MARATHA VIDYA PRASARAK SAMAJ'S
KARMAVEER ADV. BABURAO GANPATRAO THAKARE
COLLEGE OF ENGINEERING

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AISHE Code - C-41622

Department of Electronics & Telecommunication Engineering

Academic Year – 2019-2020	Class: Third Year
Semester – II	Date : 20-02-2020
CO: 3	PO: 1,2,8,9,10,12

Innovative Teaching Methods

Title of Innovation method/activity: Collaborative Jigsaw

1. **Name of Faculty**: Mr. Viraj R Sonawane.

2. **Subject:** System Programming and Operating System

3. **Objective of Method:**

   1. Acquire the various Concept of Operating System use them for comparing various types of Operating system

   2. Compare various processes scheduling algorithm by finding the efficiency.

4. **Topic Covered through Activity**:

   Introduction to OS and Process management

CODE	Topic
T1	Introduction to OS : Architecture, Goals & Structures of O.S Need of OS Definition of OS, Classification of OS based on to Architecture, Advantages and Disadvantages , Applications
T2	Basic functions, Interaction of O. S. & hardware architecture, System calls List of Function of OS Kernel Various System Call for Windows and Linux System Applications
T3	Batch, multiprogramming. Multitasking, time sharing, parallel, distributed & real -time O.S Concept Feature Comparison Application
T4	Process Management: Process Concept, Process states, Process control, Threads **Process** : Process states, Process Control Block , Architecture **Thread**: Concept , Multithreading , Applications , Comparison with Process
T5	Scheduling: Types of scheduling: Pre-emptive, Non pre-emptive, Scheduling algorithms: FCFS. **Scheduling**: Concept, Types of scheduling: Pre-emptive, Non pre-emptive.

	FCFS: (algorithm or Pseudo Code or Flow Chart), Solve Any one Simple Numerical with Gantt Chart
T6	Scheduling: Types of scheduling: Pre-emptive, Non pre-emptive, Scheduling algorithm: SJF
	Scheduling: Concept, Types of scheduling: Pre-emptive, Non pre-emptive.
	SJF: (algorithm or Pseudo Code or Flow Chart), Solve Any one Simple Numerical with Gantt Chart
T7	Scheduling: Types of scheduling: Pre-emptive, Non pre-emptive, Scheduling algorithms: RR.
	Scheduling: Concept, Types of scheduling: Pre-emptive, Non pre-emptive.
	RR: (algorithm or Pseudo Code or Flow Chart), Solve Any one Simple Numerical with Gantt Chart

5. **Description of method with Benefits (8 – 10 lines) :**

- Jigsaw is a collaborative learning technique that gives students practice in the acquisition and presentation of new material, in review, and in informed debate. Interdependence and status equalization are developed.

- **The method** :
  - Each student on the team becomes an "expert" on one topic
  - "Experts" group with members from other teams assigned the corresponding expert topic.
  - Upon returning to their teams, each one, in turn, teaches the group.

Roles and Responsibilities

- **Teacher**
  - Provide the Introduction to all the topic.
  - Aware the student about the length, Breadth, Depth of Topic
  - Provide the Study Material and appropriate guide lines at every stage
  - Remain available all the time during all stages of process.
  - Prepare assessment methodology.

- **Student**
  - Go through all the material provided on particular topic
  - Once topic assigned understand and gain expertise on topic through collaboration.
  - Actively participate in group and contribute by means of discussion, hand-out
  - Share the expertise topic when joins a new group.

- **Group**
  - Develop the guidelines to establish group.(i.e. Decide the roll of all participants)

- Every group should gain the expertise on particular topic.
- Prepare at least one page Hand-out / Report which cover all the details corresponding to the topic.
- While preparing the report make sure all the content are covered.
- Appropriate references should be given.
- Grammatical mistake should be checked.
- Develop the guidelines with which every group member can share the topic they learn

6. Assessment Tools & Rubrics :

- **Quiz** (60 %)
  - Individual performance would be checked through the quiz.
- **One Page Report / Hand out (20 %)**
  - Group Report would be checked by teacher according to the rubrics.
- **Polling** (20 %)
  - Every student would rate understanding of all topics which reflect the communication skill of particular group through polling.
- **Overall Individual Performance**
  - Final Marks Obtained = (0.6 *(Quiz Marks/ 30) + 0.2 * Report_Marks +0.2* Polling Marks)

Rubrics for Assessment of One Page Report / Hand out

Criteria	Excellent (10-9)	High(8-7)	Moderate(6-5)	Slight (4-1)
Topic Content (60 %)	Highly relevant and concise	Highly Relevant	Moderately Relevant	Slightly Relevant
References (20 %)	Highly Relevant References used along with own comment	Highly Relevant	Moderately Relevant or improperly written	No / Wrong References
Presentation and Writing Skill (20 %)	Neat , Clean Diagrams & Grammatically Correct	Diagrams & Grammatically Correct	Diagrams included	Poorly Written

SN	Group No	OUT OF 10 MARK			
		Topic Content (60 %)	References (20 %)	Presentation and Writing Skill (20 %)	Final Marks (100 %)
1.	T1	8	6	7	7.4
2.	T2	10	4	7	8.2
3.	T3	8	0	6	6
4.	T4	10	10	10	10
5.	T5	9	7	8	8.4
6.	T6	9	10	10	9.4
7.	T7	7	6	7	6.8

7. **Evaluation Sheet**

Final Marks = 0.2 * Polling +0.2 * Report + 0.6 * (Quiz / 30)

Sn	Name	Topic Code	OUT OF 10 MARK			
			Group Polling Marks (20 %)	Report (20 %)	Quiz (60 %)	Final Marks (100 %)
1	Gavali Pradip Ramrao					0
2	Patil Nitin Sarjerao	T4	7	10	9	5.2
3	Avhad Dipali Vijay	T4	7	10	9	5.2
4	Deshpande Pranav Sunil	T1	8	7.4	16	6.28
5	Kulkarni Manasi Yashwant	T3	9	6	23	7.6
6	Shirude Shubham Madhukar					0
7	Bhakti Sanjay Misal	T6	10	9.4	21	8.08
8	Borse Vaishnavi Vyankat	T5	8	8.4	9	5.08
9	Changle Anisha Sunil					0
10	Chavan Pranil Sunil	T3	9	6		3
11	Chitte Hitesh Ghanshyam	T4	7	10	12	5.8
12	Chokhande Mahesh Dnyandeo	T2	9	8.2	24	8.24
13	Deore Shivam Sanjay	T3	9	6	30	9
14	Deshmukh Siddhant Vilasrao	T7	10	6.8	30	9.36
15	Diwan Sameeksha Ramesh	T1	8	7.4	26	8.28
16	Iramsaba Mushir Shaikh					0

17	Joshi Siddhant Sunil	T4	7	10	9	5.2
18	Kakulte Rutuja Dnyandeo	T1	8	7.4	6	4.28
19	Kanhe Srushti Santosh	T5	8	8.4	6	4.48
20	Kankariya Pushkar Sunil					0
21	Pathak Ashwin Mandar					0
22	Patil Akash Laxmikant				15	3
23	Patil Piyush Rajesh					0
24	Pawar Roshani Sanjay	T6	10	9.4	6	5.08
25	Pranita Prashant Sancheti	T2	9	8.2	7	4.84
26	Pratik Chandrashekhar P				14	2.8
27	Rajole Rutuja Sanjay	T6	10	9.4	6	5.08
28	Rushikesh Rambhau Sukase	T5	8	8.4		3.28
29	Saloni Sanju Patil					0
30	Shinde Varsha Narendra	T4	7	10	4	4.2
31	Sinha Deepak Vijay	T1	8	7.4	3	3.68
32	Sonar Siddhesh Ajay					0
33	Vasani Pritesh Kantilal	T5	8	8.4	22	7.68
34	Wagh Harshvardhan Sanjay					0
35	Weljali Pragati Dilip	T7	10	6.8	9	5.16
36	Amrutkar Minal Ramesh	T3	9	6	8	4.6
37	Aher Asavari Manik					0
38	Aher Poonam Ramesh	T3	9	6	16	6.2
39	Aware Anushka Machindra	T5	8	8.4	13	5.88
40	Borse Tushar Shyamkumar	T7	10	6.8	23	7.96
41	Budhavant Priyanka R	T3	9	6	7	4.4
42	Chaudhari Jagruti Bharat	T1	8	7.4	27	8.48
43	Devanhalli Sanket Rajendra	T6	10	9.4	23	8.48
44	Dhanashree Harishchandra	T4	7	10		3.4
45	Gaikwad Akash Suresh					0
46	Gayatri Keshav Vazarde	T2	9	8.2	2	3.84
47	Gholap Swati Babulal	T4	7	10	12	5.8
48	Sonali Raj Gupta				23	4.6
49	Jadhav Meghana R					0
50	Jagtap Sayali Sanjay	T6	10	9.4	17	7.28
51	Kankal Shubhangi Kailas	T5	8	8.4	26	8.48
52	Kasture Pranoti Dilip					0

53	Kharde Vaishnavi Mahendra	T2	9	8.2	5	4.44
54	Kirve Mohit Dattatray					0
55	Mohan Mansi Ravindra	T6	10	9.4	7	5.28
56	More Komal Popat	T5	8	8.4	21	7.48
57	Narkhede Surabhi Rajendra	T3	9	6	2	3.4
58	Nimse Amisha Anil	T7	10	6.8	5	4.36
59	Pachore Shraddha Kailas	T2	9	8.2	27	8.84
60	Pagar Komal Murlidhar	T1	8	7.4	21	7.28
61	Pagare Sakshi Sunil	T7	10	6.8	8	4.96
62	Patil Pooja Ravindra	T1	8	7.4	11	5.28
63	Patil Vaishnavi R	T2	9	8.2	1	3.64
64	Rajole Shivani Anil	T7	10	6.8	5	4.36
65	Rathod Payal Popat					0
66	Wadekar Onkar Santosh	T6	10	9.4	30	9.88

SN	Result Analysis	
1	**Total Student Present Student**	47
2	**Number of Student Scoring above 50%**	30
3	**Percentage of student Scoring above 50%**	63.82 %

8. **Impact Analysis**

SN	4- Excellent	3- High	2- Moderate	1- Slight
Do you find Methodology Helpful	33	11	1	2
Does this helps for building a good team	31	12	2	2
Does the content covered are relevant	30	12	4	1
Are you able to understand the concept and Compare various Operating system also apply the concept of process scheduling.	30	12	4	1
Would You Like To Participate in This Methodology again	**47 YES**	**0 NO**		

9. **Activity Picture**

YouTube Video Link :
https://youtu.be/bteU_mOibj8

10. **For review and critique contact: e-mail address of faculty and HOD**
Sonawane.viraj@kbtcoe.org
https://wordpress.com/view/onlinevrs.wordpress.com
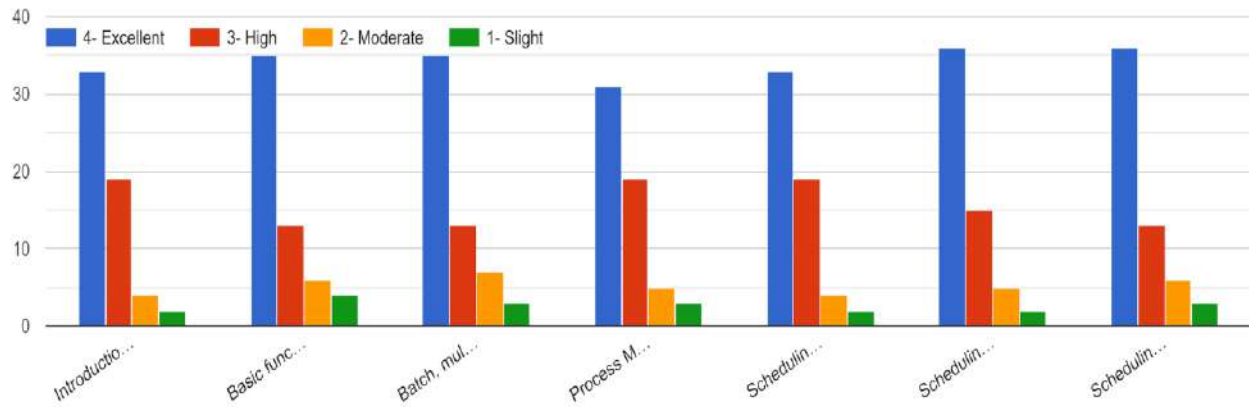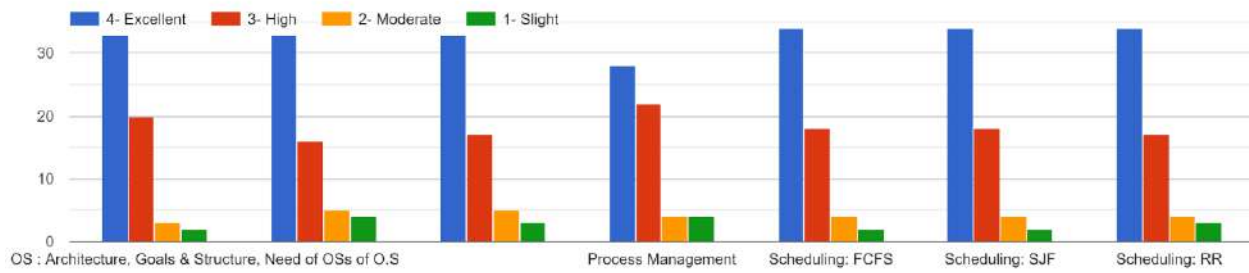**hod@kbtcoe.org**

Subject In charge   Module Coordinator   HoD

This would help to evaluate the Team and Individuals' effort to learn and explain the topic.

How Much do you find explanation or notes or presentation material of particular topic helpful (CO3)
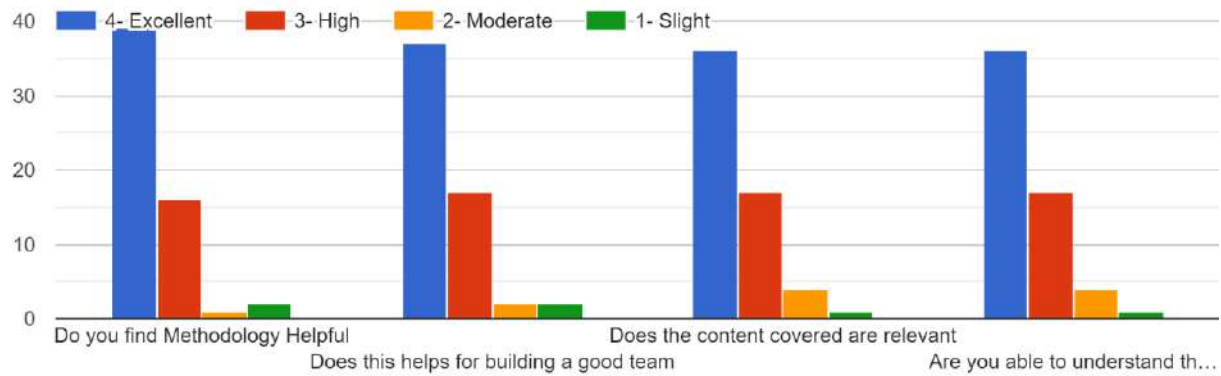

How Much do would rate understanding of topic (CO3)

Rate Your Learning Experience

Would You Like To Participate in This Methodology again
58 responses