

Choose the correct option.

Which of the given options is in the correct sequence of their relation to each other, like a parent to a child?

Options

platter→track→sector

platter→sector→track

track→sector→platter

track→platter→sector

Choose the correct option.

In which of the given methods does every write operation update the main memory as well as the cache memory?

Options

Write-through

Write-back

Write-cache

Write-memory

Choose the correct option.

A database of motor vehicles has the base entity "Vehicles" that is classified into two sub-entities: two-wheeler and four-wheeler. These are further broken down into more entities. What is this process called?

Options

Aggregation

Segregation

Generalization

Specialization

PASSAGE

Group A	Group B
A. Hit ratio	1. Logical memory
B. Pages	2. Compaction
C. Frames	3. Translation look-aside buffer
D. External fragmentation	4. Physical memory

Choose the correct option.

Refer to the given table. Match the term related to virtual memory management in Group A with its related term in Group B.

OPTIONS

A-2, B-1, C-4, D-3

A-1, B-3, C-4, D-2

A-2, B-4, C-1, D-3

A-3, B-1, C-4, D-2

Choose the correct option.

Which command in SQL is used to delete a table's entire data and structure?

Options

Destroy

Truncate

Drop

Delete

Choose the correct option.

Identify the addressing mode that is necessary to implement pointers in a processor.

Options

Indexed addressing mode

Immediate addressing mode

Direct addressing mode

Indirect addressing mode

Choose the correct option.

A schedule has two consecutive operations O1 and O2 of transactions T1 and T2, respectively. Under what conditions are both operations said to be in conflict?

Options

When both operations operate on different data items and one of them is a read operation.

When both operations operate on the same data item and one of them is a read operation.

When both operations operate on different data items and one of them is a write operation.

When both operations operate on the same data item and one of them is a write operation.

Choose the correct option.

Which of the given options is **NOT** an application software?

Options

DOS

VLC media player

Microsoft Word

MySQL

Choose the correct option.

A dedicated path is needed in _____ switching before the data is sent from the sender to the receiver, but it is not needed in _____ switching.

Options

packet, time division

space division, packet

packet, circuit

circuit, packet

Choose the correct option.

The head of a moving head disk with 100 tracks numbered from 0 to 99 is currently serving a request at track 40. The queue of requests is 30, 70, 90, 40, 60 and is processed by the SSTF disk scheduling algorithm. What will be the total head movement to serve these requests?

Options

70

80

100

110

Choose the correct option.

Which normal form is a table "customer" in, if it has the following characteristics?

1. It has transitive dependencies.
2. There are no partial dependencies in it.
3. There is no column with redundancy in it.

Options

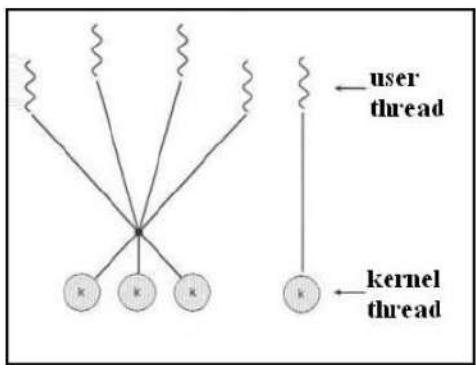
1NF

2NF

3NF

BCNF

PASSAGE



Choose the correct option.

The relationship between a user thread and a kernel thread can be presented as a thread model. Identify the shown model.

OPTIONS

Many-to-many model

Many-to-one model

One-to-one model

Two-level model

Choose the correct option.

At times, it is advantageous to swap out a process in the memory and bring it back into the memory after some time, such that its execution can be resumed from the point where it stopped. What handles this process swapping?

Options

Long-term scheduler

Swapping scheduler

Short-term scheduler

Medium-term scheduler

Choose the correct option.

What is Belady's anomaly?

Options

For some page replacement algorithms, page faults may increase as the number of allocated frames increases.

For some page replacement algorithms, page faults may decrease as the number of allocated frames increases.

For some page replacement algorithms, page faults may decrease as the number of allocated frames decreases.

For some page replacement algorithms, page faults do not depend on the number of frames.

Choose the correct option.

Which of the following statements are true?

- 1. IPv4 addresses are 32 bit long.
- 2. IPv6 addresses are 64 bit long.
- 3. IPv6 is also called internet protocol next generation.
- 4. Address Resolution Protocol is used to map IPv4 address to MAC addresses.

Options

1 and 2

2 and 3

1 and 4

1, 3 and 4

Choose the correct option.

What is the hamming distance between the data if a sender sends data 10101010 and the receiver receives 10010010?

Options

2

3

4

5

Choose the correct option.

A resource allocation graph is used to detect a deadlock in the system. There may be a deadlock if the _____.

Options

graph contains an odd number of vertices

graph contains an even number of nodes

graph contains no cycles

graph contains cycles

PASSAGE

Group A	Group B
A. Relations	1. Rows
B. Tuples	2. Tables
C. Attributes	3. Structures
D. Schema	4. Columns

Choose the correct option.

Refer to the given table. Match the database-specific terms in Group A with their synonyms in Group B.

OPTIONS

A-2, B-1, C-4, D-3

A-3, B-4, C-1, D-2

A-3, B-1, C-4, D-2

A-2, B-4, C-1, D-3

Choose the correct option.

What does isolation in ACID rules for a transaction in a database mean?

Options

Either the effect of the entire transaction is reflected in the database or the database is rolled back to its original state.

No transaction can interfere in the end result of another transaction.

Effects of a successful transaction must persist in a database.

Every individual transaction must leave the database in a consistent state maintaining the integrity of the database.

Choose the correct option.

Which routing protocol is used to distribute routing information between different organizations and their customers?

Options

Intermediate System-to-Intermediate System (IS-IS)

Open Shortest Path First (OSPF)

Interior Gateway Routing Protocol (IGRP)

Border Gateway Protocol (BGP)

Choose the correct option.

Which of the given options is **NOT** a user level thread?

Options

POSIX Pthread

Solaris thread

BeOS thread

Mach C thread

Choose the correct option.

Which routing protocol is used to distribute routing information between different organizations and their customers?

Options

Interior Gateway Routing Protocol (IGRP)

Open Shortest Path First (OSPF)

Border Gateway Protocol (BGP)

Intermediate System-to-Intermediate System (IS-IS)

PASSAGE

Group A	Group B
A. Next fit allocation	1. Processor sharing
B. Mapping of address	2. Contiguous memory allocation
C. Round-robin scheduling	3. Memory management unit
D. Push migration	4. Load balancing

Choose the correct option.

Refer to the given table. Match the technique in Group A with its function in Group B.

OPTIONS

A-3, B-4, C-1, D-2

A-4, B-2, C-3, D-1

A-2, B-3, C-1, D-4

A-2, B-1, C-4, D-3

Choose the correct option.

What can be used to implement multithreading on a single processor?

Options

Time-division multiplexing.

Time-division and frequency-division multiplexing.

Frequency-division multiplexing.

Multithreading is not possible on a single processor.

Choose the correct option.

A dedicated path is needed in _____ switching before the data is sent from the sender to the receiver, but it is not needed in _____ switching.

Options

packet, circuit

space division, packet

circuit, packet

packet, time division

PASSAGE

Group A	Group B
A. Relations	1. Rows
B. Tuples	2. Tables
C. Attributes	3. Structures
D. Schema	4. Columns

Choose the correct option.

Refer to the given table. Match the database-specific terms in Group A with their synonyms in Group B.

OPTIONS

A-3, B-1, C-4, D-2

A-3, B-4, C-1, D-2

A-2, B-4, C-1, D-3

A-2, B-1, C-4, D-3

Choose the correct option.

Identify the section where no process is allowed to execute when another process is executing.

Options

Entry section

Exit section

Remainder section

Critical section

PASSAGE

Main Memory (1)
Cache Memory (2)
Optical Disk (3)
Magnetic Disk (4)

Choose the correct option.

Arrange the shown four storage media according to the increasing order of their access times.

OPTIONS

1→2→3→4

2→1→4→3

2→4→1→3

1→2→4→3

Choose the correct option.

The head of a moving head disk with 100 tracks numbered from 0 to 99 is currently serving a request at track 40. The queue of requests is 30, 70, 90, 40, 60 and is processed by the SSTF disk scheduling algorithm. What will be the total head movement to serve these requests?

Options

70

80

100

110

Choose the correct option.

What does isolation in ACID rules for a transaction in a database mean?

Options

Either the effect of the entire transaction is reflected in the database or the database is rolled back to its original state.

No transaction can interfere in the end result of another transaction.

Effects of a successful transaction must persist in a database.

Every individual transaction must leave the database in a consistent state maintaining the integrity of the database.

Choose the correct option.

A system has three CD drives - D1, D2 and D3, and three different processes - P1, P2 and P3, respectively. Each of the processes holds one drive. If each process makes a request for another drive (i.e., P3 waits for P2 to release a drive, P2 waits for P1 to release a drive and P1 waits for P3 to release a drive) then the result is circular waiting. What is this situation called?

Options

Busy waiting

Mutual exclusion

Deadlock

Starvation

Choose the correct option.

Which command in SQL is used to delete a table's entire data and structure?

Options

Drop

Truncate

Delete

Destroy

Choose the correct option.

The column "car_number" is common in the two tables, "car(car_number, car_type, mfd)" and "owner(name,age, car_number,number)". Which query will retrieve "car_type" where the name of the owner is 'Nik'?

Options

SELECT car_type FROM car WHERE car_number IN (SELECT car_number FROM owner WHERE name='Nik');

SELECT car_type FROM car WHERE car_number BETWEEN(SELECT car_number FROM owner WHERE name='Nik');

SELECT car_type FROM car WHERE car_number=(SELECT * FROM owner WHERE name='Nik');

SELECT car_type FROM car WHERE car_number LIKE (SELECT * FROM owner WHERE name='Nik');

Choose the correct option.

Which of the given options is **NOT** a type of shell in Linux?

Options

C shell

Bounce shell

Korn shell

Bourne shell

Choose the correct option.

Which normal form is a table "customer" in, if it has the following characteristics?

1. It has transitive dependencies.
2. There are no partial dependencies in it.
3. There is no column with redundancy in it.

Options

1NF

2NF

3NF

BCNF

Choose the correct option.

What is the hamming distance between the data if a sender sends data 10101010 and the receiver receives 10010010?

Options

2

3

4

5

Choose the correct option.

A system uses the first-in, first-out (FIFO) page-replacement algorithm. It has 3 page frames with no pages loaded to begin with. The system first accesses 50 distinct pages in a certain order and then accesses the same 50 pages in the reverse order. How many page faults will occur?

Options

50

97

103

100

Choose the correct option.

Which of the following statements are true about HTTP protocol?

1. It stands for Hypertext Transition Protocol.
2. It is an application layer protocol.
3. It is a stateless protocol.
4. It is used for communication between web browsers and web servers.

Options

1, 2 and 3

1, 3 and 4

2, 3 and 4

1, 2, 3 and 4

Choose the correct option.

Which of the given options is **NOT** a technique of mapping the data from main memory to cache memory?

Options

Associative mapping

Set-associative mapping

Write-back mapping

Direct mapping

PASSAGE

Group A	Group B
A. Contiguous allocation	1. Extra memory consume
B. Linked list allocation	2. Slow random access
C. FAT allocation	3. Disk fragmentation

Choose the correct option.

Refer to the given table. Match the allocation technique in Group A with its drawback in Group B.

OPTIONS

A-1, B-2, C-3

A-2, B-1, C-3

A-3, B-2, C-1

A-1, B-3, C-2

PASSAGE

Group A	Group B
A. Paging	1. Internal fragmentation
B. Reentrancy	2. External fragmentation
C. Segmentation	3. Non-self modification
D. Associative Memory	4. Translation look-aside buffer

Choose the correct option.

Refer to the given table. Match the memory management technique in Group A with Group B.

OPTIONS

A-4, B-2, C-1, D-3

A-3, B-1, C-4, D-2

A-2, B-1, C-4, D-3

A-1, B-3, C-2, D-4

Choose the correct option.

Which normal form is a table "customer" in, if it has the following characteristics?

1. It has transitive dependencies.
2. There are no partial dependencies in it.
3. There is no column with redundancy in it.

Options

1NF

2NF

3NF

BCNF

Choose the correct option.

What does isolation in ACID rules for a transaction in a database mean?

Options

Either the effect of the entire transaction is reflected in the database or the database is rolled back to its original state.

No transaction can interfere in the end result of another transaction.

Effects of a successful transaction must persist in a database.

Every individual transaction must leave the database in a consistent state maintaining the integrity of the database.

Choose the correct option.

Identify the scheduling technique in which a process retains the CPU until the process is terminated.

Options

Cascading scheduling

Round-robin scheduling

Preemptive scheduling

Non-preemptive scheduling

Choose the correct option.

Which routing protocol is used to distribute routing information between different organizations and their customers?

Options

Intermediate System-to-Intermediate System (IS-IS)

Open Shortest Path First (OSPF)

Interior Gateway Routing Protocol (IGRP)

Border Gateway Protocol (BGP)

Choose the correct option.

Identify the section where no process is allowed to execute when another process is executing.

Options

Critical section

Exit section

Entry section

Remainder section

Choose the correct option.

What is the hamming distance between the data if a sender sends data 10101010 and the receiver receives 10010010?

Options

2

3

4

5

Choose the correct option.

The banker's algorithm is a technique to _____ a deadlock.

Options

detect

create

avoid

Choose the correct option.

The banker's algorithm is a technique to _____ a deadlock.

Options

detect

create

avoid

Choose the correct option.

What does OSI stand for?

Options

Open Source Interface

Open Systems Interface

Open Systems Interconnection

Open Source Interconnection

PASSAGE

Group A	Group B
A. Relations	1. Rows
B. Tuples	2. Tables
C. Attributes	3. Structures
D. Schema	4. Columns

Choose the correct option.

Refer to the given table. Match the database-specific terms in Group A with their synonyms in Group B.

OPTIONS

A-2, B-1, C-4, D-3

A-3, B-4, C-1, D-2

A-3, B-1, C-4, D-2

A-2, B-4, C-1, D-3

Choose the correct option.

Which command in SQL is used to delete a table's entire data and structure?

Options

Destroy

Truncate

Drop

Delete

Choose the correct option.

A parent process executes the _____ system call to create a child process.

Options

child()

create()

exec()

fork()

Choose the correct option.

What is RAID?

Options

Resemble Arrays of Independent Disks

Resemble Arrays of Dependent Disks

Redundant Arrays of Individual Disks

Redundant Arrays of Independent Disks

Choose the correct option.

A database of motor vehicles has the base entity "Vehicles" that is classified into two sub-entities: two-wheeler and four-wheeler. These are further broken down into more entities. What is this process called?

Options

Aggregation

Segregation

Generalization

Specialization

Choose the correct option.

1 TB disk storage in a computer is equivalent to _____.

Options

10^5 KB

10^8 KB

10^9 KB

10^{12} KB

Choose the correct option.

Which of the given options is **NOT** a type of shell in Linux?

Options

Bourne shell

Bounce shell

C shell

Korn shell

Choose the correct option.

The head of a moving head disk with 100 tracks numbered from 0 to 99 is currently serving a request at track 50. The queue of requests kept in the "first-come, first-served" order is 10, 60, 70, 40, 80. What will be the total head movement for these requests?

Options

150

160

170

180

PASSAGE

Group A	Group B
A. Indirect Addressing	1. Constants
B. Immediate Addressing	2. Arrays
C. Indexed Addressing	3. Loops
D. Autodecrement Addressing	4. Pointers

Choose the correct option.

Refer to the given table. Match the addressing mode in Group A with an example in Group B.

OPTIONS

A-2, B-1, C-4, D-3

A-4, B-1, C-2, D-3

A-4, B-3, C-2, D-1

A-3, B-2, C-4, D-1

Choose the correct option.

A system uses the first-in, first-out (FIFO) page-replacement algorithm. It has 3 page frames with no pages loaded to begin with. The system first accesses 50 distinct pages in a certain order and then accesses the same 50 pages in the reverse order. How many page faults will occur?

Options

50

97

103

100

Choose the correct option.

A dedicated path is needed in _____ switching before the data is sent from the sender to the receiver, but it is not needed in _____ switching.

Options

packet, time division

space division, packet

packet, circuit

circuit, packet

Choose the correct option.

Which of the following statements are true about HTTP protocol?

1. It stands for Hypertext Transition Protocol.
2. It is an application layer protocol.
3. It is a stateless protocol.
4. It is used for communication between web browsers and web servers.

Options

1, 2 and 3

1, 3 and 4

2, 3 and 4

1, 2, 3 and 4

Choose the correct option.

Identify the section where no process is allowed to execute when another process is executing.

Options

Remainder section

Entry section

Exit section

Critical section

Choose the correct option.

Which routing protocol is used to distribute routing information between different organizations and their customers?

Options

Border Gateway Protocol (BGP)

Interior Gateway Routing Protocol (IGRP)

Open Shortest Path First (OSPF)

Intermediate System-to-Intermediate System (IS-IS)

Choose the correct option.

What does isolation in ACID rules for a transaction in a database mean?

Options

Either the effect of the entire transaction is reflected in the database or the database is rolled back to its original state.

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PASSAGE

Group A	Group B
A. Relations	1. Rows
B. Tuples	2. Tables
C. Attributes	3. Structures
D. Schema	4. Columns

Choose the correct option.

Refer to the given table. Match the database-specific terms in Group A with their synonyms in Group B.

OPTIONS

A-2, B-4, C-1, D-3

A-3, B-1, C-4, D-2

A-3, B-4, C-1, D-2

A-2, B-1, C-4, D-3

PASSAGE

Group A	Group B
A. Next fit allocation	1. Processor sharing
B. Mapping of address	2. Contiguous memory allocation
C. Round-robin scheduling	3. Memory management unit
D. Push migration	4. Load balancing

Choose the correct option.

Refer to the given table. Match the technique in Group A with its function in Group B.

OPTIONS

A-2, B-3, C-1, D-4

A-3, B-4, C-1, D-2

A-4, B-2, C-3, D-1

A-2, B-1, C-4, D-3

Choose the correct option.

Which of the given options is **NOT** a technique of mapping the data from main memory to cache memory?

Options

Write-back mapping

Associative mapping

Set-associative mapping

Direct mapping

Choose the correct option.

What is the hamming distance between the data if a sender sends data 10101010 and the receiver receives 10010010?

Options

2

3

4

5

Choose the correct option.

Which of the given options is **NOT** a type of shell in Linux?

Options

Korn shell

C shell

Bounce shell

Bourne shell

Choose the correct option.

What can be used to implement multithreading on a single processor?

Options

Frequency-division multiplexing.

Time-division multiplexing.

Time-division and frequency-division multiplexing.

Multithreading is not possible on a single processor.

Choose the correct option.

A dedicated path is needed in _____ switching before the data is sent from the sender to the receiver, but it is not needed in _____ switching.

Options

circuit, packet

packet, circuit

space division, packet

packet, time division

Choose the correct option.

Which of the given options is **NOT** a user level thread?

Options

BeOS thread

POSIX Pthread

Solaris thread

Mach C thread

Choose the correct option.

The head of a moving head disk with 100 tracks numbered from 0 to 99 is currently serving a request at track 40. The queue of requests is 30, 70, 90, 40, 60 and is processed by the SSTF disk scheduling algorithm. What will be the total head movement to serve these requests?

Options

70

80

100

110

PASSAGE

Main Memory (1)
Cache Memory (2)
Optical Disk (3)
Magnetic Disk (4)

Choose the correct option.

Arrange the shown four storage media according to the increasing order of their access times.

OPTIONS

2→4→1→3

1→2→3→4

2→1→4→3

1→2→4→3

Choose the correct option.

A system uses the first-in, first-out (FIFO) page-replacement algorithm. It has 3 page frames with no pages loaded to begin with. The system first accesses 50 distinct pages in a certain order and then accesses the same 50 pages in the reverse order. How many page faults will occur?

Options

50

97

103

100

PASSAGE

Group A	Group B
A. Contiguous allocation	1. Extra memory consume
B. Linked list allocation	2. Slow random access
C. FAT allocation	3. Disk fragmentation

Choose the correct option.

Refer to the given table. Match the allocation technique in Group A with its drawback in Group B.

OPTIONS

A-3, B-2, C-1

A-1, B-2, C-3

A-2, B-1, C-3

A-1, B-3, C-2

Choose the correct option.

Which normal form is a table "customer" in, if it has the following characteristics?

1. It has transitive dependencies.
2. There are no partial dependencies in it.
3. There is no column with redundancy in it.

Options

1NF

2NF

3NF

BCNF

Choose the correct option.

Which command in SQL is used to delete a table's entire data and structure?

Options

Delete

Drop

Truncate

Destroy

Choose the correct option.

The column "car_number" is common in the two tables, "car(car_number, car_type, mfd)" and "owner(name,age, car_number,number)". Which query will retrieve "car_type" where the name of the owner is 'Nik'?

Options

`SELECT car_type FROM car WHERE car_number=(SELECT * FROM owner WHERE name='Nik');`

`SELECT car_type FROM car WHERE car_number IN (SELECT car_number FROM owner WHERE name='Nik');`

`SELECT car_type FROM car WHERE car_number BETWEEN(SELECT car_number FROM owner WHERE name='Nik');`

`SELECT car_type FROM car WHERE car_number LIKE (SELECT * FROM owner WHERE name='Nik');`

Choose the correct option.

A system has three CD drives - D1, D2 and D3, and three different processes - P1, P2 and P3, respectively. Each of the processes holds one drive. If each process makes a request for another drive (i.e., P3 waits for P2 to release a drive, P2 waits for P1 to release a drive and P1 waits for P3 to release a drive) then the result is circular waiting. What is this situation called?

Options

Deadlock

Busy waiting

Mutual exclusion

Starvation

Choose the correct option.

Which of the following conditions can lead to a deadlock?

- 1. Mutual exclusion
- 2. Preemption
- 3. Circular wait

Options

Only 1

1 and 2

1 and 3

2 and 3

1, 2 and 3

Choose the correct option.

A database contains three tables - Saving_acctn(cid, accnt_no, owner, balance), Current_acctn(cid, accnt_no, owner, balance) and Customer(cid, accnt_no). "a" is the alias for the Saving_acctn table and b is the alias for the Current_acctn table. Which queries should be used to show the details of a customer who holds a savings account as well as a current account?

Options

SELECT a.cid, a.accnt_no, a.owner, a.balance FROM Saving_acctn a OUTER JOIN Current_acctn b ON a.cid=b.cid;

SELECT a.cid, a.accnt_no, a.owner, a.balance FROM Saving_acctn a INNER JOIN Current_acctn b ON a.cid=b.cid;

SELECT a.cid, a.accnt_no, a.owner, a.balance FROM Saving_acctn a LEFT INNER JOIN Current_acctn b ON a.cid=b.cid;

SELECT a.cid, a.accnt_no, a.owner, a.balance FROM Saving_acctn a CROSS JOIN Current_acctn b ON a.cid=b.cid;

Choose the correct option.

Which of the following statements are true?

1. An arithmetic left shift multiplies a signed number by two.
2. An arithmetic right shift divides a signed number by two.
3. Mask operation is an AND micro-operation and insert is an OR micro-operation.
4. In a logical shift, the serial input to the shift is one.

Options

1 and 2

3 and 4

1, 2 and 3

2, 3 and 4

Choose the correct option.

What do URL, URI and URN imply in the HTTP protocol respectively?

Options

Uniform Resource Location, Uniform Resource Identifier, Uniform Resource Network

Uniform Resource Locator, Uniform Resource Information, Uniform Resource Network

Uniform Resource Locator, Uniform Resource Identifier, Uniform Resource Network

Uniform Resource Locator, Uniform Resource Identifier, Uniform Resource Name

Choose the correct option.

Consider the given reference string:

7, 0, 1, 2, 3, 4, 0, 2, 3, 0, 3, 2, 1

Calculate the number of page faults encountered when the LRU page replacement policy is used with 4 page frames.

Options

5

6

7

8

Choose the correct option.

Which keyword is used to remove duplicate values from a column in the result set of a query?

Options

Distinct

Unique

Remove

Delete

Choose the correct option.

An operating system must schedule all the processes in the main memory (using a scheduling algorithm) to run on the CPU at equal intervals. Each time a clock interrupt occurs, the interrupt handler checks how much time the current running process has used. If it has used up its entire time slice, then the CPU scheduling algorithm in the kernel picks a different process to run. What is each switch of the CPU from one process to another called?

Options

Process switching

CPU switching

Context switching

Task switching

Choose the correct option.

Distributed systems should aim at _____.

Options

better resource sharing

meeting the prescribed time constraints

better system utilization

better system overhead

PASSAGE

Group A	Group B
A. Unicasting	1. Message is sent from a source node to a single destination node
B. Broadcasting	2. Message is sent to a subset of the network nodes
C. Multicasting	3. Message is sent to all the nodes in the network

Choose the correct option.

Refer to the given table. Match the transmission technique in Group A with its characteristic in Group B.

OPTIONS

A-1, B-3, C-2

A-1, B-2, C-3

A-2, B-3, C-1

A-2, B-1, C-3

Choose the correct option.

A database of motor vehicles has the base entity "Vehicles" that is classified into two sub-entities: two-wheeler and four-wheeler. These are further broken down into more entities. What is this process called?

Options

Specialization

Generalization

Segregation

Aggregation

Choose the correct option.

A job scheduling algorithm processes a process P and takes total time T from submission to completion of that process. What is T known as?

Options

Turnaround time

Waiting time

Response time

Total time

Choose the correct option.

Which of the given options is **NOT** a necessary condition for a deadlock to occur?

Options

Mutual exclusion

Hold and wait

No preemption

Circular wait

None of the above

Choose the correct option.

The head of a moving head disk with 100 tracks numbered from 0 to 99 is currently serving a request at track 50. The queue of requests kept in the "first-come, first-served" order is 10, 60, 70, 40, 80. What will be the total head movement for these requests?

Options

150

160

170

180

Choose the correct option.

A hard disk with 6 platters has 1024 tracks/platter, 1024 sectors/track (fixed number of sectors per track) and 512 byte/sectors. What is its total capacity?

Options

2 GB (approximately)

3 GB (approximately)

4 GB (approximately)

5 GB (approximately)

Choose the correct option.

In _____, signals are sent at multiple frequencies allowing multiple signals to be sent simultaneously, while in _____ the entire bandwidth of the cable is consumed by a single signal.

Options

broadband transmission, baseband transmission,

baseband transmission, broadband transmission

synchronous transmission, asynchronous transmission

asynchronous transmission, synchronous transmission

Choose the correct option.

What is RAID?

Options

Redundant Arrays of Independent Disks

Redundant Arrays of Individual Disks

Resemble Arrays of Dependent Disks

Resemble Arrays of Independent Disks

Choose the correct option.

Deadlocks can be described more precisely in terms of a directed graph called a system resource allocation graph. What can be concluded if the two statements stated below are true for a system?

1. The graph contains a cycle.
2. The cycle involves only a set of resource types, each of which has only a single instance.

Options

A deadlock may exist.

A deadlock will occur.

A deadlock will never occur.

The statements contradict each other.

Choose the correct option.

Which of the given statements is **NOT** correct about repeaters?

Options

They relay packets among multiple interconnected networks.

They are also called regenerators.

They operate only at the physical layer.

They receive a weak signal in the network and regenerate the original bit pattern.

Choose the correct option.

Which schedule can be categorized as a strict schedule?

Options

T1:R(X), T2:R(X), T2:W(X), T1:W(X), T1:Commit, T2:Commit

T1:R(X), T2:R(X), T2:W(X), T1:W(X), T2:Commit, T1:Commit

T1:R(X), T2:R(X), T1:W(X), T2:W(X), T2:Commit

T1:R(X), T2:R(X), T1:W(X), T1:Commit, T2:W(X), T2:Commit

PASSAGE

Group A	Group B
A. External fragmentation	1. Aging
B. Starvation	2. Optimal page replacement
C. Belady's anomaly	3. Translation look-aside buffer
D. More memory access time	4. Segmentation

Choose the correct option.

Refer to the given table. Match the problem in virtual memory management in Group A with a solution in Group B.

OPTIONS

A-1, B-2, C-4, D-3

A-4, B-1, C-2, D-3

A-3, B-4, C-1, D-2

A-2, B-1, C-3, D-4

Choose the correct option.

A database of motor vehicles has the base entity "Vehicles" that is classified into two sub-entities: two-wheeler and four-wheeler. These are further broken down into more entities. What is this process called?

Options

Segregation

Specialization

Aggregation

Generalization

Choose the correct option.

Any program residing in the memory contains a set of instructions that need to be executed by the computer in a sequential manner. This cycle for every instruction is known as instruction cycle. The cycle consists of the given steps that may or may not be the proper sequence of execution.

1. Fetch the operand from the memory
2. Execution
3. Fetch the instruction
4. Decode the instruction
5. Result

What will be the proper sequence of instructions in the instruction cycle?

Options

3→4→2→5→1

3→4→1→2→5

2→3→1→4→5

1→2→3→4→5

Choose the correct option.

Which normal form is a table "customer" in, if it has the following characteristics?

1. It has transitive dependencies.
2. There are no partial dependencies in it.
3. There is no column with redundancy in it.

Options

1NF

2NF

3NF

BCNF

PASSAGE

Group A	Group B
A. Paging	1. Internal fragmentation
B. Reentrancy	2. External fragmentation
C. Segmentation	3. Non-self modification
D. Associative Memory	4. Translation look-aside buffer

Choose the correct option.

Refer to the given table. Match the memory management technique in Group A with Group B.

OPTIONS

A-3, B-1, C-4, D-2

A-1, B-3, C-2, D-4

A-4, B-2, C-1, D-3

A-2, B-1, C-4, D-3

PASSAGE

Group A	Group B
A. Relations	1. Rows
B. Tuples	2. Tables
C. Attributes	3. Structures
D. Schema	4. Columns

Refer to the given table. Match the database-specific terms in Group A with their synonyms in Group B.

OPTIONS

A-3, B-4, C-1, D-2

A-2, B-4, C-1, D-3

A-2, B-1, C-4, D-3

A-3, B-1, C-4, D-2

Choose the correct option.

Each process in a system is holding a resource and is waiting to acquire another resource that is held by some other process. All the processes are blocked because of the non-availability of the required resources. What is this condition known as?

Options

Indefinite blocking

Deadlock

Busy waiting

Starvation

PASSAGE

Process	Burst Time (in milliseconds)
P1	8
P2	3
P3	5

Choose the correct option.

The processes P1, P2 and P3 shown in the table arrive at the same time and are processed by the Shortest Job First (SJF) scheduling algorithm. Calculate the average wait-time in milliseconds.

OPTIONS

3.6

5.6

6.3

7.3

Choose the correct option.

A computer's memory consists of 4K words of 16 bits each, and one byte equals 8 bits. How many bytes does this memory contain?

Options

2K

4K

8K

16K

PASSAGE

Group A	Group B
A. Process	1. Passive entity
B. Program	2. Degree of multiprogramming
C. Long-term scheduler	3. Active entity
D. Message passing	4. Interprocess communication

Choose the correct option.

Refer to the given table. Match the term related to process management in Group A with its characteristic in Group B.

OPTIONS

A-3, B-2, C-1, D-4

A-1, B-3, C-4, D-2

A-3, B-1, C-2, D-4

A-1, B-3, C-2, D-4

Choose the correct option.

Which command in SQL is used to delete a table's entire data and structure?

Options

Truncate

Delete

Destroy

Drop

Choose the correct option.

Which of the given options is **NOT** an application software?

Options

VLC media player

MySQL

DOS

Microsoft Word

Choose the correct option.

Which routing protocol is used to distribute routing information between different organizations and their customers?

Options

Open Shortest Path First (OSPF)

Border Gateway Protocol (BGP)

Intermediate System-to-Intermediate System (IS-IS)

Interior Gateway Routing Protocol (IGRP)

Choose the correct option.

What is Belady's anomaly?

Options

For some page replacement algorithms, page faults may increase as the number of allocated frames increases.

For some page replacement algorithms, page faults may decrease as the number of allocated frames increases.

For some page replacement algorithms, page faults may decrease as the number of allocated frames decreases.

For some page replacement algorithms, page faults do not depend on the number of frames.

Choose the correct option.

A dedicated path is needed in _____ switching before the data is sent from the sender to the receiver, but it is not needed in _____ switching.

Options

space division, packet

circuit, packet

packet, time division

packet, circuit

Choose the correct option.

A sending process wants to send data to a receiving process using the OSI model. Each layer accepts data, adds a header to the front of the data and passes it to the next layer. What is the correct sequence of layers through which the data flows?

Options

Application→Session→Transport→Presentation→Network→Data link→Physical

Application→Presentation→Session→Transport→Network→Data link→Physical

Presentation→Application→Session→Transport→Network→Data link→Physical

Application→Presentation→Session→Transport→Data link→Network→Physical

Choose the correct option.

Which construct **CANNOT** be used for process synchronization?

Options

Semaphores

Monitors

Mutex locks

None of the above

Choose the correct option.

What does isolation in ACID rules for a transaction in a database mean?

Options

Either the effect of the entire transaction is reflected in the database or the database is rolled back to its original state.

No transaction can interfere in the end result of another transaction.

Effects of a successful transaction must persist in a database.

Every individual transaction must leave the database in a consistent state maintaining the integrity of the database.

Choose the correct option.

The head of a moving head disk with 100 tracks numbered from 0 to 99 is currently serving a request at track 50. The queue of requests kept in the "first-come, first-served" order is 10, 60, 70, 40, 80. What will be the total head movement for these requests?

Options

150

160

170

180

Choose the correct option.

What is RAID?

Options

Resemble Arrays of Dependent Disks

Redundant Arrays of Independent Disks

Resemble Arrays of Independent Disks

Redundant Arrays of Individual Disks

Choose the correct option.

What is the hamming distance between the data if a sender sends data 10101010 and the receiver receives 10010010?

Options

2

3

4

5

Choose the correct option.

A parent process executes the _____ system call to create a child process.

Options

child()

create()

exec()

fork()

Choose the correct option.

What does isolation in ACID rules for a transaction in a database mean?

Options

Either the effect of the entire transaction is reflected in the database or the database is rolled back to its original state.

No transaction can interfere in the end result of another transaction.

Effects of a successful transaction must persist in a database.

Every individual transaction must leave the database in a consistent state maintaining the integrity of the database.

Choose the correct option.

Identify the section where no process is allowed to execute when another process is executing.

Options

Critical section

Exit section

Entry section

Remainder section

PASSAGE

Group A	Group B
A. Relations	1. Rows
B. Tuples	2. Tables
C. Attributes	3. Structures
D. Schema	4. Columns

Choose the correct option.

Refer to the given table. Match the database-specific terms in Group A with their synonyms in Group B.

OPTIONS

A-2, B-1, C-4, D-3

A-3, B-4, C-1, D-2

A-3, B-1, C-4, D-2

A-2, B-4, C-1, D-3

Choose the correct option.

Which command in SQL is used to delete a table's entire data and structure?

Options

Destroy

Truncate

Drop

Delete

Choose the correct option.

Which routing protocol is used to distribute routing information between different organizations and their customers?

Options

Intermediate System-to-Intermediate System (IS-IS)

Open Shortest Path First (OSPF)

Interior Gateway Routing Protocol (IGRP)

Border Gateway Protocol (BGP)

Choose the correct option.

Which normal form is a table "customer" in, if it has the following characteristics?

1. It has transitive dependencies.
2. There are no partial dependencies in it.
3. There is no column with redundancy in it.

Options

1NF

2NF

3NF

BCNF

Choose the correct option.

A database of motor vehicles has the base entity "Vehicles" that is classified into two sub-entities: two-wheeler and four-wheeler. These are further broken down into more entities. What is this process called?

Options

Aggregation

Segregation

Generalization

Specialization

Choose the correct option.

What is RAID?

Options

Resemble Arrays of Independent Disks

Resemble Arrays of Dependent Disks

Redundant Arrays of Individual Disks

Redundant Arrays of Independent Disks

Choose the correct option.

Identify the scheduling technique in which a process retains the CPU until the process is terminated.

Options

Cascading scheduling

Round-robin scheduling

Preemptive scheduling

Non-preemptive scheduling

Choose the correct option.

A dedicated path is needed in _____ switching before the data is sent from the sender to the receiver, but it is not needed in _____ switching.

Options

packet, time division

space division, packet

packet, circuit

circuit, packet

PASSAGE

Group A	Group B
A. Indirect Addressing	1. Constants
B. Immediate Addressing	2. Arrays
C. Indexed Addressing	3. Loops
D. Autodecrement Addressing	4. Pointers

Choose the correct option.

Refer to the given table. Match the addressing mode in Group A with an example in Group B.

OPTIONS

A-2, B-1, C-4, D-3

A-4, B-1, C-2, D-3

A-4, B-3, C-2, D-1

A-3, B-2, C-4, D-1

Choose the correct option.

A system uses the first-in, first-out (FIFO) page-replacement algorithm. It has 3 page frames with no pages loaded to begin with. The system first accesses 50 distinct pages in a certain order and then accesses the same 50 pages in the reverse order. How many page faults will occur?

Options

50

97

103

100

Choose the correct option.

What does OSI stand for?

Options

Open Source Interface

Open Systems Interface

Open Systems Interconnection

Open Source Interconnection

Choose the correct option.

The head of a moving head disk with 100 tracks numbered from 0 to 99 is currently serving a request at track 50. The queue of requests kept in the "first-come, first-served" order is 10, 60, 70, 40, 80. What will be the total head movement for these requests?

Options

150

160

170

180

Choose the correct option.

The banker's algorithm is a technique to _____ a deadlock.

Options

detect

create

avoid

Choose the correct option.

1 TB disk storage in a computer is equivalent to _____.

Options

10^5 KB

10^8 KB

10^9 KB

10^{12} KB

PASSAGE

Group A	Group B
A. Paging	1. Internal fragmentation
B. Reentrancy	2. External fragmentation
C. Segmentation	3. Non-self modification
D. Associative Memory	4. Translation look-aside buffer

Choose the correct option.

Refer to the given table. Match the memory management technique in Group A with Group B.

OPTIONS

A-4, B-2, C-1, D-3

A-3, B-1, C-4, D-2

A-2, B-1, C-4, D-3

A-1, B-3, C-2, D-4

Choose the correct option.

What is the hamming distance between the data if a sender sends data 10101010 and the receiver receives 10010010?

Options

2

3

4

5

Choose the correct option.

Which of the given options is **NOT** a type of shell in Linux?

Options

Bourne shell

Bounce shell

C shell

Korn shell

Choose the correct option.

The column "car_number" is common in the two tables, "car(car_number, car_type, mfd)" and "owner(name,age, car_number,number)". Which query will retrieve "car_type" where the name of the owner is 'Nik'?

Options

`SELECT car_type FROM car WHERE car_number IN (SELECT car_number FROM owner WHERE name='Nik');`

`SELECT car_type FROM car WHERE car_number BETWEEN(SELECT car_number FROM owner WHERE name='Nik');`

`SELECT car_type FROM car WHERE car_number=(SELECT * FROM owner WHERE name='Nik');`

`SELECT car_type FROM car WHERE car_number LIKE (SELECT * FROM owner WHERE name='Nik');`

Choose the correct option.

A database contains three tables - Saving_acctn(cid, accnt_no, owner, balance), Current_acctn(cid, accnt_no, owner, balance) and Customer(cid, accnt_no). "a" is the alias for the Saving_acctn table and b is the alias for the Current_acctn table. Which queries should be used to show the details of a customer who holds a savings account as well as a current account?

Options

```
SELECT a.cid, a.accnt_no, a.owner, a.balance FROM Saving_acctn a INNER JOIN Current_acctn b ON a.cid=b.cid;
```

```
SELECT a.cid, a.accnt_no, a.owner, a.balance FROM Saving_acctn a LEFT INNER JOIN Current_acctn b ON a.cid=b.cid;
```

```
SELECT a.cid, a.accnt_no, a.owner, a.balance FROM Saving_acctn a OUTER JOIN Current_acctn b ON a.cid=b.cid;
```

```
SELECT a.cid, a.accnt_no, a.owner, a.balance FROM Saving_acctn a CROSS JOIN Current_acctn b ON a.cid=b.cid;
```

Choose the correct option.

Which schedule can be categorized as a strict schedule?

Options

T1:R(X), T2:R(X), T2:W(X), T1:W(X), T2:Commit, T1:Commit

T1:R(X), T2:R(X), T1:W(X), T2:W(X), T2:Commit

T1:R(X), T2:R(X), T2:W(X), T1:W(X), T1:Commit, T2:Commit

T1:R(X), T2:R(X), T1:W(X), T1:Commit, T2:W(X), T2:Commit

Choose the correct option.

Which of the given statements is **NOT** correct about repeaters?

Options

They are also called regenerators.

They operate only at the physical layer.

They relay packets among multiple interconnected networks.

They receive a weak signal in the network and regenerate the original bit pattern.

Choose the correct option.

A process terminates when its final statement is executed and it sends a system call to the operating system requesting its deletion. Which system call is used for this purpose?

Options

terminateprocess()

delete()

release()

exit()

PASSAGE

Group A	Group B
A. Process	1. Multi-tasking
B. Program	2. Passive
C. Multi-threading	3. Interprocess communication
D. Cooperative processes	4. Active

Choose the correct option.

Refer to the given table. Match the process management term in Group A with its characteristic in Group B.

OPTIONS

A-2, B-1, C-4, D-3

A-4, B-2, C-1, D-3

A-4, B-2, C-3, D-1

A-2, B-4, C-1, D-3

PASSAGE

Group A	Group B
A. Contiguous allocation	1. Extra memory consume
B. Linked list allocation	2. Slow random access
C. FAT allocation	3. Disk fragmentation

Choose the correct option.

Refer to the given table. Match the allocation technique in Group A with its drawback in Group B.

OPTIONS

A-1, B-2, C-3

A-2, B-1, C-3

A-3, B-2, C-1

A-1, B-3, C-2

Choose the correct option.

In _____, signals are sent at multiple frequencies allowing multiple signals to be sent simultaneously, while in _____ the entire bandwidth of the cable is consumed by a single signal.

Options

baseband transmission, broadband transmission

synchronous transmission, asynchronous transmission

broadband transmission, baseband transmission,

asynchronous transmission, synchronous transmission

Choose the correct option.

In which algorithm is starvation or indefinite blocking the biggest problem?

Options

First-In, First-Out (FIFO)

Priority scheduling

Shortest Job First (SJF)

Round-robin scheduling

PASSAGE

Group A	Group B
A. Unicasting	1. Message is sent from a source node to a single destination node
B. Broadcasting	2. Message is sent to a subset of the network nodes
C. Multicasting	3. Message is sent to all the nodes in the network

Choose the correct option.

Refer to the given table. Match the transmission technique in Group A with its characteristic in Group B.

OPTIONS

A-1, B-2, C-3

A-2, B-3, C-1

A-1, B-3, C-2

A-2, B-1, C-3

Choose the correct option.

The boot program is a simple code that is stored on ROM instead of RAM because _____.

Options

ROM is cheaper than RAM.

ROM is more readily available than RAM.

ROM is faster than RAM.

ROM is non-volatile and RAM is volatile.

Choose the correct option.

Which keyword is used to remove duplicate values from a column in the result set of a query?

Options

Unique

Remove

Distinct

Delete

Choose the correct option.

Which of the following statements is **NOT** correct?

Options

An address generated by the CPU is called a logical address.

An address seen by the memory unit is called a physical address.

The memory management unit maps virtual addresses to physical addresses.

None of the above

Choose the correct option.

Which of the following conditions can lead to a deadlock?

- 1. Mutual exclusion
- 2. Preemption
- 3. Circular wait

Options

Only 1

1 and 2

1 and 3

2 and 3

1, 2 and 3

PASSAGE

Group A	Group B
A. First-Come, First-Serve Replacement Algorithm	1. Coalescing
B. Least Recently Used Replacement Algorithm	2. Stack Algorithm
C. Paging	3. Belady's Anomaly
D. Buddy System	4. Thrashing

Choose the correct option.

Refer to the given table. Match the memory management techniques in Group A with the problems or terms associated with them in Group B.

OPTIONS

A-2, B-3, C-1, D-4

A-1, B-2, C-3, D-4

A-3, B-2, C-1, D-4

A-3, B-2, C-4, D-1

Choose the correct option.

Which of the given options is **NOT** a system software?

Options

BIOS software

Microsoft Windows

Adobe photoshop

Linker software

Choose the correct option.

Which construct **CANNOT** be used for process synchronization?

Options

Semaphores

Monitors

Mutex locks

None of the above

Choose the correct option.

A sending process wants to send data to a receiving process using the OSI model. Each layer accepts data, adds a header to the front of the data and passes it to the next layer. What is the correct sequence of layers through which the data flows?

Options

Application→Session→Transport→Presentation→Network→Data link→Physical

Application→Presentation→Session→Transport→Network→Data link→Physical

Presentation→Application→Session→Transport→Network→Data link→Physical

Application→Presentation→Session→Transport→Data link→Network→Physical

Choose the correct option.

What is RAID?

Options

Redundant Arrays of Individual Disks

Resemble Arrays of Dependent Disks

Redundant Arrays of Independent Disks

Resemble Arrays of Independent Disks

Choose the correct option.

Identify the addressing mode that is used to define a constant or to set the initial value of a variable.

Options

Direct addressing mode

Stack addressing mode

Immediate addressing mode

Register addressing mode

Choose the correct option.

What is the hamming distance between the data if a sender sends data 10101010 and the receiver receives 10010010?

Options

2

3

4

5

Choose the correct option.

The column "car_number" is common in the two tables, "car(car_number, car_type, mfd)" and "owner(name,age, car_number,number)". Which query will retrieve "car_type" where the name of the owner is 'Nik'?

Options

`SELECT car_type FROM car WHERE car_number LIKE (SELECT * FROM owner WHERE name='Nik');`

`SELECT car_type FROM car WHERE car_number IN (SELECT car_number FROM owner WHERE name='Nik');`

`SELECT car_type FROM car WHERE car_number BETWEEN(SELECT car_number FROM owner WHERE name='Nik');`

`SELECT car_type FROM car WHERE car_number=(SELECT * FROM owner WHERE name='Nik');`

PASSAGE

Group A	Group B
A. Relations	1. Rows
B. Tuples	2. Tables
C. Attributes	3. Structures
D. Schema	4. Columns

Choose the correct option.

Refer to the given table. Match the database-specific terms in Group A with their synonyms in Group B.

OPTIONS

A-2, B-1, C-4, D-3

A-3, B-1, C-4, D-2

A-3, B-4, C-1, D-2

A-2, B-4, C-1, D-3

Choose the correct option.

Which of the given options is **NOT** a technique of mapping the data from main memory to cache memory?

Options

Direct mapping

Associative mapping

Set-associative mapping

Write-back mapping

PASSAGE

Main Memory (1)
Cache Memory (2)
Optical Disk (3)
Magnetic Disk (4)

Choose the correct option.

Arrange the shown four storage media according to the increasing order of their access times.

OPTIONS

1→2→4→3

1→2→3→4

2→1→4→3

2→4→1→3

Choose the correct option.

A system has three CD drives - D1, D2 and D3, and three different processes - P1, P2 and P3, respectively. Each of the processes holds one drive. If each process makes a request for another drive (i.e., P3 waits for P2 to release a drive, P2 waits for P1 to release a drive and P1 waits for P3 to release a drive) then the result is circular waiting. What is this situation called?

Options

Starvation

Busy waiting

Mutual exclusion

Deadlock

PASSAGE

Group A	Group B
A. Next fit allocation	1. Processor sharing
B. Mapping of address	2. Contiguous memory allocation
C. Round-robin scheduling	3. Memory management unit
D. Push migration	4. Load balancing

Choose the correct option.

Refer to the given table. Match the technique in Group A with its function in Group B.

OPTIONS

A-2, B-1, C-4, D-3

A-3, B-4, C-1, D-2

A-4, B-2, C-3, D-1

A-2, B-3, C-1, D-4

Choose the correct option.

What does isolation in ACID rules for a transaction in a database mean?

Options

Either the effect of the entire transaction is reflected in the database or the database is rolled back to its original state.

No transaction can interfere in the end result of another transaction.

Effects of a successful transaction must persist in a database.

Every individual transaction must leave the database in a consistent state maintaining the integrity of the database.

Choose the correct option.

What can be used to implement multithreading on a single processor?

Options

Multithreading is not possible on a single processor.

Time-division multiplexing.

Time-division and frequency-division multiplexing.

Frequency-division multiplexing.

Choose the correct option.

A dedicated path is needed in _____ switching before the data is sent from the sender to the receiver, but it is not needed in _____ switching.

Options

packet, time division

packet, circuit

space division, packet

circuit, packet

Choose the correct option.

The head of a moving head disk with 100 tracks numbered from 0 to 99 is currently serving a request at track 40. The queue of requests is 30, 70, 90, 40, 60 and is processed by the SSTF disk scheduling algorithm. What will be the total head movement to serve these requests?

Options

70

80

100

110

PASSAGE

Group A	Group B
A. Contiguous allocation	1. Extra memory consume
B. Linked list allocation	2. Slow random access
C. FAT allocation	3. Disk fragmentation

Choose the correct option.

Refer to the given table. Match the allocation technique in Group A with its drawback in Group B.

OPTIONS

A-1, B-3, C-2

A-1, B-2, C-3

A-2, B-1, C-3

A-3, B-2, C-1

Choose the correct option.

Which normal form is a table "customer" in, if it has the following characteristics?

1. It has transitive dependencies.
2. There are no partial dependencies in it.
3. There is no column with redundancy in it.

Options

1NF

2NF

3NF

BCNF

Choose the correct option.

Which of the given options is **NOT** a user level thread?

Options

Mach C thread

POSIX Pthread

Solaris thread

BeOS thread

Choose the correct option.

Which command in SQL is used to delete a table's entire data and structure?

Options

Destroy

Drop

Truncate

Delete

Choose the correct option.

Which routing protocol is used to distribute routing information between different organizations and their customers?

Options

Intermediate System-to-Intermediate System (IS-IS)

Interior Gateway Routing Protocol (IGRP)

Open Shortest Path First (OSPF)

Border Gateway Protocol (BGP)

Choose the correct option.

Identify the section where no process is allowed to execute when another process is executing.

Options

Critical section

Entry section

Exit section

Remainder section

Choose the correct option.

A system uses the first-in, first-out (FIFO) page-replacement algorithm. It has 3 page frames with no pages loaded to begin with. The system first accesses 50 distinct pages in a certain order and then accesses the same 50 pages in the reverse order. How many page faults will occur?

Options

50

97

103

100

Choose the correct option.

Which of the following statements are true about HTTP protocol?

- 1. It stands for Hypertext Transition Protocol.
- 2. It is an application layer protocol.
- 3. It is a stateless protocol.
- 4. It is used for communication between web browsers and web servers.

Options

1, 2 and 3

1, 3 and 4

2, 3 and 4

1, 2, 3 and 4

Choose the correct option.

Which of the given options is **NOT** a type of shell in Linux?

Options

Bourne shell

C shell

Bounce shell

Korn shell

Choose the correct option.

The head of a moving head disk with 100 tracks numbered from 0 to 99 is currently serving a request at track 50. The queue of requests kept in the "first-come, first-served" order is 10, 60, 70, 40, 80. What will be the total head movement for these requests?

Options

150

160

170

180

PASSAGE

Process	Burst Time (in milliseconds)
P1	8
P2	3
P3	5

Choose the correct option.

The processes P1, P2 and P3 shown in the table arrive at the same time and are processed by the Shortest Job First (SJF) scheduling algorithm. Calculate the average wait-time in milliseconds.

OPTIONS

3.6

5.6

6.3

7.3

Choose the correct option.

Any program residing in the memory contains a set of instructions that need to be executed by the computer in a sequential manner. This cycle for every instruction is known as instruction cycle. The cycle consists of the given steps that may or may not be the proper sequence of execution.

1. Fetch the operand from the memory
2. Execution
3. Fetch the instruction
4. Decode the instruction
5. Result

What will be the proper sequence of instructions in the instruction cycle?

Options

3→4→2→5→1

3→4→1→2→5

2→3→1→4→5

1→2→3→4→5

Choose the correct option.

Which command in SQL is used to delete a table's entire data and structure?

Options

Truncate

Delete

Destroy

Drop

Choose the correct option.

Each process in a system is holding a resource and is waiting to acquire another resource that is held by some other process. All the processes are blocked because of the non-availability of the required resources. What is this condition known as?

Options

Indefinite blocking

Deadlock

Busy waiting

Starvation

Choose the correct option.

Which normal form is a table "customer" in, if it has the following characteristics?

1. It has transitive dependencies.
2. There are no partial dependencies in it.
3. There is no column with redundancy in it.

Options

1NF

2NF

3NF

BCNF

Choose the correct option.

What is RAID?

Options

Resemble Arrays of Dependent Disks

Redundant Arrays of Independent Disks

Resemble Arrays of Independent Disks

Redundant Arrays of Individual Disks

Choose the correct option.

Which construct **CANNOT** be used for process synchronization?

Options

Semaphores

Monitors

Mutex locks

None of the above

Choose the correct option.

A dedicated path is needed in _____ switching before the data is sent from the sender to the receiver, but it is not needed in _____ switching.

Options

space division, packet

circuit, packet

packet, time division

packet, circuit

PASSAGE

Group A	Group B
A. Paging	1. Internal fragmentation
B. Reentrancy	2. External fragmentation
C. Segmentation	3. Non-self modification
D. Associative Memory	4. Translation look-aside buffer

Choose the correct option.

Refer to the given table. Match the memory management technique in Group A with Group B.

OPTIONS

A-3, B-1, C-4, D-2

A-1, B-3, C-2, D-4

A-4, B-2, C-1, D-3

A-2, B-1, C-4, D-3

PASSAGE

Group A	Group B
A. Relations	1. Rows
B. Tuples	2. Tables
C. Attributes	3. Structures
D. Schema	4. Columns

Choose the correct option.

Refer to the given table. Match the database-specific terms in Group A with their synonyms in Group B.

OPTIONS

A-3, B-4, C-1, D-2

A-2, B-4, C-1, D-3

A-2, B-1, C-4, D-3

A-3, B-1, C-4, D-2

Choose the correct option.

A database of motor vehicles has the base entity "Vehicles" that is classified into two sub-entities: two-wheeler and four-wheeler. These are further broken down into more entities. What is this process called?

Options

Segregation

Specialization

Aggregation

Generalization

PASSAGE

Group A	Group B
A. Process	1. Passive entity
B. Program	2. Degree of multiprogramming
C. Long-term scheduler	3. Active entity
D. Message passing	4. Interprocess communication

Choose the correct option.

Refer to the given table. Match the term related to process management in Group A with its characteristic in Group B.

OPTIONS

A-3, B-2, C-1, D-4

A-1, B-3, C-4, D-2

A-3, B-1, C-2, D-4

A-1, B-3, C-2, D-4

Choose the correct option.

A computer's memory consists of 4K words of 16 bits each, and one byte equals 8 bits. How many bytes does this memory contain?

Options

2K

4K

8K

16K

Choose the correct option.

What does isolation in ACID rules for a transaction in a database mean?

Options

Either the effect of the entire transaction is reflected in the database or the database is rolled back to its original state.

No transaction can interfere in the end result of another transaction.

Effects of a successful transaction must persist in a database.

Every individual transaction must leave the database in a consistent state maintaining the integrity of the database.

Choose the correct option.

What is the hamming distance between the data if a sender sends data 10101010 and the receiver receives 10010010?

Options

2

3

4

5

Choose the correct option.

A sending process wants to send data to a receiving process using the OSI model. Each layer accepts data, adds a header to the front of the data and passes it to the next layer. What is the correct sequence of layers through which the data flows?

Options

Application→Session→Transport→Presentation→Network→Data link→Physical

Application→Presentation→Session→Transport→Network→Data link→Physical

Presentation→Application→Session→Transport→Network→Data link→Physical

Application→Presentation→Session→Transport→Data link→Network→Physical

Choose the correct option.

Which routing protocol is used to distribute routing information between different organizations and their customers?

Options

Open Shortest Path First (OSPF)

Border Gateway Protocol (BGP)

Intermediate System-to-Intermediate System (IS-IS)

Interior Gateway Routing Protocol (IGRP)

Choose the correct option.

What is Belady's anomaly?

Options

For some page replacement algorithms, page faults may increase as the number of allocated frames increases.

For some page replacement algorithms, page faults may decrease as the number of allocated frames increases.

For some page replacement algorithms, page faults may decrease as the number of allocated frames decreases.

For some page replacement algorithms, page faults do not depend on the number of frames.

Choose the correct option.

Which of the given options is **NOT** an application software?

Options

VLC media player

MySQL

DOS

Microsoft Word