Semester Plan
(Theory)

TCET/FRM/IP-02/09 **Revision: A**
Semester: V **Course: IT**
Subject: ITC- 502: Operating System **Class: TE IT -B**

Sr.No.	Prerequisite/ Bridge course:	Duration (Week /Hrs)	Modes of Learning	Recommended Sources
1	Fundamentals of Data structures, Programming Language (C / JAVA), Computer Organization & Architecture.	6 hours	Self Learning/ Revision	**Textbooks:** 1. Data Structure Using C, Balagurusamy, McGraw Hill 2. E. Balguruswamy, "Programming with java A primer", 5 edition, Tata McGraw Hill 3. Computer Organization & Architecture by stalling

Class Room Teaching

Sr. No	Module No.	Lesson No	Topics Planned (Technology to be used)	Teaching Aids Required	Planned /Completion Date	Text Book/Resource Book Reference	Remarks
1	Module 1	L1.1	SOP-OS-Theory-Introduction to os	Power point presentation, Chalk & Board	10/7/2017	TB:3 RB:1.8.1	
2	Module 1	L1.2	SOP of OS-Practical	Power point presentation, Chalk & Board	11/7/2017 18/7/2017	TB:3	Taken By Dipti
3	Module 1	L1.3	SOP of OS- OBE	Power point presentation, Chalk & Board	12/7/2017 14/7/2017	TB:3 RB:1.8.2	Taken By Dipti
4	Module 1	L1.4	Introduction to the issues in communication with devices, Kernel and shell of an operating system	Power point presentation, Chalk & Board	13/07/2017 14/07/17	TB:3 RB:1.8.3	
5	Module 1	L1.5	Shell, Kernel architectures: Layered, Kernel mode of operations..	Power point presentation, Chalk & Board	14/07/2017 18/07/17	TB:3 RB:1.8.4	
6	Module 1	L1.6	Processes, file and system calls, layered Vs monolithic OS	Power point presentation, Chalk & Board	17/07/2017 19/07/17	TB:3 RB:1.8.5	
7	Module 1	L1.7	Monolithic, Micro-kernel Architecture	Power point presentation, Chalk & Board	18/07/2017 19/07/17	TB:3 RB:1.8.6	
8	Module 1	L1.8	Case Study : Unix/Linux OS & windows2000	Power point presentation, Chalk & Board	19/07/2017 20/7/10	TB:3 RB:1.8.7 & 8	
9	Module 2	L2.1	Process, PCB, Thread	Power point presentation, Chalk & Board	19/07/2017 20/7/17	TB:3 RB:2.8.1	

10	Module 2	L2.2	Process state diagram, Thread management	Power point presentation, Chalk & Board	20/07/2017	TB:3 RB2.8.2	
11	Module 2	L2.3	Process scheduling, types of scheduler	Power point presentation, Chalk & Board	21/07/2017	TB:3 RB:2.8.3	
12	Module 2	L2.4	Scheduling criteria, non-pre-emptive and pre-emptive scheduling policies	Power point presentation, Chalk & Board	24/7/2017	TB:3 RB:2.8.4	
13	Module 2	L2.5	CPU scheduling policies	Power point presentation, Chalk & Board	25/7/2017	TB:3 RB:2.8.5	
14	Module 2	L2.6	FCFS scheduling Algorithm	Power point presentation, Chalk & Board	26/7/2017	TB:3 RB:2.8.6	
15	Module 2	L2.7	SJF scheduling Algorithm	Power point presentation, Chalk & Board	27/7/2017	TB:2 RB:2.8.7	
16	Module 2	L2.8	RR scheduling Algorithm	Power point presentation, Chalk & Board	29/7/2017	TB:3 RB:2.8.8	
17	Module 2	L2.9	Comparison of different scheduling policies	Power point presentation, Chalk & Board	31/7/2017	TB:3 RB:2.8.9	
18	Module 2	L2.10	Practice session	Power point presentation, Chalk & Board	1/8/2017	TB:3 RB:2.8.10	
19	Module 3	L3.1	Principles of Concurrency	Power point presentation, Chalk & Board	2/8/2017	TB:3 RB:3.8.1	
20	Module 3	L3.2	Race condition and critical section	Power point presentation, Chalk & Board	3/8/2017	TB:3 RB:3.8.2	
21	Module 3	L3.3	Mutual Exclusion-Hardware and Software approaches	Power point presentation, Chalk & Board	7/8/2017	TB:3 RB:3.8.3	
22	Module 3	L3.4	Semaphores,Monitors	Power point presentation, Chalk & Board	8/8/2017	TB:3 RB:3.8.4	
23	Module 3	L3.5	Message Passing	Power point presentation, Chalk & Board	9/8/2017	TB:3 RB:3.8.5	
24	Module 3	L3.6	Producer Consumer Problem. Reader writer problem.	Power point presentation, Chalk & Board	10/8/2017	TB:3 RB:3.8.6	
25	Module 3	L3.7	Deadlock: Principles of Deadlock,	Power point presentation, Chalk & Board	14/8/2017	TB:3 RB:3.8.7	
26	Module 3	L3.8	Deadlock Prevention. Detection & Avoidance	Power point presentation, Chalk & Board	16/8/2017	TB:3 RB:3.8.8	
27	Module 3	L3.9	Deadlock recovery DINNING PHILOSOPHERS PROBLEM	Power point presentation, Chalk & Board	24/8/2017	TB:3 RB:3.8.9	
28	Module 3	L3.10	Deadlock problems	Power point presentation, Chalk & Board	30/8/2017	TB:3 RB:3.8.10	
29	Module 4	L4.1	Memory Management Requirements,	Power point presentation, Chalk & Board	31/8/2017	TB:3 RB:4.8.1	

30	Module 4	L4.2	Memory Partitioning,	Power point presentation, Chalk & Board	4/9/2017	TB:3 RB:4.8.2	
31	Module 4	L4.3	Placement algorithm, first fit, Best fit	Power point presentation, Chalk & Board	5/9/2017	TB:3 RB:4.8.3	
32	Module 4	L4.4	Virtual memory: Paging; Implementation of Page Table.	Power point presentation, Chalk & Board	6/9/2017	TB:3 RB:4.8.4	
33	Module 4	L4.5	Page replacement policies, page faults.	Power point presentation, Chalk & Board	7/9/2017	TB:3 RB:4.8.5	
34	Module 4	L4.6	Segmentation with paging	Power point presentation, Chalk & Board	12/9/2017	TB:3 RB:4.8.6	
35	Module 5	L5.1	I/O Devices, Organization & Functions	Power point presentation, Chalk & Board	13/9/2017	TB:3 RB:5.8.1	
36	Module 5	L5.2	I/O communication techniques: program I/O,interrup driven I/O	Power point presentation, Chalk & Board	14/9/2017	TB:3 RB:5.8.2	
37	Module 5	L5.3	Direct Memory Access	Power point presentation, Chalk & Board	18/9/2017	TB:3 RB:5.8.3	
38	Module 5	L5.4	I/O Buffering,	Power point presentation, Chalk & Board	19/9/2017	TB:3 RB:5.8.4	
39	Module 5	L5.5	Disk scheduling policies : FIFO,SSFT	Power point presentation, Chalk & Board	20/9/2017	TB:3 RB:5.8.5, 5.8.6	
40	Module 5	L5.6	Disk Scheduling example.	Power point presentation, Chalk & Board	21/9/2017	TB:3 RB:5.8.76.4	
41	Module 6	L6.1	Overview: File, types and operation of files ,commands	Power point presentation, Chalk & Board	25/9/2017	TB:3 RB:6.8.1	
42	Module 6	L6.2	File mangement system	Power point presentation, Chalk & Board	26/9/2017	TB:3 RB:6.8.2	
43	Module 6	L6.3	File Directories, Inode structure	Power point presentation, Chalk & Board	3/10/2017	TB:3 RB:6.8.3	
44	Module 6	L6.4	File Allocation Methods	Power point presentation, Chalk & Board	4/10/2017	TB:3 RB:6.8.4	
45	Module 6	L6.5	FILE ALLOCATION TABLE	Power point presentation, Chalk & Board	5/10/2017	TB:3 RB:6.8.5	
46	Module 6	L6.6	Directory entry structure	Power point presentation, Chalk & Board	12/10/2017	TB:3 RB:6.8.6	
47	Module 6	L6.7	Inode structure	Power point presentation, Chalk & Board	16/10/2017	TB:3 RB: 6.8.7	
48	Module 6	L6.8	Study Android OS	Power point presentation, Chalk & Board	17/10/2017	TB:3 RB:6.8.8	
49			Revison / Dought clearing Session	Power point presentation, Chalk & Board	18/10/2017		
50			University Paper Discussion	Power point presentation, Chalk & Board			
Remark:		Syllabus Coverage:		Practice Session: 2		**Content Beyond Syllabus:** RPC	
Course:							
No. of (lectures planned)/(lecture taken): 48							

Advanced course: operating system	20 Hours	Online NPTEL course	**Web sources:** 1.https://onlinecourses.nptel.ac.in/noc17_cs29/preview **Textbook reference:** 1. Linux Command Line & Shell Scripting, Richard Blum and Christine Bresnahan, 2nd edition, Wiley.

Text Books:

1. Modern Operating Systems, Tanenbaum, IIIrd Edition, PHI
2. Operating System-Internal & Design Principles, VIth Edition, William Stallings, Pearson
3. Operating Systems Concepts, Silberschatz A., Galvin P., Gagne G, VIIIth Edition Wiley.
4. Principles of Operating Systems, Naresh Chauhan, First Edition , Oxford university press.

Reference Books:

1. 1. Operating Systems in Depth, Thomas W. Doeppner, Wiley.
2. Operating System Programming and Operating Systems, D M Dhamdhere, IInd Revised Edition, Tata McGraw.
3. Operating Systems, Achyut S. Godbole, 2nd edition, Tata McGraw Hill.
4. Application development using Android, Hello, Android, mobile development platform, Ed Burnette, 3rd Edition.
5. Linux Command Line & Shell Scripting, Richard Blum and Christine Bresnahan, 2nd edition, Wiley.

Digital Reference:

1. www.nptel.ac.in

2. http://searchcio.techtarget.com/definition/operating system

SD/	SD/	SD/
Name & Signature of Faculty	Signature of HOD	Signature of Principal/Dean (Academics)
Date:	Date:	Date:

Note:

1. Plan date and completion date should be in compliance
2. Courses are required to be taught with emphasis on resource book, course file, text books, reference books, digital references etc.
3. Planning is to be done for 15 weeks where 1st week will be AOP, 2nd -13th for effective teaching and 14th -15th week for effective university examination oriented teaching, mock practice session and semester consolidation.
4. According to university syllabus where lecture of 4 hrs/per week is mentioned minimum 55 hrs and in case of 3 lectures per week minimum 45 lectures are to be engaged are required to be engaged during the semester and therefore accordingly semester planning for delivery of theory lectures shall be planned.
5. In order to improve score in NBA, faculty members are also required to focus course teaching beyond university prescribed syllabus and measuring the outcomes w.r.t learning course and programme objectives.
6. Text books and reference books are available in syllabus. Here only additional references w.r.t. non –digital/ digital sources can be written (if applicable)
7. Technology to be used in class room during lecture shall be written below the topic planned within the bracket.