

National Testing Agency

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A Practical Refresher in Computer Science

Group Number :	1
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A Practical Refresher in Computer Science-1

Section Id :	603489167
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Number of Questions :	75
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Enable Mark as Answered Mark for Review and Clear Response :	Yes
Sub-Section Number :	1
Sub-Section Id :	603489296
Question Shuffling Allowed :	Yes

Question Number : 1 Question Id : 6034898190 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

At the beginning of running the Ethernet spanning tree algorithm, a bridge sets ____ to its own MAC address. (Choose the BEST option below)

- 1. The root bridge ID
- 2. Its IP address
- 3. The broadcast ID
- 4. Default outgoing port

Options :

- 60348930735. 1
- 60348930736. 2
- 60348930737. 3
- 60348930738. 4

Question Number : 2 Question Id : 6034898191 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

At the end of running the Ethernet spanning tree algorithm, what can we say for sure about the status of the ports at the root bridge? (Choose the BEST option below)

1. There is exactly one active port
2. There is exactly one inactive port
3. The number of active and inactive ports are equal
4. None of the above options

Options :

60348930739. 1

60348930740. 2

60348930741. 3

60348930742. 4

Question Number : 3 Question Id : 6034898192 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

In the Ethernet "learning bridges" mechanism, why would a bridge purge an entry in the forwarding table after some time? (Choose the BEST option below)

1. To reduce entries in the forwarding table to conserve memory
2. A host may have been moved to another LAN segment
3. Bridges like humans suffer memory losses, so purging is automatic
4. Without purging, each entry causes an extra forwarded packet

Options :

60348930743. 1

60348930744. 2

60348930745. 3

60348930746. 4

Question Number : 4 Question Id : 6034898193 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

In an Ethernet extended LAN, what do "learning bridges" learn?

1. Whether there are duplicate ethernet addresses
2. Mapping from ethernet address to IP address
3. Whether other bridges are active/passive
4. The forwarding table

Options :

60348930747. 1

60348930748. 2

60348930749. 3

60348930750. 4

Question Number : 5 Question Id : 6034898194 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

In an Ethernet extended LAN, when a bridge looks at _____ of a data frame, it learns the outgoing port to use for frames destined to that host. (Choose the BEST option below)

1. The source MAC address
2. The destination MAC address
3. The source IP address
4. The destination IP address

Options :

60348930751. 1

60348930752. 2

60348930753. 3

60348930754. 4

Question Number : 6 Question Id : 6034898195 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

A table of (destination MAC address, outgoing port) at an Ethernet bridge represents which ONE of the following? (Choose the BEST option below).

1. The MAC-to-IP address mapping
2. The root bridge mapping
3. The forwarding table
4. The path cost table

Options :

60348930755. 1

60348930756. 2

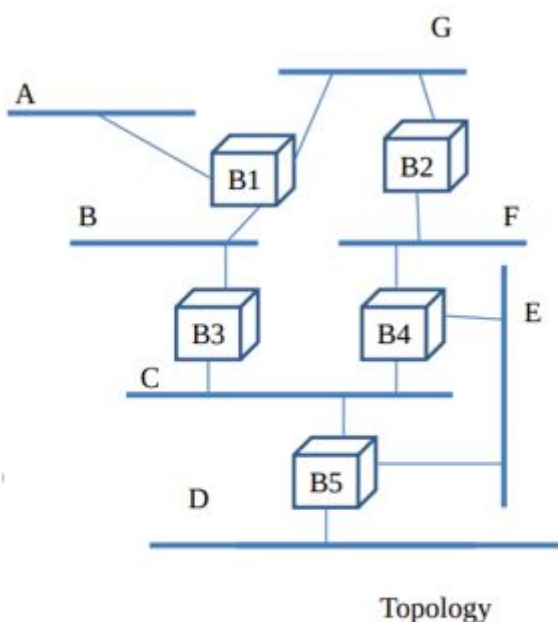
60348930757. 3

60348930758. 4

Question Number : 7 Question Id : 6034898196 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Which is the root bridge in the Ethernet topology below?



1. B1
2. B2
3. B3
4. B4

Options :

60348930759. 1

60348930760. 2

60348930761. 3

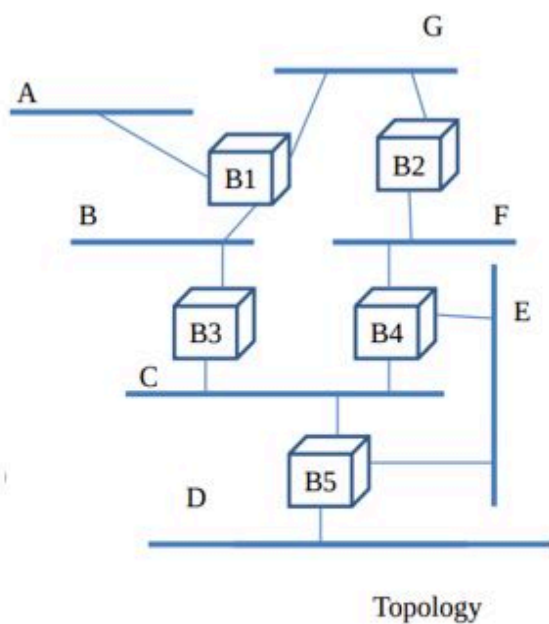
60348930762. 4

Question Number : 8 Question Id : 6034898197 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Which is the designated bridge for LAN segment C in the Ethernet topology below?



1. B1
2. B2
3. B3
4. B4

Options :

60348930763. 1

60348930764. 2

60348930765. 3

60348930766. 4

Question Number : 9 Question Id : 6034898198 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Which ONE of the following is the primary purpose of VLANs in Ethernet?

1. Connecting to non-Ethernet networks
2. Supporting VoIP calls
3. Supporting non-IP networks
4. Traffic isolation

Options :

60348930767. 1

60348930768. 2

60348930769. 3

60348930770. 4

Question Number : 10 Question Id : 6034898199 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Which ONE of the following is a disadvantage resulting from circuit switching (compared to packet switching)? (Choose the BEST option below)

1. Poor fault tolerance
2. No guaranteed delay bound possible for flows
3. No guaranteed bandwidth possible for flows
4. No support for constant bit rate applications

Options :

60348930771. 1

60348930772. 2

60348930773. 3

60348930774. 4

Question Number : 11 Question Id : 6034898200 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

How are packets forwarded toward the destination in packet switching? (Choose the BEST option below)

1. By sending the incoming packet to all default ports
2. By looking only at the destination address
3. By sending the incoming packet to google.com
4. By looking at the hash value of the packet contents

Options :

60348930775. 1

60348930776. 2

60348930777. 3

60348930778. 4

Question Number : 12 Question Id : 6034898201 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

When using circuit switching, what should the link capacity be (in kbps) if you want to support 20 users, each requiring 100kbps. Assume a user is active only 5% of the time.

1. 10 kbps
2. 20 kbps
3. 100 kbps
4. 2 Mbps

Options :

60348930779. 1

60348930780. 2

60348930781. 3

60348930782. 4

Question Number : 13 Question Id : 6034898202 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Which among the following switching techniques is BEST for constant bit-rate user traffic requiring strict delay bounds?

1. Packet switching
2. Circuit switching
3. Alternate switching
4. Short circuit switching

Options :

60348930783. 1

60348930784. 2

60348930785. 3

60348930786. 4

Question Number : 14 Question Id : 6034898203 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

In the source routing scheme, why is the packet header length variable? (Choose the BEST option below)

1. Different destinations are at different hop counts
2. Different destinations have addresses of different lengths
3. Different destinations use different applications
4. Different destinations have different available memory

Options :

60348930787. 1

60348930788. 2

60348930789. 3

60348930790. 4

Question Number : 15 Question Id : 6034898204 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Which technique has the highest per packet header overhead?

1. Circuit switching
2. Virtual Circuit switching
3. Datagram switching
4. Source routing

Options :

60348930791. 1

60348930792. 2

60348930793. 3

60348930794. 4

Question Number : 16 Question Id : 6034898205 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

In the context of Internet routing, ____ is called an autonomous system. (Choose the BEST option below)

1. A DNS server
2. A routing domain
3. An ethernet LAN
4. A private network behind a home router

Options :

60348930795. 1

60348930796. 2

60348930797. 3

60348930798. 4

Question Number : 17 Question Id : 6034898206 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

The path vector routing protocol is used by which ONE of the following?

1. DHCP (Dynamic Host Configuration Protocol)
2. BGP (Border Gateway Protocol)
3. RIP (Routing Information Protocol)
4. OSPF (Open Shortest Path First)

Options :

60348930799. 1

60348930800. 2

60348930801. 3

60348930802. 4

Question Number : 18 Question Id : 6034898207 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Routing using BGP (Border Gateway Protocol) focuses on _____. (Choose the BEST option below)

1. Policy based routing
2. Least packet loss routing
3. Max utilization routing
4. Wireless routing

Options :

60348930803. 1

60348930804. 2

60348930805. 3

60348930806. 4

Question Number : 19 Question Id : 6034898208 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

The routing protocol used within an ISP (Internet Service Provider) is:

1. Always the same as that used by BGP
2. Always based on RIP
3. Always based on OSPF
4. Independent of what is used by BGP

Options :

60348930807. 1

60348930808. 2

60348930809. 3

60348930810. 4

Question Number : 20 Question Id : 6034898209 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

When should an ISP export routes (IP prefix information) it has learnt from its provider ISP to another ISP which is its customer?

1. Always
2. Never
3. Only when it has exactly one peer
4. Only when it has at least two peers

Options :

60348930811. 1

60348930812. 2

60348930813. 3

60348930814. 4

Question Number : 21 Question Id : 6034898210 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Which ONE of the following is a relation between ISPs (Internet Service Providers) which usually involves money exchange?

1. Provider-customer
2. Router-forwarder
3. Peering
4. Source-destination

Options :

60348930815. 1

60348930816. 2

60348930817. 3

60348930818. 4

Question Number : 22 Question Id : 6034898211 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

How many peers can an ISP (Internet Service Provider) have? (Choose the BEST option below)

1. At least one
2. At most one
3. Any number
4. Any odd number

Options :

60348930819. 1

60348930820. 2

60348930821. 3

60348930822. 4

Question Number : 23 Question Id : 6034898212 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

When should an ISP export IP prefix information it has learnt from its peer ISP to its customer ISP?

1. Always
2. Never
3. Only when it has exactly one customer
4. Only when it has at least two customers

Options :

60348930823. 1

60348930824. 2

60348930825. 3

60348930826. 4

Question Number : 24 Question Id : 6034898213 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

A router in a particular Internet domain runs both EGP (Exterior Gateway Protocol) and an IGP (Interior Gateway Protocol). Its forwarding table will be based on ____.

1. Both EGP and IGP
2. Neither EGP nor IGP
3. Only EGP
4. Only IGP

Options :

60348930827. 1

60348930828. 2

60348930829. 3

60348930830. 4

Question Number : 25 Question Id : 6034898214 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

What is the maximum size of an IP datagram (both header + body) in bytes?

1. 32
2. 256
3. 1500
4. 65535

Options :

60348930831. 1

60348930832. 2

60348930833. 3

60348930834. 4

Question Number : 26 Question Id : 6034898215 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

How many root servers are present for DNS (Domain Name System)?

1. Exactly five: one per continent except Africa and Antarctica
2. About 150: one per country
3. Exactly 13: not uniformly distributed across continents
4. Several thousands: one per ISP

Options :

60348930835. 1

60348930836. 2

60348930837. 3

60348930838. 4

Question Number : 27 Question Id : 6034898216 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

An Internet host can have both a hostname and an IP address as identities. Which ONE of the following is an ADVANTAGE of hostnames compared to IP addresses?

1. It is easier for humans to remember IP addresses
2. It is easier for routers to route based on IP address
3. Hostnames are hierarchical, IP addresses are not
4. Hostnames can be easily represented in binary notation

Options :

60348930839. 1

60348930840. 2

60348930841. 3

60348930842. 4

Question Number : 28 Question Id : 6034898217 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Which ONE of the following information must ALWAYS be present at a local DNS server?

1. The IP address of www.google.com
2. The public key certificate of at least one search engine
3. The IP address of the root DNS servers
4. The private key certificate of that domain's web server

Options :

60348930843. 1

60348930844. 2

60348930845. 3

60348930846. 4

Question Number : 29 Question Id : 6034898218 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Which ONE of the following is TRUE with respect to a machine on the Internet?

1. A machine can have only one IP address but multiple hostnames
2. A machine can have only one hostname but multiple IP addresses
3. A machine can have only one IP address and only one hostname
4. A machine can have multiple IP addresses and also multiple hostnames

Options :

60348930847. 1

60348930848. 2

60348930849. 3

60348930850. 4

Question Number : 30 Question Id : 6034898219 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Which ONE of the following is the DNS record type relevant for sending emails to a particular email address?

1. SRC record
2. NS record
3. IP record
4. MX record

Options :

60348930851. 1

60348930852. 2

60348930853. 3

60348930854. 4

Question Number : 31 Question Id : 6034898220 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

The original DNS used a centralized hosts.txt file. In what significant way was this architecture changed to pave the way to the current DNS architecture?

1. The text file was replaced with RDBMS
2. The text file was replaced with unicode format
3. A hierarchical architecture was adopted for better scaling
4. Time-zone support was added

Options :

60348930855. 1

60348930856. 2

60348930857. 3

60348930858. 4

Question Number : 32 Question Id : 6034898221 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

How many top level domains does the DNS name hierarchy have?

1. Exactly six: one per each (inhabited) continent
2. Exactly 18: one primary + two backups per (inhabited) continent
3. Exactly six: .com, .org, .edu, .gov, .net, .in
4. Several 100s

Options :

60348930859. 1

60348930860. 2

60348930861. 3

60348930862. 4

Question Number : 33 Question Id : 6034898222 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

In the context of DNS, ICANN (Internet Corporation for Assigned Names and Numbers) is responsible for maintaining ____.

1. The DHCP servers of each top level domain
2. The BGP gateways in each Internet domain
3. The under-water inter-continental sea links
4. The root DNS servers

Options :

60348930863. 1

60348930864. 2

60348930865. 3

60348930866. 4

Question Number : 34 Question Id : 6034898223 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

The current DNS has a ____ implementation and ____ management.

1. Single language, centralized
2. Hierarchical, distributed
3. Centralized, distributed
4. Distributed, SNMP

Options :

60348930867. 1

60348930868. 2

60348930869. 3

60348930870. 4

Question Number : 35 Question Id : 6034898224 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

DNS uses ___ for queries and ___ for replies.

1. UDP, UDP
2. RTP, TCP
3. UDP, RTP
4. RTCP, UDP

Options :

60348930871. 1

60348930872. 2

60348930873. 3

60348930874. 4

Question Number : 36 Question Id : 6034898225 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

A non-authoritative DNS server say a .com server should contain what type of entries pertaining to a company's domain?

1. Type DHCP record of the domain
2. Type NS record of the domain
3. Type A record of the hosts in the domain
4. Type MX record of the mailserver of the domain

Options :

60348930875. 1

60348930876. 2

60348930877. 3

60348930878. 4

Question Number : 37 Question Id : 6034898226 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

HTTP requests use ____, and replies use ____.

1. UDP, TCP
2. TCP, TCP
3. TCP, UDP
4. UDP, UDP

Options :

60348930879. 1

60348930880. 2

60348930881. 3

60348930882. 4

Question Number : 38 Question Id : 6034898227 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

In the context of HTTP, persistent connections refers to the use of:

1. Verified server certificate
2. Caching for some HTTP downloads
3. The same TCP connection for many HTTP objects
4. The same browser tabs at the HTTP client

Options :

60348930883. 1

60348930884. 2

60348930885. 3

60348930886. 4

Question Number : 39 Question Id : 6034898228 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Which ONE of the following HTTP header lines is absolutely essential for a web proxy to work?

1. If-Modified-Since
2. If-None-Match
3. 404 not found
4. Host

Options :

60348930887. 1

60348930888. 2

60348930889. 3

60348930890. 4

Question Number : 40 Question Id : 6034898229 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

An HTTP object refers to _____. (Choose the BEST option below)

1. Only HTML pages and not CSS files
2. Not HTML pages but only CSS files
3. An HTML page or an external CSS file
4. Only the web server certificate

Options :

60348930891. 1

60348930892. 2

60348930893. 3

60348930894. 4

Question Number : 41 Question Id : 6034898230 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Which ONE of the following is a HTTP method used to send HTML form data from the client to the server?

- 1. SEND
- 2. POST
- 3. UPLOAD
- 4. SAVE

Options :

60348930895. 1

60348930896. 2

60348930897. 3

60348930898. 4

Question Number : 42 Question Id : 6034898231 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

The header of a HTTP response uses ____ format of ____ size.

- 1. Text, fixed
- 2. Text, variable
- 3. Binary, fixed
- 4. Binary, variable

Options :

60348930899. 1

60348930900. 2

60348930901. 3

60348930902. 4

Question Number : 43 Question Id : 6034898232 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

A response code of HTTP 404 refers to:

1. A DNS lookup error of a web server's name
2. A response from a web server indicating success
3. The web server being unreachable due to network outage
4. The requested page/URL not found/available at the server

Options :

60348930903. 1

60348930904. 2

60348930905. 3

60348930906. 4

Question Number : 44 Question Id : 6034898233 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

In an HTML webpage there are two embedded JPG images. Which ONE of the following statements is TRUE?

1. Both JPG images have to come from a web proxy server
2. Both JPG images have to come from the same HTTP server as the main HTML
3. Both JPG images can come from different HTTP servers, but those servers have to be in the same domain
4. The JPG images and the main HTML can all come from three different HTTP servers

Options :

60348930907. 1

60348930908. 2

60348930909. 3

60348930910. 4

Question Number : 45 Question Id : 6034898234 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Which ONE of the following protocols can potentially be used by a mail user agent to get a user's emails?

1. UDP
2. SNMP
3. DHCP
4. POP

Options :

60348930911. 1

60348930912. 2

60348930913. 3

60348930914. 4

Question Number : 46 Question Id : 6034898235 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Which transport protocol is used by SMTP?

1. Only TCP
2. Only UDP
3. TCP for email headers and UDP for email body
4. TCP for main email and UDP for attachments

Options :

60348930915. 1

60348930916. 2

60348930917. 3

60348930918. 4

Question Number : 47 Question Id : 6034898236 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

A process P1 has been running on the CPU for a while, and at time= t_0 the OS decides that it is now time to schedule another process P2 as P1's turn with the CPU is now over (temporarily). Now when P2 is made to run by the OS, what is the STATE of P1? (Choose the BEST option below)

1. Blocked
2. Zombie
3. Ready
4. Forked

Options :

60348930919. 1

60348930920. 2

60348930921. 3

60348930922. 4

Question Number : 48 Question Id : 6034898237 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

In Linux, what does the system call `fork()` do?

1. Divide the process's stack into two pages
2. Spawn a child process
3. Create a new heap page for the process
4. Allocate a new CPU core for the process

Options :

60348930923. 1

60348930924. 2

60348930925. 3

60348930926. 4

Question Number : 49 Question Id : 6034898238 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Which ONE of the following best describes a “system call” in the context of a process running on a computer with an operating system?

1. A function call from the OS to the application program’s code
2. A function call from the OS code to the network interface card
3. A function call from application code into OS code
4. A function call from the application code to the hard disk

Options :

60348930927. 1

60348930928. 2

60348930929. 3

60348930930. 4

Question Number : 50 Question Id : 6034898239 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

In Linux, the programs run by the root-user _____. (Choose the BEST option below)

1. Do not execute any system call
2. Always run on core-0 of the CPU
3. Always use a single thread
4. None of the above options

Options :

60348930931. 1

60348930932. 2

60348930933. 3

60348930934. 4

Sub-Section Number : 2

Sub-Section Id : 603489297

Question Shuffling Allowed : Yes

Question Number : 51 Question Id : 6034898240 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Which ONE of the following CPU instructions is used to implement a system call?

1. Transfer
2. Runcore
3. Open
4. Trap

Options :

60348930935. 1

60348930936. 2

60348930937. 3

60348930938. 4

Question Number : 52 Question Id : 6034898241 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

In the context of an Operating System for a multi-user system, which ONE of the following is a synchronization mechanism?

1. Semaphore
2. Multi-core
3. Backdisk
4. Split

Options :

60348930939. 1

60348930940. 2

60348930941. 3

60348930942. 4

Question Number : 53 Question Id : 6034898242 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Which ONE of the following is an objective in an Operating System's process scheduling policy?

1. Maximizing network throughput
2. Minimizing process turn-around time
3. Maximizing disk free space
4. Maximizing the OS's swap space utilization

Options :

60348930943. 1

60348930944. 2

60348930945. 3

60348930946. 4

Question Number : 54 Question Id : 6034898243 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Which ONE of the following is used to store VA-PA (Virtual Address to Physical Address) mappings ?

1. Translation Lookaside Buffer (TLB)
2. Trie data structure
3. Inverted HashSet
4. Swap space

Options :

60348930947. 1

60348930948. 2

60348930949. 3

60348930950. 4

Question Number : 55 Question Id : 6034898244 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

In a process's virtual address space:

1. The stack grows from higher address toward lower address, while the heap grows from lower address to higher address
2. The stack grows from lower address toward higher address, while the heap grows from higher address to lower address
3. Both the stack and heap grow from higher address toward lower address
4. Both the stack and heap grow from lower address toward higher address

Options :

60348930951. 1

60348930952. 2

60348930953. 3

60348930954. 4

Question Number : 56 Question Id : 6034898245 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Which ONE of the following is a role of the OS during virtual-to-physical address translation?

1. Maintaining cache consistency
2. Maintaining information about which physical pages are free
3. Generating interrupts
4. Minimizing mapping files within max size

Options :

60348930955. 1

60348930956. 2

60348930957. 3

60348930958. 4

Question Number : 57 Question Id : 6034898246 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

In the context of paging in an OS, "external fragmentation" refers to:

1. Unusable space between pages
2. Unused space within pages
3. Break-up of a page into stack versus heap regions
4. Break-up of a page into stack frames

Options :

60348930959. 1

60348930960. 2

60348930961. 3

60348930962. 4

Question Number : 58 Question Id : 6034898247 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

In the context of memory paging, which ONE of the following terms refers to a partition of the hard disk where temporarily unused memory pages are stored? (Choose the BEST option below)

1. Boot sector
2. Swap space
3. Grub loader
4. Root folder

Options :

60348930963. 1

60348930964. 2

60348930965. 3

60348930966. 4

Question Number : 59 Question Id : 6034898248 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Which ONE of the following is shared across multiple threads of the same process?

1. PC (Program Counter)
2. File descriptors
3. Stack memory
4. CPU's floating point registers

Options :

60348930967. 1

60348930968. 2

60348930969. 3

60348930970. 4

Question Number : 60 Question Id : 6034898249 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Which ONE of the following best describes TestAndSet?

1. Check if a region of memory is free and set it to zero
2. A CPU instruction to implement mutual exclusion locks
3. Used to allocate free stack pages
4. Check for unused floating point registers

Options :

60348930971. 1

60348930972. 2

60348930973. 3

60348930974. 4

Question Number : 61 Question Id : 6034898250 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

In the context of cryptography, what is the modular inverse of 7 mod 13?

- 1. 1
- 2. 2
- 3. -7
- 4. -13

Options :

60348930975. 1

60348930976. 2

60348930977. 3

60348930978. 4

Question Number : 62 Question Id : 6034898251 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

In DES, each round key is of size (in bits):

- 1. 32
- 2. 48
- 3. 64
- 4. 128

Options :

60348930979. 1

60348930980. 2

60348930981. 3

60348930982. 4

Question Number : 63 Question Id : 6034898252 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Using English alphabets, monoalphabetic cipher key space is about:

1. 26
2. 26 power 2
3. 26 factorial
4. 2 power 26

Options :

60348930983. 1

60348930984. 2

60348930985. 3

60348930986. 4

Question Number : 64 Question Id : 6034898253 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Which among the following is NOT an advantage of modern cryptography, compared to classical cryptography?

1. Analyzed by best minds
2. Low cost in implementation
3. Can work over images, not just text
4. Secrecy of the algorithm gives better security

Options :

60348930987. 1

60348930988. 2

60348930989. 3

60348930990. 4

Question Number : 65 Question Id : 6034898254 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

In the context of server security, which type of defence is "logging and monitoring a server"?

1. Recover
2. Deter
3. Detect
4. Prevent

Options :

60348930991. 1

60348930992. 2

60348930993. 3

60348930994. 4

Question Number : 66 Question Id : 6034898255 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

In cryptoanalysis, global deduction means:

1. Finding the key
2. Finding an alternate algorithm that helps in decryption
3. Deriving plaintext (in full) from ciphertext
4. Deriving partial plaintext from ciphertext

Options :

60348930995. 1

60348930996. 2

60348930997. 3

60348930998. 4

Question Number : 67 Question Id : 6034898256 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

In CBC mode, if cipher block i is corrupted, which blocks of plaintext are also necessarily corrupted?

1. $i-1$
2. $i+1$
3. $i+k$ where k is the key length in bits
4. $i+k-1$ where k is the key length in bits

Options :

60348930999. 1

60348931000. 2

60348931001. 3

60348931002. 4

Question Number : 68 Question Id : 6034898257 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Which ONE of the following is true of Merkel-Damagard construction? c is a input to the compression function and d is the hash output.

1. c_0 has to be private
2. $c < d$
3. Compression function collision resistant means hash is collision resistant
4. Padding of messages is not allowed in hash construction

Options :

60348931003. 1

60348931004. 2

60348931005. 3

60348931006. 4

Question Number : 69 Question Id : 6034898258 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

If there are 23 people in a room, what is the chance two have the same birthday?

1. About 50%
2. About 25%
3. About 4%
4. About 1%

Options :

60348931007. 1

60348931008. 2

60348931009. 3

60348931010. 4

Question Number : 70 Question Id : 6034898259 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

For a 1000 bit message and 160 bit hash, how many messages on average map to the same output?

1. 160
2. 2 power 160
3. 840
4. 2 power 840

Options :

60348931011. 1

60348931012. 2

60348931013. 3

60348931014. 4

Question Number : 71 Question Id : 6034898260 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Which ONE of the following observations is/are correct with respect to error functions?

1. The sum of squares error function is more sensitive to outliers than the sum of absolute values error function
2. The sum of cubes error function is preferred to the sum of squares error function
3. The sum of absolute values error function is differentiable at all values of w
4. The sum of absolute values error function is discontinuous at some value of w

Options :

60348931015. 1

60348931016. 2

60348931017. 3

60348931018. 4

Question Number : 72 Question Id : 6034898261 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Which ONE of the following statements is correct?

1. Maximum likelihood Estimation (MLE) takes into account prior belief/knowledge about the parameters
2. Maximum Aposteriori estimation (MAP) takes into account prior belief/knowledge about the parameters
3. Maximum Likelihood Estimate of a parameter will always be lower than the Maximum Aposteriori estimate
4. Maximum Likelihood Estimate of a parameter will always be higher than the Maximum Aposteriori estimate

Options :

60348931019. 1

60348931020. 2

60348931021. 3

60348931022. 4

Question Number : 73 Question Id : 6034898262 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Suppose you are given the following prior probabilities for coin with parameter p as the probability of heads. p has only two possible values as per the prior: $\Pr(p=0.4) = 0.6$ and $\Pr(p=0.8)=0.4$. We observe three coin tosses landing twice on heads and once on tail. Use this prior to find the MAP estimate of p instead of the MLE estimate.

1. 0.4
2. 0.8
3. 0.25
4. 0.5

Options :

60348931023. 1

60348931024. 2

60348931025. 3

60348931026. 4

Question Number : 74 Question Id : 6034898263 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

What kind of behavior is expected when a graph between mean squared error (on the test set) and degree of polynomial to fit is plotted?

1. Monotonically increasing
2. Monotonically decreasing
3. First increases then decreases
4. First decreases then increases

Options :

60348931027. 1

60348931028. 2

60348931029. 3

60348931030. 4

Question Number : 75 Question Id : 6034898264 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Regression is called linear when:

1. It is capable of fitting y as a linear function of x
2. It is linear in the w vector
3. It can address linearly separable dataset
4. Error decreases linearly with dataset size

Options :

60348931031. 1

60348931032. 2

60348931033. 3

60348931034. 4