

## Lesson Plan

**Name of faculty** : **Rahul Kaushik**  
**Discipline** : Computer Engineering  
**Semester** : 3<sup>rd</sup>  
**Subject** : **Operating System**  
**Lesson Plan Duration** : 15 Weeks

**Work Load(Lecture/ Practical) per week (in hours): Lectures-03**

Week	Theory		Practical Practical day
	Lecture Day	Topic (Including assignment/test)	
1 <sup>ST</sup>	1	Definition of Operating Systems	
	2	Types of Operating Systems,	
	3	Operating System Services	
	4	User operating system interface	
2 <sup>nd</sup>	5	System Calls	
	6	Types of System Calls	
	7	System Programs	
	8	Operating System Structure	
3 <sup>rd</sup>	9	Virtual Machine	
	10	Benefits of Virtual Machine	
	11	Revision and Test	
	12	Process concept, Process State, Process Control Block	
4 <sup>th</sup>	13	Scheduling Queues	
	14	Scheduler, Job Scheduler, Process Scheduler	
	15	Context Switch	
	16	Operations on Processes, Interprocess Communication	
5 <sup>th</sup>	17	Shared Memory Systems, Message-Passing Systems	
	18	CPU Scheduler, Scheduling Criteria	
	19	Scheduling Algorithms, Preemptive and Non Preemptive	
	20	First come first serve (FCFS), Shortest Job first (SJF), Round Robin (RR)	
6 <sup>th</sup>	21	Multiprocessor scheduling	
	22	Process Synchronization	
	23	Revision and Test	
	24	Deadlock, Conditions for Dead lock	
7 <sup>th</sup>	25	Methods for handling deadlocks	
	26	Deadlock Prevention	
	27	Deadlock Avoidance, Deadlock detection	

	<b>28</b>	Recovery from deadlock.	
8 <sup>th</sup>	<b>29</b>	Revision and Test	
	<b>30</b>	Definition – Logical and Physical address Space	
	<b>31</b>	Swapping	
	<b>32</b>	Memory allocation, Contiguous Memory allocation	
	<b>33</b>	Fixed and variable partition	
9 <sup>th</sup>	<b>34</b>	Internal and External fragmentation and Compaction	
	<b>35</b>	Paging – Principle of operation	
	<b>36</b>	Page allocation, Hardware support for paging	
	<b>37</b>	Protection and sharing, Disadvantages of paging	
10 <sup>th</sup>	<b>38</b>	Segmentation, Virtual Memory.	
	<b>39</b>	Revision and Test	
	<b>40</b>	Dedicated Devices, Shared Devices	
	<b>41</b>	I/O Devices, Storage Devices	
11 <sup>th</sup>	<b>42</b>	Buffering, Spooling.	
	<b>43</b>	Types of File System	
	<b>44</b>	Simple file system, Basic file system	
	<b>45</b>	Logical file system	
12 <sup>th</sup>	<b>46</b>	Physical file system	
	<b>47</b>	Various Methods of Allocating Disk Space	
	<b>48</b>	Revision and Test	
	<b>49</b>	History of Linux and Unix	
13 <sup>th</sup>	<b>50</b>	Linux Overview, Structure of Linux	
	<b>51</b>	Linux releases, Open Linux, Linux System Requirements	
	<b>52</b>	Linux Commands and Filters: mkdir, cd,rmdir,pwd, ls	
	<b>53</b>	who, whoami, date, cat,chmod, cp, mv, rm,pg,more	
14 <sup>th</sup>	<b>54</b>	pr, tail, head, cut, paste, nl, grep, wc, sort, kill	
	<b>55</b>	write, talk,mseg,wall, merge,mail, news	
	<b>56</b>	Shell: concepts of command options	
	<b>57</b>	input, output,redirection,pipes, redirecting and piping with standard errors	
15 <sup>th</sup>	<b>58</b>	Shell scripts,vi editing commands	
	<b>59</b>	Revision and Test	
	<b>60</b>	<b>Revision and Test</b>	