of program that is being executed concurrently

    C   Number of memory unit

    D   Number of CPU.

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Question 10

What kind of processor is x86

A   RISC

B   CISC

C   DISC

D   None of above

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B **CISC**

C **DISC**

D **None of above**

Question 11

If a class B network on the Internet has a subnet mask of 255.255.248.0, what is the maximum number of hosts per subnet?

   A   1022

   B   1023

   C   2046

   D   2047

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255.255.248.0, what is the maximum number of hosts per subnet?

A 1022

B 1023

C 2046

D 2047

Question 12

In class B if subnet mask is 255.192.0.0 Total Number of networks that can be joined

A   32

B   64

C   16

D   None

Question 12

In class B if subnet mask is 255.192.0.0 Total Number of networks that can be joined

A 32

B 64

C 16

D None

Question 13

The statement $(\neg p) \to (\neg q)$ is logically equivalent to which of the statements below?

I. $p \to q$

II. $q \to p$

III. $(\neg q) \lor p$

IV. $(\neg p) \lor q$

(A) I only

(B) I and IV only

(C) II only

(D) II and III only

Question 13

The statement $(\neg p) \rightarrow (\neg q)$ is logically equivalent to which of the statements below?

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II. $q \rightarrow p$

III. $(\neg q) \lor p$

IV. $(\neg p) \lor q$

(A) I only

(B) I and IV only

(C) II only

(D) II and III only

Question 14

The number of Anti- symmetric relations on an n-element set is

A $2^{n(n-1)}$

B $2^{\wedge}n. 3^{\wedge}n(n-1)/2$

C $2^{n(n+1)/2}$.

D $3^{\wedge}n(n-1)/2$

Question 14

The number of Anti- symmetric relations on an n-element set is

A $2^{n(n-1)}$

B $2^n \cdot 3^{n(n-1)/2}$

C $2^{n(n+1)/2}$.

D $3^{n(n-1)/2}$

Question 15

A system contains three programs and each requires three tape units for its operation. The minimum number of tape units which the system must have such that deadlocks never arise is _____ .

(A) 6

(B) 7

(C) 8

(D) 9

Question 15

A system contains three programs and each requires three tape units for its operation. The **minimum** number of tape units which the system must have such that deadlocks never arise is _____.

(A) 6

(B) 7

(C) 8

(D) 9

Question 16

A process executes the following code

```
for (i = 0; i < n; i++)
fork();
```

The total number of child processes created is…

(A) n

(B) $2^n - 1$

(C) 2^n

(D) $2^{(n+1)} - 1$

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Question 17

Which of following is NOT closed under union and intersection

A   Family of Unambiguous CFL

B   CFL

C   CSL

D   Regular language

Question 17

Which of following is NOT closed under union and intersection

A   Family of Unambiguous CFL

B   CFL

C   CSL

D   Regular language

Question 18

1) Regular language can't be inherently ambiguous.
2) L = { a^n b^m : n = 2^m } is not context - free.

Following statements are :

A   True , false

B   False , false

C   False , True

D   True , true

Question 18

1) Regular language can't be inherently ambiguous.
2) $L = \{ a^n b^m : n = 2^m \}$ is not context - free.

Following statements are :

A   True , false

B   False , false

C   False , True

D   True , true

Question 19

Which is/are statements are incorrect for BCNF?

a) Functional dependency may not preserve.

b) Not used for two mutually exclusive foreign key

c) Lossless join but not dependency preserving

d) Every table with 2 single valued attribute is in BCNF

e) Any relation with 2 attribute is in BCNF

1. A,b,c only

2. B,c,d only

3. A,c,d only

4. All

5. None

Question 19

Which is/are statements are incorrect for BCNF?

a)   Functional dependency may not preserve.

b)   Not used for two mutually exclusive foreign key

c)   Lossless join but not dependency preserving

d)   Every table with 2 single valued attribute is in BCNF

e)   Any relation with 2 attribute is in BCNF

1.   A,b,c only

2.   B,c,d only

3.   A,c,d only

4.   All

5.   None

Question 20

Which is NOT a clustering method?

a) k-nearest neighbor

b) k-mean

c) self-organizing map

d) neural network

Options:

a) a,b only

b) a,d only

c) b,c,d only

d) None

Question 20

Which is NOT a clustering method?

a)   k-nearest neighbor

b)   k-mean

c)   self-organizing map

d)   neural network

Options:

a)   a,b only

b)   a,d only

c)   b,c,d only

d)   None

Question 21

If a schedule is serial then it will …………guarantee serializability.

a) at least

b) Always

c) May or may not

d) None

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If a schedule is serial then it will …………guarantee serializability.

a) at least

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c) May or may not

d) None

Question 22

Which is/are correct statements

a)   If a schedule is Conflict serializable then it is Serializable

b)   If a schedule is not serializable then it is not conflict serializable

1.   Only a
2.   Only b
3.   Both
4.   None

Question 22

Which is/are correct statements
  a)   If a schedule is Conflict serializable then it is Serializable
  b)   If a schedule is not serializable then it is not conflict serializable

  1.   Only a
  2.   Only b
  3.   **Both**
  4.   None

Question 23

Find minimal cover A,B,C,D,E,I

- FD = { A->C, AB-> C, C->DI, CD->I, EC->AB, EI->C }

Question 23

Find minimal cover A,B,C,D,E,I

- FD = { A->C, AB-> C, C->DI, CD->I, EC->AB, EI->C }

- Ans: {A->C, C->D, EC->A, EI->C}

Question 24

which of the following occurs when a transaction re-reads data it has previously read and finds modifications or deletion caused by a committed transaction?

   a)   Dirty read

   b)   Non-repeatable read

   c)   Both

   d)   None

Question 24

which of the following occurs when a transaction re-reads data it has previously read and finds modifications or deletion caused by a committed transaction?

a)   Dirty read

b)   **Non-repeatable read**

c)   Both

d)   None

Question 25

Max no. of super keys for R(E,F,G,H) if EFH is the candidate key

   a)   3

   b)   4

   c)   2

   d)   8

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Max no. of super keys for R(E,F,G,H) if EFH is the candidate key

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