TCET

DEPARTMENT OF INFORMATION TECHNOLOGY (IT)

Credit Based Grading Scheme(Revised - 2012) - University of Mumbai

CBGS-2012(R)

Semester Plan (Theory)

TCET/FRM/IP-02/09 **Revision: A**

Semester: V **Course: IT**

Subject: ITC- 502: Operating Systems **Class: TE IT -A**

S.No.	Prerequisite/ Bridge course:	Duration (Week /Hrs)	Modes of Learning	Recommended Sources
1	Fundamentals of Data Structures, Computer organization & architecture, Computer Network	6 hours	Self Learning/ Revision	**Textbooks:** 1. A. Tanenbaum, "Computer Networks", Pearson 2. C. Hamacher, Z. Vranesic and S. Zaky, "Computer Organization", 5th Edition, Tata McGraw-Hill

Class Room Teaching:

Sr. No.	Module No.	Lesson No.	Topics Planned (Technology to be used)	Teaching Aids Required	Planned / Completion Date	Resource Book Reference	Remarks
1	3	L2.1	Process coordination preliminaries, Principles of concurrency	Power point presentation, Chalk & Board	19/7/2017	TB:3 RB:3.8.1	
2		L3.1	Race condition and critical section	Power point presentation, Chalk & Board	26/7/2017	TB:3 RB:3.8.2	
3		L3.2	Mutual exclusion- hardware and software approaches	Power point presentation, Chalk & Board	27/7/2017	TB:3 RB:3.8.3	
4		L3.3	Semaphores, Monitors	Power point presentation, Chalk & Board	28/7/2017	TB:3 RB:3.8.4	
5		L4.1	Message passing	Power point presentation, Chalk & Board	3/8/2017	TB:3 RB:3.8.5	
6		L4.2	Producer consumer problem, Reader writer problem	Power point presentation, Chalk & Board	4/8/2017	TB:3 RB:3.8.6	
7		L4.3	Deadlock: Principles of deadlock	Power point presentation, Chalk & Board	9/8/2017	TB:3 RB:3.8.7	
8		L5.1	Deadlock prevention, Deadlock detection, Deadlock avoidance	Power point presentation, Chalk & Board	10/8/2017	TB:3 RB:3.8.8	
9		L5.2	Deadlock recovery, Dining philosophers problem	Power point presentation, Chalk & Board	11/8/2017	TB:3 RB:3.8.9	
10		L6.1	Deadlock problems	Power point presentation, Chalk & Board	18/8/2017	TB:3 RB:3.8.10	

11	5	L7.1	I/O devices, organization of functions	Power point presentation, Chalk & Board	24/8/2017	TB:2 RB:5.11.1	
12		L8.1	Operating system design issues, I/O buffering	Power point presentation, Chalk & Board	31/8/17	TB:3 RB:5.8.2	
13		L8.2	I/O communication techniques: program I/O, interrupt driven I/O	Power point presentation, Chalk & Board	1/9/2017	TB:3 RB:5.8.3	
14		L9.1	Direct memory access	Power point presentation, Chalk & Board	7/9/2017	TB:3 RB:5.8.4	
15		L9.2	Disk scheduling algorithms	Power point presentation, Chalk & Board	8/9/2017	TB:3 RB:5.8.5, 5.8.6	
16		L10.1	Disk scheduling examples	Power point presentation, Chalk & Board	12/9/2017	TB:3 RB:5.8.7	
17		L10.2	I/Os of different operating systems	Power point presentation, Chalk & Board	14/9/2017	TB: 2 RB: RB:5.8.7	
18	6	L10.3	Overview: File, types and operation on files, file structure	Power point presentation, Chalk & Board	15/9/17	TB:3 RB:6.8.1	
19		L11.1	File mangement system	Power point presentation, Chalk & Board	21/9/17	TB:3 RB:6.8.2	
20		L11.2	File organization and access	Power point presentation, Chalk & Board	22/9/17	TB:3 RB:6.8.3	
21		L13.1	File directories, File sharing	Power point presentation, Chalk & Board	4/10/17	TB:3 RB:6.8.4	
22		L13.2	Record blocking, Secondary storage management	Power point presentation, Chalk & Board	5/10/17	TB:3 RB:6.8.5	
23		L13.3	File allocation methods, File system security	Power point presentation, Chalk & Board	6/10/17	TB:3 RB:6.8.6	
24	--	L14.1	Revision and University exam papers discussion	Power point presentation, Chalk & Board	12/10/17	--	
25	--	L14.2	Revision	Power point presentation, Chalk & Board	13/10/17	--	
Remarks: Course:		Syllabus Coverage:		Practice Session: 2		**Content Beyond Syllabus:** 3 L4.2, L5.2, L10.2	
No. of (lectures planned)/(lecture taken): 25							

Advanced course: Operating system (Including security concepts)	20 Hours	Online NPTEL videos with Hands on Training in Laboratory	**Web sources:** https://onlinecourses.nptel.ac.in **Textbook reference:** 1. A. Silberschatz, P. Galvin, G. Gagne, Operating Systems Concepts, 8th Edition, Wiley. 2. A. Tanenbaum, Modern Operating Systems, 3rd Edition, PHI

Text Books:

1.1 A. Tanenbaum, Modern Operating Systems, 3rd Edition, PHI
1.2 W. Stallings, Operating System-Internal & Design Principles, 6th Edition, Pearson
1.3 A. Silberschatz, P. Galvin, G. Gagne, Operating Systems Concepts, 8th Edition, Wiley.
1.4 N. Chauhan, Principles of Operating Systems, 1st Edition, Oxford University Press.

Reference Books:

2.1 D. Dhamdhere, Operating System Programming and Operating Systems, 2nd Edition

Digital Reference:

3.1 https://onlinecourses.nptel.ac.in
3.2 https://www.tutorialspoint.com/operating_system/
3.3 http://www.personal.kent.edu/~rmuhamma/OpSystems/os.html

Mrs. Radhika Kotecha	Dr. Rajesh Bansode	
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.