Reg.No. \_\_\_\_\_\_\_\_\_\_\_\_



**End Semester Examination – Nov/Dec – 2017**

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| **Code :** | **14CS2050** | **Duration :** | **3hrs** |
| **Sub. Name :** | **UNIX ARCHITECTURE** | **Max. marks :** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

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| Q. No. | Sub Div. | Questions | Course  Outcome | Marks |
| 1. | a. | Illustrate with a block diagram the working of kernel and explain its various subsystems. | CO1 | 10 |
| b. | Summarize process management in Unix Systems. | CO1 | 10 |
| (OR) | | | | |
| 2. | a. | Elucidate the structure of the buffer pool and discuss about various buffer cache mechanism adopted by Unix kernel. | CO1 | 15 |
| b. | List the advantages and disadvantages of buffer cache. | CO1 | 5 |
|  |  |  |  |  |
| 3. |  | Explain algorithm of converting the Byte offset into Block number in file system. A process wants to access byte offset 3,32,000 in a file. Calculate the levels of indirection, block number and byte number. (Assume that a logical block on the file system holds 1k bytes and that a block number is addressable by a 32 bit integer) | CO1 | 20 |
| (OR) | | | | |
| 4. |  | Discuss any 5 system calls related to file with the algorithms and diagrams that depicts their relationship with processes | CO2 | 20 |
|  |  |  |  |  |
| 5. |  | Describe various process states and its life cycle with a neat sketch. | CO1 | 20 |
| (OR) | | | | |
| 6. |  | Explain the Process Scheduling in UNIX system with algorithm and example. | CO3 | 20 |
|  |  |  |  |  |
| 7. |  | Evaluate the swapping process in memory management with the necessary algorithm. | CO3 | 20 |
| (OR) | | | | |
| 8. |  | Discuss the system calls related to Time and explain the working of clock interrupt handler. | CO3 | 20 |
|  | | **Compulsory**: |  |  |
| 9. |  | Describe what are sockets and their use in network programming. | CO3 | 20 |

ALL THE BEST