

**INDIAN INSTITUTE OF TECHNOLOGY TIRUPATI
PROFORMA FOR NEW COURSE**

1.	Title of the Course	Operating Systems Laboratory
2.	Course Number	CS3193
3.	Status of the Course	Core
4.	Structure of Credits	0-0-3-2
5.	Offered To	UG
6.	New Course/Modification to	New
7.	To be Offered by	Department of Computer Science and Engineering
8.	To take effect from	July 2018
9.	Prerequisite	Nil
10.	Whether approved by the Department	Yes
11.	Course Objective: To provide a hands-on experience of various operating system concepts of process creation and management, memory management and message passing, storage management and file systems.	
12.	Course Content: Introduction to Operating System (OS) services, and data structures used in OS services modeling; Process management: Process creation, context switching, scheduling, clock management, process suspension and resumption; Process synchronisation: Semaphores and mutual exclusion; Message passing: Inter-process communication and high-level message passing using ports; Deadlock characterisation, detection and avoidance; Memory management: Low-level memory management, buffer pool, virtual memory management; Storage management: Disk structures, file systems implementation, file management techniques, and input-output systems.	
13.	Text book(s): 1. Comer D, <i>Operating System Design: The Xinu Approach</i> , CRC (2015).	
14.	Reference(s): 1. Love R, <i>Linux System Programming</i> , O' Reilly (2017). 2. Silberschatz A, Galvin P and Gagne G, <i>Operating System Concepts with Java</i> , John Wiley and Sons (2008).	