Anurag University

B Tech III Year I-Semester Supplementary Examinations, May-2023
Course: Computer Systems-II
(Only for AI & AIML)

Time: 3 Hours   **Max Marks: 60**
Section –A (Short Answer type questions)
- **Answer all questions:**   **(10 x 2 =20 Marks)**

1. What does barebones computer system mean?
2. List the three basic types of services provided by operating system.
3. Distinguish between logical view and physical view of a file.
4. Comparison between contiguous storage allocation and Non-contiguous storage allocation.
5. What are the primary operating states of a process and show the relationship between the different process states?
6. Compare Preemptive and Nonpreemptive Algorithms.
7. What is the impact of networking on business processes and user access to knowledge and services?
8. With a neat diagram explain Local Area Network (LAN).
9. Differentiate between hub based Ethernet and switched Ethernet
10. Compare TCP and UDP Protocol.

Section—B (Essay answer type questions)
- **Answer all questions:**   **(5 x 8 =40 Marks)**

11. A) i) Draw the diagram for modern integrated computer environment. Explain the major capabilities of operating system.   4M
    ii) Write a short note on Hierarchical Model of an OS.   4M
                                     OR
    B) i) Explain operating system's user Interface and Command Execution Services.   4M
       ii) Compare various types of computer systems in use.   4M

12. A) i) With a neat diagrams explain Tree-Structured Directories.   5M
       ii) Explain bit map method used for free storage space management.   3M
                                     OR
    B) i) Explain various techniques used for free space management.   4M
       ii) "The file management system is commonly called the file manager" justify your answer.   4M

13. A) i) Explain about high level scheduler and dispatching.   4M
       ii) What is the significance of page replacement algorithm. Explain any one in detail.   4M
                                     OR
    B) i) Explain the two different forms of memory partitioning and compare both.
                                                                      4M
       ii) What are the services provided by Network Operating system.   4M

14. A) i) Write briefly about basic data communication concepts Message and
      Packets.   4M
    ii) Define Network topology. Explain various types of network topologies
      with a neat diagram.   4M

<div align="center">OR</div>

  B) i) Explain why there is a need for data communication standards.   3M
    ii) What are the numerous ways to categorize networks. Explain any one in
      detail.   5M

15. A) i) Draw and explain the Layers and protocols of the TCP/IP Network Model.
                   4M
    ii) Explain three-way handshake connection establishment in TCP.   4M

<div align="center">OR</div>

  B) i) Draw and explain TCP Segment format.   4M
    ii) Write briefly about Quality of service(QoS).   4M