

INTERNAL QUALITY ASSURANCE CELL (IQAC)

Implementation details of Innovative Teaching Practices

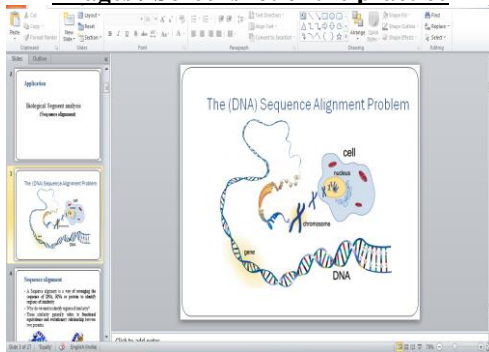
Year / Semester / Section: II/ IV/ A&B	Degree & Branch: B.E. CSE
Course Code: CS8451	Course Name: Design and Analysis of Algorithms
Unit: 2	Topic: String matching
Activity Chosen: Lecture with Analogy	

Details of the Implementation:

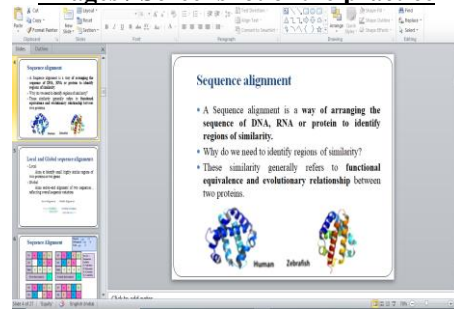
- The concept of string matching is explained with an analogy in the classroom for 20 minutes.
- Based on the discussion, the faculty will ask the students to think about the given problem for 5 minutes individually without discussing it with others in the class.
- Finally faculty asks the students to share their views with the entire class to assess the understanding of the topic.
- Faculty records their proceedings and measures students' progress before and after implementation.

PO	PO1	PO2	PO8	PO10	PO12	
Relevance	1	2	1	1	2	

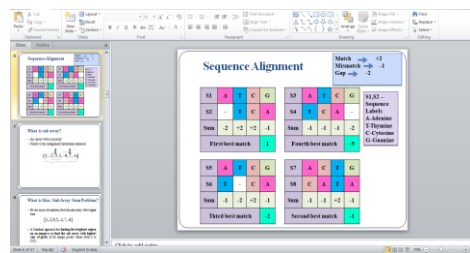
Images / Screenshot of the practice



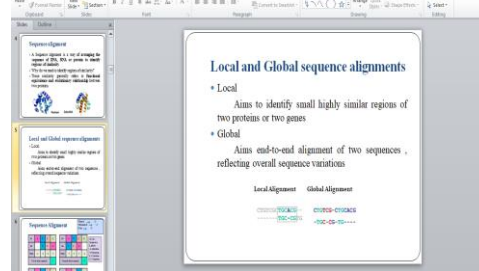
Images / Screenshot of the practice



Images / Screenshot of the practice



Images / Screenshot of the practice



Benefit of the practice:

- Lecture with Analogy helps the students to have better understanding of the concept of string matching and relate it to real world applications



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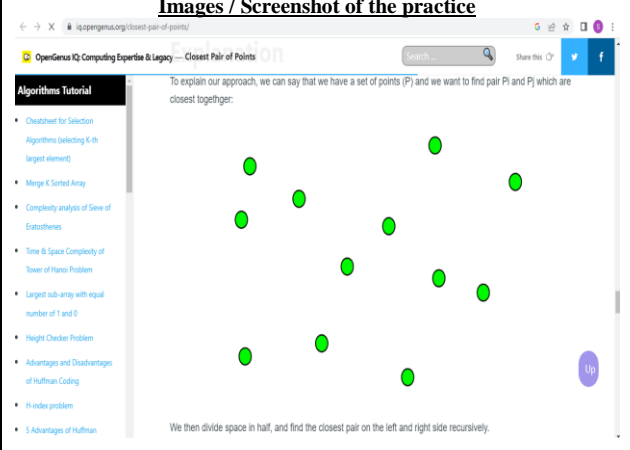
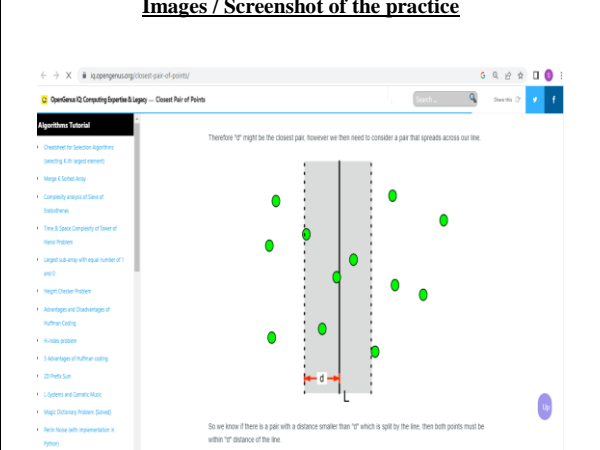
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Implementation details of Innovative Teaching Practices

Year / Semester / Section: II/ IV/ A&B			Degree & Branch: B.E. CSE			
Course Code: CS8451			Course Name: Design and Analysis of Algorithms			
Unit: 2			Topic: Closest pair & Convex Hull problem			
Activity Chosen: Lecture with Analogy						
Details of the Implementation: <ul style="list-style-type: none"> The concept of closest pair & convex Hull problem is explained with an analogy in the classroom for 20 minutes. Based on the discussion, the faculty will ask the students to think about the given problem for 5 minutes individually without discussing it with others in the class. Finally faculty asks the students to share their views with the entire class to assess the understanding of the topic. Faculty record their proceedings and measure students' progress before and after implementation. 						
PO	PO1	PO2	PO8	PO10	PO12	
Relevance	1	2	1	1	2	
Images / Screenshot of the practice			Images / Screenshot of the practice			
						
Images / Screenshot of the practice			Images / Screenshot of the practice			
Benefit of the practice: <ul style="list-style-type: none"> Lecture with Analogy helps the students to have better understanding of the concept of closest pair and convex hull concepts and relate it to real world applications 						

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Implementation details of Innovative Teaching Practices

Year / Semester / Section: II/ IV/ A&B				Degree & Branch: B.E. CSE		
Course Code: CS8493				Course Name: Operating Systems		
Unit: I				Topic: Computer System Overview, Basic Elements & Instruction Execution		
Activity Chosen: Lecture with Analogy						
Details of the Implementation:						
<ul style="list-style-type: none"> The concept of Computer System Overview and Elements is explained with an analogy in the classroom for 10 minutes. Based on the discussion, the faculty will ask the students to think about the given problem for 5 minutes individually without discussing it with others in the class. Finally faculty asks the students to share their views with the entire class to assess the understanding of the topic. Faculty records their proceedings and measures students' progress before and after implementation. 						
PO	PO1	PO2	PO10	PO12	PSO1	
Relevance	2	2	1	2	2	
Images / Screenshot of the practice				Images / Screenshot of the practice		
				 <ul style="list-style-type: none"> Exploits the hardware resources of one or more processors Provides a set of services to system users Manages secondary memory and I/O devices 		
Images / Screenshot of the practice				Images / Screenshot of the practice		
<p>AARAMBIKALAANGALA.....</p> <p align="center">Mind Voice by OS</p> 				<p align="center">Operating System</p> <p>It is a program that provides an interface between the software and hardware of a computer.</p> <p>An Operating system offers an environment for the user to execute the software using the hardware.</p>		
Benefit of the practice:						
<ul style="list-style-type: none"> Lecture with Analogy helps the students to have better understanding of the concept of Operating System and its elements 						

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Implementation details of Innovative Teaching Practices

Year / Semester / Section: II/ IV/ A&B	Degree & Branch: B.E. CSE
Course Code: CS8493	Course Name: Operating Systems
Unit: V	Topic: Mobile OS - iOS and Android
Activity Chosen: Lecture with Analogy	

Details of the Implementation:

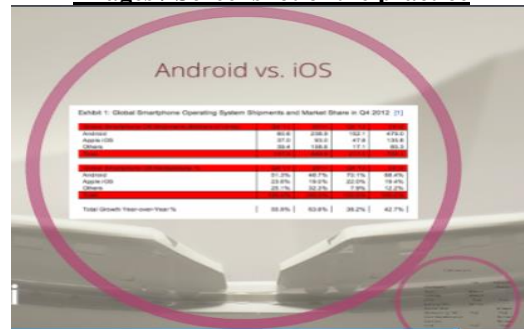
- The difference between iOS and Android OS is explained with an analogy in the classroom for 20 minutes.
- Based on the discussion, the faculty will ask the students to think about the given problem for 5 minutes individually without discussing it with others in the class.
- Finally faculty asks the students to share their views with the entire class to assess the understanding of the topic.
- Faculty records their proceedings and measures students' progress before and after implementation.

PO	PO1	PO2	PO10	PO12	PSO1	
Relevance	2	2	1	2	2	

Images / Screenshot of the practice



Images / Screenshot of the practice



Images / Screenshot of the practice



Images / Screenshot of the practice




	Android	iOS	Windows
Memory Management			
Memory usage	High	Low	High
Memory used for App handling	RAM	RAM	RAM + VM
Process running in background	Not Efficiently	Efficiently	Not Efficiently
Use of Garbage Collector	Yes	No	Yes
Background Processes	Do not freeze	Freeze	Suspend
To increase process speed	Uses internal memory	Don't use internal memory	Uses internal or virtual memory
Interface	User Friendly	User Friendly	Not User Friendly
Increase in Memory demand	Lag in app handling	No lag in app handling	Lag in app handling
Shortage of Memory	May kill some processes	Freeze background processes	Uses Virtual Memory
Capable of loading large number of apps	No	No	Yes
Security			
Arrival of new process	May kill existing process	Freeze some processes	No other processes will be affected
Utilities used	Own and third party	Own	Third Party Mostly
Issue Occurrence	Use patches	Use patches	Deliver updates
Rooting	Allowed	Not allowed	Not allowed

Benefit of the practice:

- Lecture with Analogy helps the students to have a clarity on what iOS and Android offers and what not.

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Year / Semester / Section: II/ IV/ A&B				Degree & Branch: B.E. CSE		
Course Code: CS8493				Course Name: Operating Systems		
Unit: II				Topic: Synchronization hardware, Mutex locks		
Activity Chosen: Lecture with Analogy						
Details of the Implementation:						
<ul style="list-style-type: none"> The concept of Synchronization Hardware, Mutex locks is explained with an analogy in the classroom for 20 minutes. Based on the discussion, the faculty will ask the students to think about the given problem for 5 minutes individually without discussing it with others in the class. Finally faculty asks the students to share their views with the entire class to assess the understanding of the topic. Faculty records their proceedings and measures students' progress before and after implementation. 						
PO	PO1	PO2	PO10	PO12	PSO1	
Relevance	2	2	1	2	2	
<u>Images / Screenshot of the practice</u>				<u>Images / Screenshot of the practice</u>		
<p>Mutual Exclusion</p> <p>Only one process can enter in to the critical section at a time.</p> 				<p>Mutex Locks</p> <ul style="list-style-type: none"> Previous solutions are complicated and generally inaccessible to application programmers OS designers build software tools to solve critical section problem Simplest is mutex lock Protect a critical section by first acquire() a lock then release() the lock <ul style="list-style-type: none"> Boolean variable indicating if lock is available or not Calls to acquire() and release() must be atomic <ul style="list-style-type: none"> Usually implemented via hardware atomic instructions But this solution requires busy waiting <ul style="list-style-type: none"> This lock therefore called a spinlock 		
<u>Images / Screenshot of the practice</u>				<u>Images / Screenshot of the practice</u>		
<p>Critical Section</p> <p>Critical Section in OS is a part of the program where shared resources are accessed by the process.</p> 				<p>Semaphore</p> <p>Synchronization tool to critical section problem. Has two operations</p> <p>Wait() -</p> <p>Signal()</p> 		
Benefit of the practice:						
<ul style="list-style-type: none"> Lecture with Analogy helps the students to have better understanding of the Synchronization Hardware and Mutex locks. 						