

INDIAN INSTITUTE OF TECHNOLOGY TIRUPATI
PROFORMA FOR NEW COURSE

| | | |
|-----|--|--|
| 1. | Title of the Course | Computer Networks Laboratory |
| 2. | Course Number | CS3292 |
| 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 practical knowledge on conceptual understanding, design, and evaluation of different standard network layer protocols, and study their performances. | |
| 12. | Course Content: Introduction to different network-related tools and commands; Physical layer: Amplitude, frequency, and phase modulation and demodulation techniques; Link layer: Cyclic redundancy check, and modelling and simulation of random medium access control protocols; Network layer: Checksum, subnetting, routing, virtual local area network, and network address translation; Transport layer: Socket programming, simulation and performance study of user datagram and transmission control protocols; Application layer: Hypertext transfer protocol, simple mail transport protocol, dynamic host configuration protocol, and domain name service; Wireshark: packet filtering and analysis; Designing and functionality study of firewall and proxy servers. | |
| 13. | Text book(s): 1. Chappel L, <i>Troubleshooting with Wireshark</i> , Wireshark Solutions Series Book (2014). 2. Kurose J and Keith Ross, <i>Computer Networking: A Top Down Approach</i> , Pearson (2016). | |
| 14. | Reference(s): 1. Stevens R, Fenner B and Rudoff A, <i>Unix Network Programming - Vol I</i> , Pearson (2015). | |