

Section 1 - Section 1

Question No.1

4.00

Bookmark

In the bakery algorithm to solve the critical section problem :

- Each process receives a number (may or may not be unique) and the one with the lowest number is served next
- Each process gets a unique number and the one with the highest number is served next
- Each process gets a unique number and the one with the lowest number is served next
- Each process is put into a queue and picked up in an ordered manner

Question No.2

4.00

Bookmark

RAD Model has

- 3 phase
- 6 phases
- 2 phases
- 5 phases

Question No.3

4.00

Bookmark

In a two digit number, the digit in the unit's place is two more than the three times of the digit in ten's place. If the sum of the two digits is 6, the number is _____

- 42
- 15
- 24
- 51

Question No.4

4.00

Bookmark

..... is rearranging pairs of elements which are out of order, until no such pairs remain.

- Distribution
- Selection
- Exchange
- Insertion

Question No.5

4.00

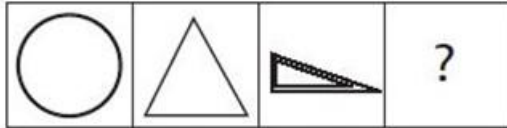
Bookmark

The usefulness of signals as a general inter process communication mechanism is limited because :

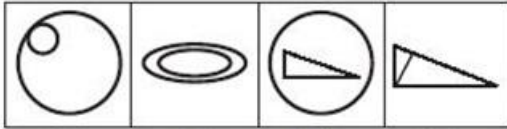
- They are system generated
- They do not work between processes
- They are user generated
- They cannot carry information directly

Question No.6

4.00

Bookmark 

A B C D



(1) (2) (3) (4)

- 4
- 1
- 3
- 2

Question No.7

4.00

Bookmark

To avoid the race condition, the number of processes that may be simultaneously inside their critical section is _____

- 0
- 2
- 1
- 4

Question No.8

4.00

Bookmark

Which of the following is true regarding referential integrity?

- Every primary-key value must match a primary-key value in an associated table
- Every foreign-key value must match a primary value in an associated table
- Every primary-key value must match a foreign-key value in an associated table
- Every foreign-key value must match a foreign-key value in an associated table

Question No.9

4.00

Bookmark

The goal of hashing is to produce a search that takes _____

- $O(\log n)$ time
- $O(n^2)$ time
- $O(1)$ time
- $O(n \log n)$ time

Question No.10

4.00

Bookmark

Which of the following IP address class is multicast?

- Class C
- Class A
- Class B
- Class D

Question No.11

4.00

Bookmark

What is the best case complexity of QuickSort?

- $O(n)$
- $O(n^2)$
- $O(\log n)$
- $O(n \log n)$

Question No.12

4.00

Bookmark

Which of the following is not the required condition for binary search algorithm?

- Number values should only be present
- The list must be sorted
- There should be the direct access to the middle element in any sub list
- There must be mechanism to delete and/or insert elements in list.

Question No.13

4.00

Bookmark

If 5 boys take 7 hours to pack 35 cartoons, then how many boys can pack 66 cartoons in 3 hours?

- 22
- 39
- 26
- 45

Question No.14

4.00

Bookmark

A process is _____

- Contents of main memory
- A job in secondary memory
- A program in execution
- A program in high language kept on disk

Question No.15

4.00

Bookmark

A binary search tree whose left subtree and right subtree differ in height by utmost 1 unit is called

- Lemma tree
- Red-black tree
- AVL tree
- B-tree

Question No.16

4.00

Bookmark

In an entity-relationship diagram "Diamonds" represents

- Relationship sets
- Attributes
- Weak entity set
- Multi-valued attributes

Question No.17

4.00

Bookmark

Under multiprogramming, turnaround time for short jobs is usually _____ and that for long jobs is slightly _____.

- Lengthened; Shortened
- Shortened; Unchanged
- Shortened; Shortened
- Shortened; Lengthened

Question No.18

4.00

Bookmark

If the number of records to be sorted is small, then sorting can be efficient.

- Merge
- Heap
- Bubble
- Selection

Question No.19

4.00

Bookmark

Which form has a relation that possesses data about an individual entity:

- 2NF
- 5NF
- 4NF
- 3NF

Question No.20

4.00

Bookmark

Let P be a quicksort program to sort numbers in ascending order using the first element as pivot. Let t_1 and t_2 be the number of comparisons made by P for the inputs $\{1, 2, 3, 4, 5\}$ and $\{4, 1, 5, 3, 2\}$ respectively. Which one of the following holds?

- $t_1 > t_2$
- $t_1 = 5$
- $t_1 = t_2$
- $t_1 < t_2$

Question No.21

4.00

Bookmark

Daisy chain is a device for _____

- Connecting a number of controller to devices
- Connecting a number of devices to controller
- Interconnecting a number of devices to number of controllers
- Connecting a number of drivers to a controller

Question No.22

4.00

Bookmark

Study the following information carefully and answer the question below it (i) There is a group of five persons- A, B, C, D and E (ii) One of them is manual scavenger, one is sweeper, one is watchman, one is human scarecrow and one is grave-digger (iii) Three of them – A, C and grave-digger prefer tea to coffee and two of them – B and the watchman prefer coffee to tea (iv) The human scarecrow and D and A are friends to one another but two of these prefer coffee to tea. (v) The manual scavenger is C's brother Which of the following groups includes a person who likes tea but is not a grave-digger?

- BD
- DE
- BCE
- None of the above

Question No.23

4.00

Bookmark

In dynamic programming, the technique of storing the previously calculated values is called _____

- Saving value property
- Memoization
- Storing value property
- Mapping

Question No.24

4.00

Bookmark

Study the following information carefully and answer the question below it

In a family, Isha is the granddaughter of Asha. Deepa is the mother of Hansa. Charan is the son of Anand. Radha is the mother of Isha. Deepa is the sister of Vinod and Charan. Nagesh has two children, Gita and Hansa. Emesh is the only grandson in the family. Charan is not married. Radha is the daughter-in-law of Anand.

Who is married to Radha?

- Charan
- Anand
- Nagesh
- Vinod

Question No.25

4.00

Bookmark

In the following question, the first two words (given in italics) have a definite relationship. Choose one word out of the given four alternatives which will fill the blank space and show the same relationship with the third word as between the first two.

Latex is to *Rubber* as *Flax* is to?.....

- Silk
- Jute
- Cotton
- Linen

Question No.26

4.00

Bookmark

Which of the following operation is used if we are interested in only certain columns of a table.

- JOIN
- SELECTION
- CREATE
- UNION

Question No.27

4.00

Bookmark

A tree of n nodes will have _____ number of edges.

- $n(n-1)$
- $n-1$
- $n(n-1)/2$
- 1

Question No.28

4.00

Bookmark

The method of mining silver varies from place to place, _____?

- does it?
- isn't it?
- is it?
- doesn't it?

Question No.29

4.00

Bookmark

In a two pass assembler the object code generation is done during the _____

- Not done by the assembler
- First pass
- Zeroeth pass
- Second pass

Question No.30

4.00

Bookmark

Don't care conditions can be used for simplifying Boolean expressions in _____

- Examples
- K-maps
- Latches
- Terms

Question No.31

4.00

Bookmark

_____ provides a connection-oriented reliable service for sending messages.

- TCP
- IP
- DHCP
- UDP

Question No.32

4.00

Bookmark

Build & Fix Model is suitable for programming exercises of _____ LOC (Line of Code).

- 100-200
- 400-1000
- above 1000
- 200-400

Question No.33

4.00

Bookmark

What does FAT stands for?

- File attribute type
- Format All Tabs settings
- File allocation table
- File for all type

Question No.34

4.00

Bookmark

Identify the data structure which allows deletions at both ends of the list but insertion at only one end.

- Priority Queues
- Stack
- Output restricted dequeue
- Input restricted dequeue

Question No.35

4.00

Bookmark

Choose the synonym of the italicized word.

Some people are extremely *fastidious* in their choice of dress.

- pompous
- discriminating
- fussy
- careless

Question No.36

4.00

Bookmark

In a J-K Flip flop the function $K=J'$ is used to realize _____

- T-Flip-Flop
- D-Flip-Flop
- M/S J-K Flip-Flop
- S-R Flip-Flop

Question No.37

4.00

Bookmark

Statements: Buses are cars. Cycles are cars

Conclusion:

I. Cars are buses

II. Buses are Cycles

- If only conclusion I follows
- If only conclusion II follows
- If neither I nor II follows
- If either I or II follows

Question No.38

4.00

Bookmark

Statement: Be humble even after being victorious.

Assumptions:

I. Many people are humble after being victorious

II. Generally People are not humble

- If both I and II are implicit
- If neither I nor II is implicit
- If only assumption I is implicit
- If only assumption II is implicit

Question No.39

4.00

Bookmark

Which one of the following will give the sum of full address as output?

- Three point majority circuit
- Three bit counter
- Three bit parity checker
- Three bit odd counter

Question No.40

4.00

Bookmark

The size of IP address in IPv6 is

- 128bits
- 100bits
- 4bytes
- 8bytes

Question No.41

4.00

Bookmark

A bag contains 2 red, 3 green and 2 blue balls. Two balls are drawn at random. What is the probability that none of the balls drawn is blue?

- $5/7$
- $10/21$
- $2/7$
- $11/21$

Question No.42

4.00

Bookmark

If 9 men working 6 hours a day can do a work in 88 days. Then 6 men working 8 hours a day can do it in how many days?

- 99
- 89
- 95
- 97

Question No.43

4.00

Bookmark

Bridge works in which layer of the OSI model?

- Application Layer
- Datalink Layer
- Network Layer
- Transport layer

Question No.44

4.00

Bookmark

Predictive parsers can be _____

- Constructive
- Recursive and constructive
- Non-recursive
- Recursive

Question No.45

4.00

Bookmark

Routing tables of a router keeps track of

- Routes to use for forwarding data to its destination
- MAC address assignment
- Port assignment to network devices
- Distribute IP address to network devices

Question No.46

4.00

Bookmark

Choose the correct meaning of the italicized idiom.
The police *cordoned off* the area after the explosion.

- checked everyone in the area
- filled the whole area
- did not allow anyone to leave the area
- isolated the area

Question No.47

4.00

Bookmark

Two trains running in opposite directions cross a man standing on the platform in 27 seconds and 17 seconds respectively and they cross each other in 23 seconds. The ratio of their speeds is :

- 3:04
- 3:02
- 1:03
- 3:05

Question No.48

4.00

Bookmark

How many bricks, each measuring 25 cm X 11.25 cm X 6 cm, will be needed to build a wall of 8 m X 6 m X 22.5 cm?

- 7200
- 6000
- 5600
- 6400

Question No.49

4.00

Bookmark

Which of the following is NOT an aggregate function?

- Avg
- Select
- Min
- Max

Question No.50

4.00

Bookmark

The difference between simple and compound interests compounded annually on a certain sum of money for 2 years at 4 % per annum is Re. 1. The sum (in Rs.) is :

- 640
- 650
- 630
- 625

Question No.51

4.00

Bookmark

Who was first to propose the Cleanroom philosophy in software engineering?

- Mills, Dyer
- Mills and Linger
- Mills, Dyer and Linger
- Dim Berners Lee

Question No.52

4.00

Bookmark

What is the number of moves required in the Tower of Hanoi problem for k disks?

- $2k + 1$
- $2^k - 1$
- $2k - 1$
- $2^k + 1$

Question No.53

4.00

Bookmark

The main difference between a register and a counter is _____

- A counter has capability to store one bit of information but register has n-bits
- A counter has no specific sequence of states
- A register has capability to store one bit of information but counter has n-bits
- A register has no specific sequence of states

Question No.54

4.00

Bookmark

What is the asymptotic runtime for traversing all nodes in a binary search tree with n nodes and printing them in order?

- $O(\log n)$
- $O(n^2)$
- $O(n)$
- $O(n \log(n))$

Question No.55

4.00

Bookmark

In which one of the following page replacement policies, Belady's anomaly may occur?

- FIFO
- MRU
- LRU
- Optimal

Question No.56

4.00

Bookmark

Annual income of A is 10% more than of B whereas income of B is 20% more than that of C. If monthly income of C is Rs.2000 then what is the sum of monthly incomes of A, B and C?

- 6872
- 7040
- 7772
- 7046

Question No.57

4.00

Bookmark

A right triangle with sides 3 cm, 4 cm and 5 cm is rotated the side of 3 cm to form a cone. The volume of the cone so formed is :

- $15\pi\text{cm}^3$
- $12\pi\text{cm}^3$
- $16\pi\text{cm}^3$
- $20\pi\text{cm}^3$

Question No.58

4.00

Bookmark

Page stealing is _____

- A sign of an efficient system
- A Abstract Data Structure
- Taking larger spaces for pages paged out
- Taking page frames from other working sets

Question No.59

4.00

Bookmark

Based on the information given answer the following question.

1. In a family of six persons, there are people from three generations. Each has separate professions and they like different colours. There are two couples.
2. Shyam is an Engineer and his wife is not a doctor and she does not like Red colour.
3. Chartered Accountant likes green colour and his wife is a teacher.
4. Manisha is the mother-in-law of Sunita and she likes orange colour.
5. Vimal is the grand father of Tarun and tarun is the Principal and likes black colour.
6. Nyna is the grand daughter of Manisha and she likes blue colour. Nyna's Mother likes white colour.

Which Colour is liked by the Sunita?

- Cannot be determined
- Black
- Green
- White

Question No.60

4.00

Bookmark

The rule that a value of a foreign key must appear as a value of some specific table is called a _____

- Index
- Referential constraint
- Integrity constraint
- Functional dependency

Question No.61

4.00

Bookmark

Study the following information carefully and answer the question below it:

Aasha, Bhuvnesh, Charan, Danesh, Ekta, Farhan, Ganesh and Himesh are sitting around a circle, facing the centre. Aasha sits fourth to the right of Himesh while second to the left of Farhan. Charan is not the neighbour of Farhan and Bhuvnesh. Danesh sits third to the right of Charan. Himesh never sits next to Ganesh.

Which is the position of Farhan with respect to Ekta?

- Fourth to the right
- Third to the left
- Second to the right
- Sixth to the left

Question No.62

4.00

Bookmark

_____ is very useful in situation when data have to be stored and then retrieved in reverse order.

- List
- Stack
- Linked List
- Queue

Question No.63

4.00

Bookmark

Which-one of the following statement about normal forms is FALSE?

- Any relation with two attributes is BCNF
- Loss less, dependency – preserving decomposition into BCNF is always possible
- BCNF is stricter than 3 NF
- Lossless, dependency -preserving decomposition into 3 NF is always possible

Question No.64

4.00

Bookmark

Parsing is also known as _____

- Semantic analysis
- Syntax analysis
- Lexical analysis
- Code generation

Question No.65

4.00

Bookmark

If every non-key attribute is functionally dependent on the primary key, the relation will be in _____

- First normal form
- Fourth normal form
- Third normal form
- Second normal form

Question No.66

4.00

Bookmark

Choose the best antonym of the italicized word.

The principal *depreciated* the attitude of some student-leaders.

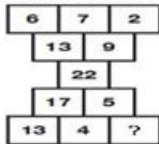
- appreciated
- tolerated
- derided
- ignored

Question No.67

4.00

Bookmark

Which number replaces the question mark?



- 3
- 1
- 2
- 4

Question No.68

4.00

Bookmark

Three bells toll at the intervals of 10, 15 and 24 minutes. All the three begin to toll together at 8 A.M. At what time they will again toll together

- 10AM
- 8.50AM
- 10.45AM
- 9.25AM

Question No.69

4.00

Bookmark

Fill in the blank with the correct form of the verb.

The International Women's Day _____ with great enthusiasm by our university last month.

- celebrated
- has celebrated
- was celebrated
- is celebrated

Question No.70

4.00

Bookmark

1, 4, 27, 16, ?, 36, 343

- 25
- 132
- 125
- 72

Question No.71

4.00

Bookmark

Which data structure can be used to test a palindrome?

- Priority queue
- Heap
- Tree
- Stack

Question No.72

4.00

Bookmark

Which of the following problems is NOT solved using dynamic programming?

- Matrix chain multiplication problem
- 0/1 knapsack problem
- Edit distance problem
- Fractional knapsack problem

Question No.73

4.00

Bookmark

Page fault frequency in an operating system is reduced when the _____

- Locality of reference is applicable to the process
- Processes tend to be CPU-bound
- Size of pages is increased
- Processes tend to be of an equal ratio of the I/O-bound and CPU-bound

Question No.74

4.00

Bookmark

The cube root of 1331 is _____

- 17
- 11
- 13
- 19

Question No.75

4.00

Bookmark

Choose the most appropriate preposition to fill the blank:

The mathematics exam will be held between 2 _____ 4pm.

- and
- from
- to
- at

Question No.76

4.00

Bookmark

Bottom parsing involves _____

- Shift reduce and handle pruning
- Shift reduce
- Operator check
- Handle pruning

Question No.77

4.00

Bookmark

For an undirected graph with n vertices and e edges, the sum of the degree of each vertex is equal to

- _____
- $2e$
 - $(2n-1)/2$
 - $2n$
 - $(e^2 + 1)/2$

Question No.78

4.00

Bookmark

How many bits are there in the Ethernet address?

- 64 bits
- 32 bits
- 16 bits
- 48 bits

Question No.79

4.00

Bookmark

66 cubic centimeters of silver is drawn into a wire 1 mm in diameter. The length of the wire in metres will be :

- 84
- 90
- 336
- 168

Question No.80

4.00

Bookmark

The processes that are residing in main memory and are ready and waiting to execute are kept on a list called:

- execution queue
- job queue
- process queue
- ready queue

Question No.81

4.00

Bookmark

Which of the following is not an information domain required for determining function point in FPA ?

- Number of external Interfaces
- Number of user Input
- Number of errors
- Number of user Inquiries

Question No.82

4.00

Bookmark

The number of tuples in a relation is called its While the number of attributes in a relation is called it's

- Degree, Cardinality
- Cardinality, Degree
- Columns, Rows
- Rows, Columns

Question No.83

4.00

Bookmark

In a full binary tree if number of internal nodes is I, then number of leaves L are?

- $L = I + 1$
- $L = I - 1$
- $L = 2I$
- $L = 2I - 1$

Question No.84

4.00

Bookmark

What is storage class of variable A in below code?

```
void main()
{
int A;
A = 10;
printf("%d", A);
}
```

- Register
- static
- Auto
- Extern

Question No.85

4.00

Bookmark

The recurrence relation capturing the optimal execution time of the Towers of Hanoi problem with n discs is _____

- $T(n) = 2T(n-1) + 1$
- $T(n) = 2T(n/2) + 1$
- $T(n) = 2T(n-1) + n$
- $T(n) = 2T(n-2) + 2$

Question No.86

4.00

Bookmark

The number of full and half-adders required to add 16-bit numbers is

- 8 half-adders, 8 full-adders
- 1 half-adder, 15 full-adders
- 4 half-adders, 12 full-adders
- 16 half-adders, 0 full-adders

Question No.87

4.00

Bookmark

You wouldn't tell them what happened, _____

- would you?
- won't you?
- wouldn't you?
- isn't it?

Question No.88

4.00

Bookmark

How many two-input "AND" and "OR" gates are required to realize $Y = CD + EF + G$?

- 3, 3
- 3, 2
- 2, 3
- 2, 2

Question No.89

4.00

Bookmark

Which three situations might require multiple routing protocols in a network?

- a) When a new Layer 2-only switch is added to the network
- b) When you are migrating from one routing protocol to another
- c) When you are using routers from multiple vendors
- d) When there are host-based routers from multiple vendors

- B,C,D
- A,B,C
- A,C,D
- A,B,D

Question No.90

4.00

Bookmark

A fraction which bears the same ratio to $1/27$ as $3/11$ bear to $5/9$ is equal to _____

- $3/11$
- $1/11$
- $1/55$
- 55

Question No.91

4.00

Bookmark

A graphical technique for finding if changes and variation in metrics data are meaningful is known as _____

- Function points analysis
- Control Chart
- DRE (Defect Removal Efficiency)
- Control Flow Chart Inspection

Question No.92

4.00

Bookmark

DHCP server provides _____ to the client

- IP Address
- Protocol
- MAC Address
- Network Address

Question No.93

4.00

Bookmark

What is the maximum number of edges in a bipartite graph having 10 vertices?

- 24
- 21
- 16
- 25

Question No.94

4.00

Bookmark

..... is known as a greedy algorithm, because it chooses at each step the cheapest edge to add to subgraph S.

- Kruskal's algorithm
- Prim's algorithm
- Bellman ford algorithm
- Dijkstra algorithm

Question No.95

4.00

Bookmark

If black is called white, white is called red, red is called pink, pink is called green, green is called blue, what would be the colour of human blood?

- Pink
- Blue
- Green
- White

Question No.96

4.00

Bookmark

The average of first 50 natural numbers is _____

- 12.25
- 25
- 25.5
- 25.3

Question No.97

4.00

Bookmark

The curved surface area of a cylindrical pillar is 264 m^2 and its volume is 924 m^3 . Find the ratio of its diameter to its height.

- 7:03
- 3:07
- 7:06
- 6:07

Question No.98

4.00

Bookmark

Before proceeding with its execution, each process must acquire all the resources it needs is called as _____

- Circular wait
- Pre-emption
- Hold and wait
- Deadlock

Question No.99

4.00

Bookmark

The linker is _____

- A part of loader
- Required to create a load module
- Always used before programs are executed
- same as the loader

Sunil likes chocolates very much, _____?

- isn't it?
- does he
- doesn't he?
- is it?