



Faculty of Computers & Artificial Intelligence

2st Term (2019-2020) Final Exam

Class: 2nd year Medical informatics program

Course Code: MCS223

Course name: Operating systems



Benha University

Final Date: 7 / 6 /2020

Total Marks: Pass / Fail

Examiner(s): Dr. Ahmed Elsayy

Research submission: From 31 May to 7 June 2020

a) **Write a research project in ONE of the following topics:**

Topic No. 1

An operating system provides the environment within which programs are executed. Internally, operating systems vary greatly in their makeup. Write a research that explain the different operating system structures and discuss the advantage and disadvantage for each structure.

Research title "Operating system structures"

Topic No. 2

CPU scheduling is the basis of multi-programmed operating systems. By switching the CPU among processes, the operating system can make the computer more productive. Write a research introduce basic CPU-scheduling concepts and present several CPU-scheduling algorithms. And explain advantage and disadvantage for each algorithm.

Research title "CPU scheduling"

Topic No. 3

To improve the utilization of the CPU and the speed of the computer's response to its users must keep several processes in memory and must share memory. Write a research that discuss various ways to manage memory and discuss each approach has its own advantages and disadvantages.

Research title "Memory management"

Topic No. 4

For a multiprogramming system with many processes, the disk queue may often have several pending requests. Write a research that discuss various algorithms to manage the disk and discuss each algorithm has its own advantages and disadvantages.

Research title "Disk scheduling"

b) **Notes:**

- **First: please, your research must contain the following elements:**

- a) Research cover
- b) Research name
- c) Introduction

- d) Content (explain the methods and algorithms that dealt with the research problem)
- e) Discussion (Analyze and compare the methods and algorithms that were presented in the previous section in terms of advantages and disadvantages)
- f) Conclusion
- g) References

- **Second: General rules:**

- 1- Research font: Times New Roman
- 2- The search name has a size of 16 bold
- 3- Headlines with a size of 14 is bold, and the numbering is as follows 1., 2., ...
- 4- Subtitles with a size of 12 bold, and the numbering is as follows 1.1, 1.2,
- 5- The text size 12
- 6- References size 10
- 7- The distance between the lines is 1.15
- 8- The tables are numbered and written like Table 1: Table 2: ... is. The title is above the table in the middle.
- 9- The pictures are numbered and written Figure 1:, Figure 2:, ... and the title is at the bottom of the image in the middle
- 10- The references are numbered according to the order in which they are used by research
- 11- When using or referring to any part of a reference, the reference number in the paragraph is written like this [1] and this means reference No. 1
- 12- In the references section, the reference is written as follows:

Authors name, "reference name", Publisher (journal name or conference name or book publisher), (volume for papers or edition for books), pages for papers.
- 13- Number of pages between 8 to 12 pages.
- 14- The search will be sent as a PDF.

GOOD LUCK,

Examiner(s)
Assoc. Prof. Ahmed Elsayy

Head of Departement /
Program Coordinator