NPTEL Online Certification Courses

Indian Institute of Technology Kharagpur

Google Cloud Computing

(Jul-Oct 2024)

Assignment- Week 0

TYPE OF QUESTION: MCQ/MSQ

Number of questions: **10**   Total mark: 10 X 1 = 10

QUESTION 1:

Which is/ are not the primary functions of a typical command interpreter?

a) to provide the interface between the API and application program
b) to handle the files in the operating system
c) to get and execute the next user-specified command
d) to validate the command provided by the user

Correct Answer: (a), (b)
Detailed Solution: The primary function of a command interpreter is to get and execute the next user-specified command. Command Interpreter checks for valid command and then runs that command else it will throw an error.

QUESTION 2:
Which device(s) need(s) the physical addressing (MAC address) system to forward/ route network packets?
   a) Hub
   b) Router
   c) Bridge
   d) Switch

Correct Answer: (b), (c), (d)
Detailed Solution: Router, Bridge, Switch use physical addressing system to route/ forward packets.

QUESTION 3:
Which of the following is FALSE?
   a) Kernel level threads cannot share the code segment.
   b) User level threads are not scheduled by the kernel.
   c) Context switching between user level threads is faster than context switching between kernel level threads.
   d) When a user level thread is blocked, all other threads of its process are blocked.

Correct Answer: (a)

Detailed Solution: Kernel-level threads can share code segments. So, A is FALSE. User level threads are scheduled by the thread library and the kernel is not involved. So, B is TRUE. Context switching between user level threads is faster as they have no actual context-switch, nothing is saved while for kernel level threads, Registers, PC and SP must be saved and restored. So, C is TRUE. When a user level thread is blocked, all other threads of its process are blocked. So, D is TRUE.

QUESTION 4:

In classful addressing, the IP address **172.16.52.63** belongs to which class?
  a) Class A
  b) Class B
  c) Class C
  d) Class D

Correct Answer: (b)
Detailed Solution: In Class B, IP addresses range from 128.0.0.0 to 191.255.255.255.

QUESTION 5:

In Operating Systems, which of the following is/are CPU scheduling algorithms?
a) Priority
b) Minimum Cost Spanning Tree
c) Shortest Job First
d) Shortest Path

Correct Answer: (a) and (c)

Detailed Solution: In Operating Systems, CPU scheduling algorithms are:

i) First Come First Served scheduling; ii) Shortest Job First scheduling; iii) Priority scheduling; iv) Round Robin scheduling; v) Multilevel Queue scheduling; vi) Multilevel Feedback Queue scheduling

QUESTION 6:
Which of the following is/are example(s) of DBMS?
a) MySQL
b) Tableau
c) Microsoft Access
d) Google search engine

Correct Answer: (a) and (c)

Detailed Solution: MySQL and Microsoft Access are database management systems while Google is a search engine, and Tableau is a data visualization and analytics software. MySQL is a Linux-based database management system, Microsoft Access is a tool that is a part of Microsoft Office used to store data.

QUESTION 7:

Match the following columns for the TCP/IP protocol stack:

Protocol	TCP/IP Layer
1. IP 2. UDP 3. SMTP 4. PPP	A. Transport Layer B. Application Layer C. Data link Layer D. Network Layer

a) 1-D, 2-A, 3-B, 4-C
b) 1-C, 2-A, 3-D, 4-B
c) 1-B, 2-C, 3-A, 4-D
d) 1-A, 2-C, 3-D, 4-B

Correct Answer: (a)

Detailed Solution: IP is a network layer protocol, UDP is a transport layer protocol, SMTP is an application layer protocol and PPP is a data link layer protocol. Hence option (a) is correct.

QUESTION 8:

Which of the following is NOT a core function of the DBMS?
a) Storing data
b) Providing multi-users access control
c) Data Integrity
d) Data Visualization

Correct Answer: (d)

Detailed Solution: The purpose of creating DBMS was to store the data. The data stored in the database management system can be can accessed by multiple users if the access is provided. The data stored will be accurate and complete hence providing data integrity. However, data visualization is not a core function of DBMS.

QUESTION 9:

The transport layer protocols used for: real time multimedia, file transfer, DNS and email, respectively are:

a) TCP, UDP, UDP and TCP
b) UDP, TCP, TCP and UDP
c) TCP, UDP, TCP and UDP
d) UDP, TCP, UDP and TCP

Correct Answer: (d)
Detailed Solution:
1. For real-time multimedia applications the packets must be delivered faster. Small packet losses are not important. Hence UDP is used.
2. For file transfer applications, FTP is used which relies on TCP.
3. Domain Name Server (DNS) generally employs UDP as its underlying transport layer protocol.
4. E-mail employs SMTP which also uses TCP.

Hence, option (d) is correct.

QUESTION 10:

In OSI network architecture, the error handling is managed by:

a) Network Layer
b) Transport Layer
c) Data Link Layer
d) Session Layer

Correct Answer: (c)
Detailed Solution: In OSI network architecture, error handling is managed by the data link layer using checksums and bit stuffing.