

LABORATORY PRACTICAL PLANNING

Institute Name: K. K. Wagh Polytechnic, Nashik

Academic Year: 2026-27 (ODD)

Program: Information Technology (IF) **Course :** Operating System (OSY)

Course code:315319

Semester: Fifth **Scheme:** K **Name of Faculty:** Mr. T.G.Uphade

Class: TYIF-CRAY

Batch:A/B/C

● Teaching-Learning & Assessment Scheme:

Course Code	Course Title	Abbr	Course Category	Learning Scheme						Credits	Paper Duration	Assessment Scheme										Total Marks	
				Actual Contact Hrs./Week					SLH			NLH	Theory				Based on LL & TSL Practical				Based on SL		
				C L	T L	L L	Max	Min					FA-TH	SA-TH	Total	Max	Min	FA-PR	SA-PR	SLA			
315319	OPERATING SYSTEM	OSY	DSC	5	-	2	2	9	3	3	30	70	100	40	25	10	25@	10	25	10	175		

Abbreviations: CL- Class Room Learning , TL- Tutorial Learning, LL-Laboratory Learning, SLH-Self Learning Hours, NLH-Notional Learning Hours, FA - Formative Assessment, SA -Summative assessment, IKS – Indian Knowledge System, SLA - Self Learning Assessment
Legends: @ Internal Assessment, # External Assessment, *# On Line Examination, @\$ Internal Online Examination

● COURSE LEVEL LEARNING OUTCOMES (COS)

- CO1 - Explain the services and components of an Operating System.
- CO2 - Describe the different aspects of Process Management in an Operating System.
- CO3 - Implement various CPU Scheduling algorithms and evaluate their effectiveness.
- CO4 - Analyze the Memory Management techniques used by an Operating System.
- CO5 - Apply techniques for effective File Management in an Operating System.

● COs, Practical Laboratory Learning Outcome (LLOs) and Mapping:

Sr. No	LLO	Practical Title	Planned Date	Performance Date	Remark	Related self-learning (if any)
1	LLO 1.1	System call commands in Linux such as fork(), exec(), getpid, pipe, exit, open, close, stat, uname.	A-17/08/2026 B-13/08/2026 C-14/08/2026	A- B- C-		
2	LLO 2.1	Process related commands in Linux - top, ps, kill, wait, sleep, nice, renice, bg, fg.	A-24/08/2026 B-20/08/2026 C-21/08/2026	A- B- C-		
3	LLO 3.1	a. Commands for Sending Messages to Logged-in Users -who, cat, wall, write, mesg. b. List Processes Attached to a Shared Memory Segment: ipcs.	A-31/08/2026 B-27/08/2026 C-28/08/2026	A- B- C-		
4	LLO 4.1	Write a C/Python program to calculate average waiting time and Turnaround Time of n processes with First Come First Serve (FCFS) CPU scheduling algorithm	A-07/09/2026 B-03/09/2026 C-04/09/2026	A- B- C-		

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Sr. No	LLO	Practical Title	Planned Date	Performance Date	Remark	Related self-learning (if any)
5	LLO 5.1	Write a C/Python program to calculate average waiting time and Turnaround Time of n processes with Shortest Job First (SJF) CPU scheduling algorithm.	A-07/09/2026 B-10/09/2026 C-11/09/2026	A- B- C-		
6	LLO 7.1	Write a C/Python program to calculate average waiting time and Turnaround Time of n processes with Round Robin (RR) CPU scheduling algorithm.	A-17/09/2026 B-17/09/2026 C-18/09/2026	A- B- C-		
7	LLO 8.1	Write a C/Python program to implement Banker's Algorithm	A-24/09/2026 B-24/09/2026 C-25/09/2026	A- B- C-		
8	LLO 9.1	Basic memory management commands - df, free, vmstat, /proc/meminfo, htop.	A-28/09/2026 B-01/10/2026 C-09/10/2026	A- B- C-		
9	LLO 10	Write a C/Python program on First In First Out (FIFO) Page Replacement algorithm.	A-28/09/2026 B-08/10/2026 C-09/10/2026	A- B- C-		
10	LLO 12.1	Write a C/Python program on sequential file allocation method.	A-05/10/2026 B-15/10/2026 C-16/10/2026	A- B- C-		

ASSESSMENT METHODOLOGIES/TOOLS

A. Formative assessment (Assessment for Learning) (FA-TH)

- Continuous assessment based on process and product related performance indicators. Each practical will be assessed considering 1) 60% weightage is to process 2) 40% weightage to product

B. Summative Assessment (Assessment of Learning) (SA-TH)

- End semester examination, Lab performance, Viva voce

Mr. T. G. Uphade
(Name & Signature of Staff)

Ms. M. S. Karande
(Name & Signature of HOD)