

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

Supplementary Examination Summer2023

**Course: B. Tech.Branch :Electronics and Computer Engineering
/Electronics and Computer Science Engineering Semester :III**

Subject Code & Name: BTESC304 & Computer Architecture & Operating Systems

Max Marks: 60 Date: 18/08/2023 Duration: 3 Hr.

Instructions to the Students:

- 1. All the questions are compulsory.*
- 2. The level of question/expected answer as per OBE or the Course Outcome (CO) on which the question is based is mentioned in () in front of the question.*
- 3. Use of non-programmable scientific calculators is allowed.*
- 4. Assume suitable data wherever necessary and mention it clearly.*

(Level/CO) Marks

Q. 1 Solve Any Two of the following.		12
A) State the difference between computer organization and architecture?	CO1	6
B) Explain in detail different types of addressing modes with example of each?	CO1	6
C) What are the different types of operands explain with examples?	CO1	6
Q.2 Solve Any Two of the following.		12
A) Explain in detail block diagram of memory management unit (MMU) and explain different functions performed by it?	CO2	6
B) Explain Page Replacement algorithms 1) Not recently used (NRU) 2) Least Recently used (LRU)	CO2	6
C) Write a short note on 1) RAID Memory 2) Optical memory	CO2	6
Q. 3 Solve Any Two of the following.		12
A) With a neat sketch explain the block diagram of Direct memory access (DMA) controller?	CO3	6
B) Explain the concept of Parallel processing by using Symmetric multiprocessor?	CO3	6
C) Explain I/O channels and processors?	CO3	6
Q.4 Solve Any Two of the following.		12
A) State and explain different functions performed by Operating System (OS)?	CO4	6
B) State the scheduling criteria and explain any one scheduling algorithm in details with diagram?	CO4	6
C) Write a short note on 1) Process and thread 2) Cooperating processes	CO4	6

Q. 5 Solve Any Two of the following.

12

A) What is deadlock and explain different methods for handling Deadlocks?

C05

6

B) Explain the concept of semaphore? State its types?

C05

6

C) Draw and explain concept of Process Synchronization?

C05

6