

**FAST-National University of Computer and Emerging Sciences (NUCES)**  
**Chiniot-Faisalabad Campus**

## **Assignment 1**

Course/Topic	Course Instructors
<b><u>CS 2006 Operating Systems</u></b> <b><u>Topic Chapter 1 Chapter 2</u></b> <b><u>Total Marks = 90</u></b>	Mr. Tahir Farooq Mr. Haseeb Arshad Ms. Mahzaib Younas Ms. Rukhsana Zafar Ms. Juhinah Batool Ms. Ayesha Liaqat

### **Assignment Guidelines:**

- Deadlines should be kept in mind. No extension in assignment dates would be given. No late submission will be accepted.
- This is an individual assignment. **PLAGIARISM IS NOT ACCEPTABLE AT ALL!** Zero marks will be given in case of plagiarism.
- Deadline = 11-09-2024, Deadline is hard and firm.**

**Q.1: Define an Operating System and its primary functions. [5 + 10 = 15 Marks]**

- Explain the basic objective/need of operating system. Also, discussed which type of problem can be resolve by using OS.
- Describe all basic functionalities of the operating system also provide the detail of each function.

**Q.2: Discuss the layered approach to Operating System design. [5 + 10 = 15 Marks]**

- Discuss the view of operating system at abstract level.
- What is dual mode system. How can we differentiate it from simple system. Explain with the help of example.

**Q.3: Analyze the evolution of operating systems and their impact on modern computing environments. [15 + 5 = 20 Marks]**

- Discuss different architectures of Operating system, also describe the pros and cons of each model.
- Why we need cloud computing environment also discuss the types and service of cloud computing.

***Q.4 Explain the concept of system calls.***

**[5 + 5 = 10 Marks]**

- What are system calls, and why are they important in operating systems?
- Discuss process control system and also explain its functionalities.

***Q.5: Describe the kernel's role in handling system calls.***

**[10 Marks]**

- How does the kernel handle system calls from user applications? What is the difference between system call and API.

***Q.6: Identify and explain essential services provided by an Operating System.*** [ 5 Marks]

- Explain the user level and kernel level services of operating system.

***Q.7: What are system calls, and how can a user produce a system call?*** [ 5 + 5 = 10 Marks]

- Why do we need parameter passing in system calls, also discuss the types of parameters passing.
- Explain the concept of linker and loader with the help of an example.

***Q.8: What are system programs, and how do they differ from system calls?*** [ 5 Marks]

- What system calls have to be executed by a command interpreter or shell in order to start a new process on a UNIX system