نماذج الاختبارات الشهرية

تجميع :

نور الجفري & فاطمة عاشور

بسم الله الرحمن الرحيم

HADHRAMOUT UNIVERSITY
COLLEGE OF COMPUTERS & INFORMATION TECHNOLOGY
MONTHLY EXAM 1

Academic year: 2021-2022
Day and Date:
Examiner: *Zaher Bamasood*
Time allowed: 1 hours

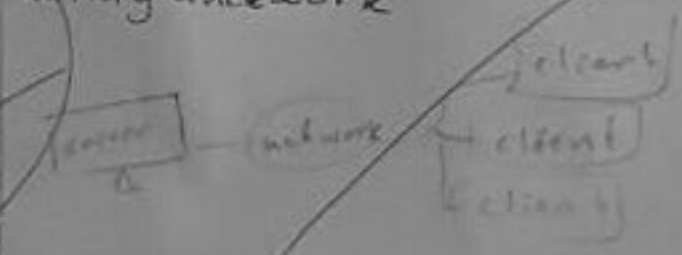
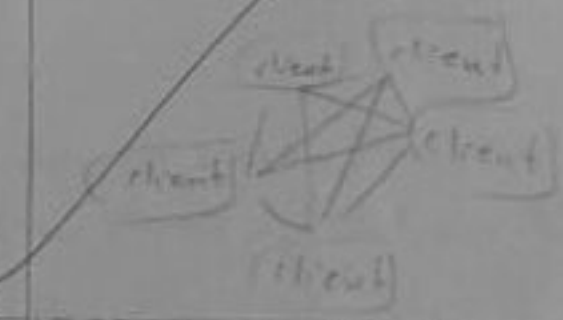
Exam Semester: 2nd
Level: 2 *(General)*
Department: IT
Subject: OS

Name: [redacted]

Q1. Choose the correct answer [10 Marks]

1. .....occurs when the CPU switches from one process to another.
   a. device controller
   b. waiting state of a process
   c. context switch
   d. Timer
2. ..... is a technology that happen when a mobile make a moving like titling, rotating, and shaking
   a. GPS
   b. gyroscope
   c. augmented reality
   d. IEEE 802.11 wireless
3. device controller has .....and local buffer
   a. cash
   b. device driver
   c. interrupt
   d. registers
4. Timer is needed to prevent .....infinitely
   a. process hogging resources
   b. measuring CPU speed
   c. Load time
   d. middleware overhead
5. ..... is a program that acts as an intermediary between a user of a computer and the computer hardware
   a. Application programs
   b. Programming Language
   c. Firewall
   d. OS

Q2. Describe the differences between the concepts mentioned below: [6 Marks]

Client-Server	Peer-to-Peer
it has a server which provides servesss to client and they interlated during anetwork 	it just has actients without server and theyshared informations 
Asymmetric Multiprocessing	Symmetric Multiprocessing
each ~~the~~ processor is assigned ~~one~~ aspecie task to execute.	each processor perform all task.

Q3. Draw the diagram of Representation of Process Scheduling? [5Marks] —>

Q4. Explain ONLY THREE of following: [9Marks]

1. PCB
2. Cloud Computing
3. trap
4. Dual Mode

Q1. Fill the table below with a suitable selections: [12Marks]

a) Mode bit b) Program c) context switch e) middleware f) Operating System g) bus h) device controller i) Process j) Timer k) firewall l) PCB m) iOS n) Client Server o) real time

No.	Letter	Description
1	e	is a set of software frameworks that provide additional services to application developers such as databases, multimedia, graphics
2	m	has only a single foreground process executed and controlled via user interface
3	h	has device driver and local buffer
4	o	provides ability to distinguish when system is running user code or kernel code.
5	j	is needed to prevent infinite loop (or process hogging resources)
6	k	is used to protect home computers from Internet attacks

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Q2. Describe the differences between the concepts mentioned below: [6 Marks]

Trap	Interrupt
the trap is a software generated interrupt caused either by error (ex. divik by zero or invaild memory access) or request servies system o fa user program (system call) 3	the interrupt either signal sending by hardware to CPU or Special operation (called a systemcall or a monitor call) tigyed by software.
In Message Passing: Blocking	**In Message Passing: Non-Blocking**
Blocking is synchronous - Blocking send: is a sender blocked until mesage recive. 3 - Blocking recive: is a reciver blocked until mesage available.	Non-Bloking is asynchronous . Non-Blocking send: sender sends mesage and coutiue. . Non Blocking recive: reciver recive: - vaild mesage - Null mesage

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Q3. Show how CPU Switch from Process to Process (with drawing)? [3Marks]

Q4. Explain ONLY THREE of following: [9Marks]

1. **Data structure of Ready and Waiting Queues**
2. ***augmented reality***
3. **Real-Time Embedded**
4. **Advantages of Multiprocessing**
5. **Cloud Computing**

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Q1. Put T for true statements otherwise F. [8Marks]

1. **From System View, resource allocator is not important**
2. **In general iOS and Android cant run more than one foreground processes at the same time**
3. to prevent infinite loop, OS needs to Timer
4. **some *system* programs are not associated with the operating system.**

Q2. Describe the differences between the concepts mentioned below: [6 Marks]

Asymmetric Multiprocessing	Symmetric Multiprocessing
In Message Passing: Blocking	**In Message Passing: Non-Blocking**

Q3. How does the distinction between kernel mode and user mode? (with Drawing) [4Marks]

Q4. Explain the following: [12Marks]

1. **System Calls**
2. ***Context Switch***
3. **Process State**
4. ***augmented reality***

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Subject: Operating Systems

كلية الحاسبات وتقنية المعلومات

First Monthly Test

28/30 Excellent

Date: 29/6/2021

Name: [redacted]

Dept: IT General

(B)

Q1) Put (✓) or (×) for the following statements: [marks = 10] 9

1- Command-Line (CLI) is a service provided by OS and it is helpful to the system itself. (×)
2- Passing system call parameters onto stack is better than register because the limitation of the number of parameters. (✓)
3- Before a process become in the ready state, it is called a program not process. (✓)
4- kernel is the one program running at all times on the computer. (✓)
5- User interface is used to contact with OS services directly without any interface. (×)
6- Ready queue is implemented by using linked list and PCB. (✓)
7- Medium-term scheduler performs swapping-in and swapping-out the processes between job queue and disk. (×)
8- Operating system is a program that acts as an intermediary between a user of a computer and the computer hardware. (✓)
9- Among all types of computers, operating systems do the same job. (✓)
10- When CPU wants to switch from process to another process, it performs saving and reloading operations to the PCB's of the processes. (✓)

Q2) Choose the correct answer for the following: [marks = 15] 13

1- When each processor is assigned a specie task, it refers to:
a) Symmetric multiprocessing b) Asymmetric clustering (c) Asymmetric multiprocessing

2- When a process waits for the execution of its child process, it is kept in:
a) Running queue (b) Ready queue c) Waiting queue

3- Resource allocator and program controller are definitions of:
(a) Operating system b) Computer system c) Scheduling system

4- Which one of the following is an example of user interface?
a) Kernel b) System call (c) Batch