BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE, Pilani
Hyderabad Campus
Computer Science

Date: 2nd Aug 2016

FIRST SEMESTER 2016-2017
LAB and Open Book Evaluation Plan

In addition to Part I (General Handout for all courses appended to the timetable) and course hand out part II, this portion gives specific details about lab work and take home evaluative components for the course for students in Hyderabad Campus.

Course No.: CS G525
Course Title: Advanced Computer Networks
Instructor(s): **Abhishek Thakur (Hyderabad Campus)**
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Course web page: For Labs and Open Book Evaluation - http://cms.bits-hyderabad.ac.in

Objective: engage ourselves in industry relevant networking research and contribute to Open Source.

Module No.	Topics	Study / Lab Focus
M1	**Internet Design & Architecture:**	✓ Simulations to understand the current design choices. [NS3] ✓ Linux commands and tools that help in Networking. [Wireshark, IP Tables, tunnels and bridges] ✓ Akamai's SOTI report and Cisco's Reports
M2	**Network Traffic Control & Management:**	✓ Wireless sniffing, WiFi AP. ✓ Erricson or similar wireless communications report ✓ Simulations in Wireless Communication ✓ Multi-node routing + VLAN
M3	**Software Defined Networks (SDNs):**	✓ Gartner or IDC data center reports. ✓ Simulate / Implement / Program SDNs
M4	**Delay Tolerant Networks(DTNs):**	✓ 5G Adoption reports, Device 2 Device based communication. ✓ Simulate DTN.
M5	**Overlay Networks & Applications:**	✓ Deploy P2P apps ✓ Explore BlockChains ✓ NetFPGA

Lab Weekly Plan:

Week. No.	Read / Discuss / Demo	Hands On
1	Akamai's SOTI	Wireshark, Tunnels, IPTables, VM – QEMU/ KVM, nmap, traceroute etc.
2	TCP/IP RED	NS3 – install build and run topologies with multimode and TCP/IP
3	Industry perspective on 802.11 - WiFi	NS3 simulations in Wireless;
4	Prepare for Assignment 1	Prepare for Project proposal
5	Present Assignment 1	Discuss project proposals + Advanced discussions on simulations.
6	IDC / Gartner Data Center related reports	Identify tools and environment for project
7	Present Assignment 2	Discuss project goals and plan
8	Test series	Implement project
9	Present Assignment 3	Explore SDN options
10	Analyse SDN alternatives	Deploy SDN simulators or SDN product
11	Present Assignment 4	Project Demo Initial
12	NetFPGA – explore and run existing projects	
13/14		Final project Demo and Report

Evaluation Scheme:

EC No.	Evaluation Component	Duration (hrs)	Weightage(%)	Date & Time	Nature of Component
1.	Mid Semester Test	1.5	20		Close Book
2.	Term Project/Assignment(s)*	NA	35		Open Book
3.	Comprehensive Examination	3	35		Close Book
4.	Classroom Discussions/Quizzes/Discussion Forum on NALANDA	NA	10		Open Book

15% weightage to Assignment – Best 3 out of 4
20% weightage to Project – Proposal – 2%, Plan – 5%, Basic demo – 6%, Final Demo + Report – 7%.

Quiz will have 5% weightage.
Discussions in Nalanda and Lab Records will have weightage of 2%.
Questions during assignment and project presentations will have 3% weightage.