Course Code: CIT752   *Course Title:* Operating Systems Concept
Instruction: *Answer Question (1) (22 marks) and any other four questions each carrying 12 marks*
Credit Units: 3   **Time:** *2½ hours*

1a) What is scheduling? *(2 marks)*
b) Briefly describe the types of scheduling   *(8 marks)*
c).Enumerate the specific tasks perform by process scheduler stating the mechanism responsible for each task? *(8 marks)*
d) List the important features that distinguish one network from the other *(4 marks)*

2a) Enumerate reasons for providing an environment that allows process co-operation *(6 marks)*
b) Operating system usually comes in two interfaces, state and describe each.   *(6 marks)*

3a) Briefly explain the three types of internetwork addresses *(9 marks)*
b) List the different approaches to open loop *(3 marks)*

4a) Calculate the CRC for the data polynomial $x^4 + x^2 + x + 1$ where the generator polynomial is
    $x^3 + 1$ *(8 marks)*
b) What is thrashing? State two causes of thrashing. *(4 marks)*

5a) In asynchronous communications, a typical frame for transmitting character data has four components. Enumerate them. *(6 marks)*
b) List the components of a X.509 Certificate *(2 marks)*
c) List the important multiplexing mechanism at the Transport Layer and explain how they are different from each other.   *(4 marks)*

6a)   State any five differences between the OSI model and the TCP/IP model   *(10 marks)*
b) What is instant messaging? What are its vulnerabilities? *(2 marks)*

7a) State the conditions under which a parent process may terminate the execution of a child process. *(3 marks)*
b) Write short notes on Translation Lookaside buffer   *(6 marks)*
c) List the issues for co-operating processes *(1½ marks)*
d) List the components/content of the Thread Control Block (TCB). *(1½ marks)*