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| DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE Supplementary Examination Summer 2024 Course: B. Tech. Semester:III Branch : Electronics and Computer Engineering / Electronics and Computer Science Engineering Subject Code & Name: BTESC304_EC Computer Architecture & Operating System Max Marks: 60 Date: 06/07/2024 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) | Give the comparison between computer organization and computer architecture. | 1/CO1 | 6 |
| B) | Explain different types of addressing modes. | 2/CO1 | 6 |
| C) | Explain RISC and CISC architecture. | 3/CO1 | 6 |
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| Q.2 | Solve Any Two of the following. | | 12 |
| A) | What are the different issues related in cache memory? How does cache memory works? | 2/CO2 | 6 |
| B) | State the characteristics of Magnetic disk, optical memory and RAID. | 3/CO2 | 6 |
| C) | Explain Principle of operation of paging and Page allocation Hardware support for paging, | 4/CO2 | 6 |
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| Q. 3 | Solve Any Two of the following. | | 12 |
| A) | List the applications of Microprogramming. | 1/CO3 | 6 |
| B) | Why does an assembly line in a manufacturing plant refer to as pipelining. Discuss the need of instruction pipe-lining. | 3/CO3 | 6 |
| C) | Explain programmed I/O module and Interrupt driven I/O. | 4/CO3 | 6 |
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| Q.4 | Solve Any Two of the following. | | 12 |
| A) | What is operating system ? Give objectives and functions of Operating System (OS). | 1/CO1 | 6 |

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| B) | Explain Multiple-Processor Scheduling in detail. | 3/CO4 | 6 |
| C) | What are the advantages of Threads over process . Explain the types of Threads. | 4/CO4 | 6 |
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| Q. 5 | Solve Any Two of the following. | | 12 |
| A) | What is the purpose of using semaphores in synchronization ? | 4/CO5 | 6 |
| B) | What is the key factor in preventing deadlocks in a system? | 5/CO5 | 6 |
| C) | What are the different Methods for handling Deadlocks? | 2/CO5 | 6 |
| | *** End *** | | |