BNBUSIT1T3 / 02 / 2023

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Duration: 2 Hours **[Total Marks: 60]**

N.B.: 1. All questions are compulsory.
2. Make suitable assumptions wherever necessary and state the assumptions made.
3. Answers to the same question must be written together.
4. Numbers to the right indicate marks.
5. Draw neat labelled diagrams wherever necessary.
6. Use of Non-programmable calculators is allowed.

Q. 1 **Answer *ANY FOUR* of the following:** **16 M**

a What is Operating system? What are the different services provided by Operating system?
b Discuss different types of Operating system.
c Discuss the layered architecture of operating system.
d Explain the concept of virtual memory.
e Explain different states of process with proper diagram.
f What is thread? Explain kernel level thread.
g Write short notes on Paging
h What are the different types of schedular in Operating system.

Q. 2 **Answer *ANY FOUR* of the following:** **16 M**

a Explain different file operations with example.
b Explain the concept of Power management.
c Write short note on DMA.
d Discuss the conditions for Deadlock prevention.
e What do you mean by distributed system? Briefly explain its use and advantages.
f What is multicomputer? Explain in brief.
g Briefly discuss about Memory mapped I/O.
h Explain various ways of recovery from Deadlock

Q. 3 **Answer *ANY FOUR* of the following:** **16 M**

a What is Virtualization? Briefly explain the need of Virtualization.
b Explain Type-1 and Type-2 hypervisors.
c Explain the characteristics of Cloud.
d Briefly explain Memory virtualization.
e Discuss the memory management in Linux.
f Explain Linux file system.
g Discuss memory management in Windows.
h Explain the security in windows.

Q. 4 **Answer *ANY THREE* of the following:** **12 M**

a Write short notes on Segmentation
b Write note on RAID.
c Discuss IPC Problems of Operating System.
d Explain History of windows through Windows 10.
e What is DeadLock ? Explain with Example.
f List and Explain Principles of I/O software,

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