What do you call the selected keys in the quick sort method?

- Inner Key
- Outer key
- Partition key
- Pivot key

A comparison of frequency division and time division multiplexing system shows that:

- FDM requires a lower bandwidth, but TDM has greater noise immunity
- FDM requires more multiplex while TDM requires band pass filter
- FDM has greater noise immunity and requires lower bandwidth than TDM
- FDM requires channel synchronization, while TDM has greater noise immunity

The process of removing the deficiencies and loopholes in the data is called as:

- Cleaning up of data
- Loading of data
- Aggregation of data
- Extracting of data

What is the baud rate of the standard 10 Mbps Ethernet?

- 40 megabaud
- 10 megabaud
- 30 megabaud
- 20 megabaud

Assume that a program will experience 200 failures in infinite time. It has now experienced 100 failures. The initial failure intensity was 20 failures/CPU hr. Then the current failure intensity will be:

- 5 failures/CPU hr
- 40 failures/CPU hr
- 10 failures/CPU hr
6 of 100
206 PU_2015_376
Which UML diagram provides a variety of symbols and encompasses a number of ideas, all to model the changes which just one object goes through?
- Class
- State
- Package
- Object

7 of 100
169 PU_2015_376
Which of the following signal is not standard RS-232-C signal?
- VDR
- CTS
- DSR
- RTS

8 of 100
120 PU_2015_376
In a priority queue, insertion and deletion takes place at:
- only at rear end
- any position
- only at front end
- front, rear end

9 of 100
186 PU_2015_376
Let L1= \{10, 1\} and L2= \{011, 11\}. Then L1L2 =
- \{10011, 1011, 111\}
- \{1011, 101, 10101\}
- \{1011, 0011, 1111\}
- All of the above

10 of 100
124 PU_2015_376
Data warehouse bus matrix is a combination of:
- Facts and data marts
- Dimensions and data marts
What value would be stored in an integer variable “i” as a result of the following expression?

```
int i, j = 3; i = 4 + 2 * j/(j-1);
```

Options:
1. 1
2. 8
3. 7
4. 9

The memory address of the first element of an array is called:

Options:
1. base address
2. foundation address
3. floor address
4. first address

The final form of testing COTS software is __________ testing.

Options:
1. Beta
2. Integration
3. Alpha
4. Unit

The maturity levels used to measure a process are:

Options:
1. Initial, Stating, Defined, Managed, Optimized
2. Primary, Secondary, Defined, Managed, Optimized
3. Initial, Repeatable, Defined, Managed, Optimized.
4. Managed Optimized

In Two pass assembler the object code generation is done during the?

Options:
1. Second pass
First pass
Zeroeth pass
Not done by assembler

16 of 100
133 PU_2015_376
A hand-shake based protocol for data transfer is an example of_______________type of data transfer.
- Parallel
- Asynchronous
- Synchronous
- Serial

17 of 100
132 PU_2015_376
Which of the following is false related to Stack?
- Useful for nested loops, subroutine calls etc
- Stack Pointer points to the top most element of the stack
- Only PUSH and POP operations are applicable
- Implements FIFO

18 of 100
178 PU_2015_376
Fractals deal with curves that are?
- irregularly regular
- regularly irregular
- Irregularly irregular
- Regularly regular

19 of 100
148 PU_2015_376
Flow Control in data communications:-
- Can be implemented using a CSMA/CD Protocol
- Makes a channel with error
- Can be implemented using a Stop-and-Wait Protocol
- Makes a channel an error-free one

20 of 100
200 PU_2015_376
Process is:-
- a job in secondary memory
contents of main memory

a program in execution

Program in High level language kept on disk

21 of 100
177 PU_2015_376
E-Choupal refers to:-

- Online reservation system for Airlines
- calling meeting of Surpanches electronically
- providing window of information to villagers and farmers in NIC network
- conducting Panchayat meeting using latest electronic gadgets

22 of 100
106 PU_2015_376
How many nodes does a complete binary tree of level 5 have?

- 31
- 15
- 32
- 16

23 of 100
154 PU_2015_376
What type of relationship exists between a Student table and Fees table?

- Many to many
- One to many and many to many
- One to many
- One to one

24 of 100
207 PU_2015_376
Which relationship specifies an optional behavior?

- An aggregation
- An extend
- An inheritance
- A generalization

25 of 100
164 PU_2015_376
If carrier modulated by a digital bit stream, has one of the possible phase of 0, 90, 180 and 270 degrees, then modulation called:-
26 of 100
yacc is available as a command on the?
- DOS
- UNIX
- Windows
- MINIX

27 of 100
Hue of color is related to?
- Saturation
- Incandescence
- Wavelength
- Luminance

28 of 100
Decryption and encryption of data are the responsibility of which of the following layer?
- Physical layer
- Presentation layer
- Data Link layer
- Session layer

29 of 100
Which of the following switching techniques is most suitable for interactive traffic?
- Packet switching
- Circuit switching
- Message switching
- Context Switching
What do you call, "where the Objects hide their inner workings of their operations from the outside world and from other objects"?

- Generalization
- Encapsulation
- Composition
- Polymorphism

31 of 100
176 PU_2015_376
The mechanism that binds code and data together and keeps them secure from outside world is known as:

- Inheritance
- Polymorphism
- Abstraction
- Encapsulation

32 of 100
118 PU_2015_376
What is the output of the following program?

```c
#include<stdio.h>
int c[10]={1,2,3,4,5,6,7,8,9,10};
main()
{ int a,b=0;
  for(a=0;a<10;++a)
    if(c[a]%2==1)
      b+=c[a];
printf("%d", b);
}
```

- 25
- 20
- 52
- 24

33 of 100
114 PU_2015_376
What is the output of the following statements?

```c
for(l = 10; l++; l<15)
printf("%d", l);
```

- 910111213
34 of 100
150 PU_2015_376
Forty stations are on an Ethernet LAN. A 10-port bridge segments the LAN. What is the effective average data rate of each station?
- 2.0 Mbps
- 5.0 Mbps
- 1.0 Mbps
- 2.5 Mbps

35 of 100
121 PU_2015_376
Which of the following is the most important when deciding on the data structure of a data mart?
- Metadata naming conventions
- XML data exchange standards
- Data access tools to be used
- Extract, Transform, and Load (ETL) tool to be used

36 of 100
166 PU_2015_376
Which of the following TCP/IP Internet protocol is diskless machine uses to obtain its IP address from a server?
- X.25
- RIP
- ARP
- RAP

37 of 100
205 PU_2015_376
In which addressing mode the operand is given explicitly in the instruction?
- Index mode
- Absolute mode
- Immediate mode
- Indirect mode

38 of 100
168 PU_2015_376
Networks that use different technologies can be connected by using?

It will go to infinite loop
39 of 100
136 PU_2015_376
1 GB is _________________ bytes.
- 1 073 741 826
- 1 073 741 828
- 1 073 741 821
- 1 073 741 824

40 of 100
117 PU_2015_376
Which of the following is a LOOP statement of a C language?
- Do While
- While -Do
- For
- For and Do-While

41 of 100
161 PU_2015_376
Which one of the following media is multidrop?
- Thick Coaxial cable
- Shielded Twisted pair cable
- Unshielded Twisted pair cable
- Fiber Optic cable

42 of 100
134 PU_2015_376
If 1's are mapped in a k-map the Boolean function is in the form:-
- Subtraction and divide
- Product of sums
- Addition and subtraction
- Sum of products

43 of 100
123 PU_2015_376
Which one manages both current and historic transactions?
44 of 100
153 PU_2015_376
The SQL Expression Select distinct T. branch name from branch T, branch S where T. assets > S. assets and S. branch-city = DELHI, finds the name of:-
- all branches that have greater assets than allocated in DELHI
- all branches that have greater asset than any branch located in DELHI
- the branch that has the greatest asset in DELHI
- any branch that has greater asset than any branch located in DELHI

45 of 100
116 PU_2015_376
int a [5]={1,2,3} what is the value of a[4]?
- 3
- Garbage value
- 1
- 0

46 of 100
193 PU_2015_376
Registers, which are partially visible to users and used to hold conditional, are known as:-
- General purpose register
- PC
- Memory address registers
- Flags

47 of 100
208 PU_2015_376
Which among the following literally means 'many forms', the concept that different objects can respond to the same message in different ways?
- Polymorphism
- Aggregation
- Composition
- Encapsulation
Which of the following is an application of stack?

- Graph Coloring
- Infix to postfix conversion
- Finding subset
- Scheduling

Floating point is always interpreted to represent a number in the following form:

- \( Me^r \)
- \( Er^m \)
- \( M^e \)
- \( M^re \)

One of the main features that distinguish microprocessors from microcomputers is:

- Words are shorter in microprocessors
- Microprocessor does not contain I/O devices
- Exactly the same as the machine cycle time
- Words are usually larger in microprocessors

In the maintenance phase, the product must be tested against previous test cases. This is known as _______ testing.

- Module
- Integration
- Regression
- Unit

Match the following:

- a. Data link layer
- b. Network layer
- c. Transport layer
- d. Application layer

- i. Flow control
- ii. Node to node delivery
- iii. Mail services
- iv. Routing
53 of 100
202 PU_2015_376
Output file of the Lex is _______________ is the input file is Myfile.

- Myfile.obj
- Myfile.yy.c
- Myfile.lex
- Myfile.e

54 of 100
203 PU_2015_376
Type checking is normally done during?

- Syntax directed translation
- Code generation
- Syntax analysis
- Lexical analysis

55 of 100
107 PU_2015_376
The disadvantage in using a circular linked list is:-

- It is possible to get into infinite loop.
- Time consuming
- Requires more memory space
- Last node points to first node.

56 of 100
137 PU_2015_376
Which one of the following is not a key process area in CMM level 5?

- Technology change management
- Software product engineering
- Defect prevention
- Process change management

57 of 100
151 PU_2015_376
The "PROJECT" operator of a relational algebra creates a new table that has always:-
What is the meaning of 'Hibernate' in Windows XP/Windows 7?

- Restart the computers in normal mode
- Shutdown the computer terminating all the running applications
- Shutdown the computer without closing the running applications
- Restart the computers in safe mode

The employee information of an Organization is stored in the relation:

```
Employee (name, sex, salary, deptname)
```

Consider the following SQL query:

```
SELECT deptname FROM Employee WHERE sex = 'M' GROUP BY deptname
HAVING AVG(salary) > (SELECT AVG(salary) FROM Employee)
```

Output of the given query corresponds to:

- Average salary of employee more than average salary of the organization.
- Average salary of male employees in a department is more than average salary of the organization.
- Average salary less than average salary of the organization.
- Average salary of employee equal to average salary of the organization.

The acronym ADSL stands for:

- Asynchronous Data Specific language
- Aperture Distance of Satellite Link
- Asymmetric Digital Subscriber Line
- Analog and Digital Synchronous Link

In asymmetric key cryptography, the private key is kept by:

- receiver
62 of 100
249 PU_2015_376
Which is not true about the memory management?
- segmentation suffers from external fragmentation
- virtual memory is used in multi-user system
- paging suffers from internal fragmentation
- segmented memory can be paged

63 of 100
251 PU_2015_376
ICMP is primarily used for:-
- forwarding
- error and diagnostic functions
- addressing
- none of the mentioned

64 of 100
247 PU_2015_376
Thrashing:-
- can always be avoided by swapping
- can be caused by poor paging algorithms
- always occurs on large computers
- is a natural consequence of virtual memory system

65 of 100
253 PU_2015_376
A subset of a network that includes all the routers but contains no loops is called:-
- Spanning tree
- spider structure
- spider tree
- none of the above

66 of 100
246 PU_2015_376
Converting bitmaps to drawn object is more difficult and is called:-
- autotracing
67 of 100
252 PU_2015_376
if a relation is in BCNF then it is in:-
- 3 NF
- 1 NF
- 1 NF and 2 NF
- 2 NF

68 of 100
236 PU_2015_376
With QBE, inserting records from one or more source tables into a single target table can be achieved by:-
- Update action query
- Insert action query
- Append action query
- Make table action query

69 of 100
232 PU_2015_376
The postfix equivalent of the prefix * + ab - cd is?
- ab + - cd *
- ab + cd * -
- abcd + - *
- ab + cd - *

70 of 100
235 PU_2015_376
The minimum number of cards to be dealt from an arbitrarily shuffled deck of 52 cards to guarantee that three cards are from some same suit is?
- 9
- 8
- 3
- 12

71 of 100
238 PU_2015_376
If a=Oxaa and b=a<<1 then:-
a=b-1
b=a-1
b=2a
b=a/2

72 of 100
An OR gate can be imagined as:-
- MOS transistors connected in series
- Switches connected in series
- switches connected in parallel
- All of the above

73 of 100
Let A and B be any two arbitrary events then which one of the following is true ?
- P(A union B) = P(A) + P(B)
- P( A intersection B) = P(A). P(B)
- P(A union B) >= P(A) + P(B)
- P(AB) = P(A intersection B). P(B)

74 of 100
MIDI is a shorthand representation of music stored in numeric form.
- MIDI
- Audio Resolution
- Digital Audio
- Mono files

75 of 100
The complexity of binary search algorithm is?
- n
- n^2
- logn
- nlogn

76 of 100
JavaBeans Event Model is also known as:-
The Event Foundation Model
The Event Delegation Model
The Event Service Model
The Event Beans Model

77 of 100
237 PU_2015_376
An attribute or set of attributes within one relation that matches the candidate key of some (possibly the same) relation:-
- Candidate key
- Super Key
- Primary key
- Foreign key

78 of 100
248 PU_2015_376
Memory management is:-
- replaced with virtual memory on current system
- not used on multiprogramming systems
- critical for even the simplest operating system
- not used in modern operating system

79 of 100
234 PU_2015_376
If G is an undirected planar graph on n vertices with e edges then?
- e<=3n
- e<=n
- e<=2n
- None of the above

80 of 100
223 PU_2015_376
Which of the following supports the capability of returning pointers to other interfaces through COM object?
- Query interface
- Hardware interface
- Software interface
- Query Control

81 of 100
An actor in an animation is a small program invoked________per frame to determine the characteristics of some object in the animation.

- once
- 30 times
- twice
- 60 times

Which of the following formulas in Omega notation best represent the expression \( n^2 + 35n + 6 \)?

- \( \Omega (n^3) \)
- \( \Omega (35) \)
- \( \Omega (n^2) \)
- \( \Omega (n) \)

Express the formula \((n - 2)(n - 4)\) using \( \theta \) notation:

- \( \theta (n) \)
- \( \theta (\Theta) \)
- \( \theta (\log n) \)
- \( \theta (n^2) \)

Suppose requests have recently arrived for data on cylinders 25, 46, 12, and 3, in that order, and that the read-write head is currently at cylinder 20. If the disk scheduling policy is SSTF, the outstanding requests will be serviced in the order

- 25, 12, 3, 46
- 3, 12, 25, 46
- 25, 46, 12, 3
- 25, 46, 3, 12

What term is used to describe an \( O(n) \) algorithm?

- Non Polynomial Deterministic
- Linear
- Constant
Can we read a data item at any location of a list within a constant time (i.e. $O(1)$)?
- Yes, only if the list is implemented by pointers (i.e. linked-list)
- Yes
- No, we need $O(n)$ computation steps no matter what kind of implementation is used
- Yes, only if the list is implemented by an array

Which of the following is not an objective for building analysis models?
- Develop a solution for the problem
- Describe customer requirements
- Define set of software requirements that can be validated
- Establish basis for software design

The asymptotic notation for defining the average time complexity is:
- Symmetric
- Reflexive
- Equivalence
- Transitive

Sequential search has a time complexity of $O(n)$, and binary search has a time complexity of $O(\log(n))$. What difference will it make when the size $n$ is 1000?
- As $n$ is 1000, binary search is 10 times as slow as sequential search
- As $n$ is 1000, binary search is 10 times as fast as sequential search
- As $n$ is 1000, binary search is twice as fast as sequential search
- As $n$ is 1000, binary search is 100 times as fast as sequential search.

In the top level Domains, .nom specifies:
- non government organizations
- Personal sites
For every context-free grammar \( G \) there exists an algorithm that passes any \( W \in L(G) \) in number of steps proportional to:
- \(|w|^2\)
- \(|w|\)
- \(|w|^3\)
- \(n|w|\)

The entity relationship diagram
- Depicts functions that transform the data flow
- Depicts relationships between data objects
- Indicates system reactions to external events
- Indicates how data are transformed by the system

In wireless distribution system:
- there is no access point
- multiple access point are inter-connected with each other
- only one access point exist
- none of the above

An image is 1024*800 pixels with 3 bytes/pixel. Assume the image is uncompressed. How long does it take to transmit it over a 10 Mbps Ethernet?
- 19.66 seconds
- 0.1966 seconds
- 196.6 seconds
- 1.966 seconds

In a certain system, process A has just arrived at time 0, process B at time 3, and process C at time 6. A needs 5 seconds in the CPU, B 3 seconds, and C 1 second. All processes are totally CPU-bound and process-switching time is negligible, so that after 9 seconds all processes have completed. At what time
does process B complete if the process-scheduling algorithm is preemptive SJF and the quantum is 1 second?

☐ 7
☐ 9
☐ 8
☐ 6

96 of 100
283 PU_2015_376
Which multiple access technique is used by IEEE 802.11 standard for wireless LAN?

☐ ALOHA
☐ CDMA
☐ CSMA/CA
☐ none of the above

97 of 100
262 PU_2015_376
Which of the following is not the guiding principle of software project scheduling?

☐ Effort validation
☐ Time allocation
☐ Compartmentalization
☐ Market assessment

98 of 100
263 PU_2015_376
The rapid application development model is:-

☐ A high-speed adaptation of the linear sequential model
☐ A useful approach when a customer cannot define requirements clearly
☐ Same as component-based development
☐ Same as incremental model

99 of 100
284 PU_2015_376
Read the following statements carefully and pick the correct option:-

I. The worst time complexity of the Floyd's algorithm is $O(n^3)$.
II. The worst time complexity of the Warshall's algorithm is $O(n^3)$.

☐ (I) is true and (II) is not true always
☐ (I) is true but (II) is false
☐ (I) is false but (II) is true
Both (I) and (II) are true

100 of 100
267 PU_2015_376
In a fully connected mesh network with n devices, there are_________________ physical channels to link all devices.

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