SDM College of Engineering & Technology – Dharwad

Department of Information Science & Engineering

BEST PRACTICES

(2021-2022)

HOD – ISE

Dr. Jagadeesh D. Pujari

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BEST PRACTICE

By
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Title of the Best Practice	**Case study**
Course Name:	**Storage management**
Semester:	**VII**
Division	
Duration of the Course:	**Oct 2021- Feb 2022**
Course Teacher:	**Dr. Anita Dixit**

Objectives:

1. **To estimate the data usage by an individual**
2. **To study the different storage architecture**

Implementation Details:

1. Each student is asked to record his/her data usage in mobile as well as in Laptop/Desktop for one week. They are asked to calculate total, average, maximum and minimum data usage.
2. 72 students of VII semester are grouped in 3-4 members in each group. Each group selected the organization of their choice such as, Insurance Company, Passport office, LIC, Railways, RUDSET, etc. They visited the organizations and studied about the storage architecture in respective organizations and prepared a report about it. Finally they presented their work in the class.

Outcomes and Conclusion:

The student group prepared a report of their case study and presented in the class room.

70% of the CTA is allocated to case study 1 and 30% of CTA is allocated to case study-2

BEST PRACTICE

By
Name of the author: Dr. Pushpalatha S. Nikkam
Designation : Assistant Professor
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Title of the Best Practice	**Implementation of software project**
Course Name:	**Software Engineering**
Semester:	**VI**
Division	**A**
Duration of the Course:	**3 Months**
Course Teacher:	**Dr. Pushpalatha S. Nikkam**

Objectives:

1. Software Requirement Document Preparation
2. Learning to design the Architecture
3. Adopt any one of the Software Processing Models

Implementation Details:

3. Implementation of the Project(Any programming language can be used)
4. Unit Testing, Integration Testing, Whole system Integration
5. Validation Process
6. Deployment of the software

Outcomes and Conclusion:

1. Understanding the different concepts of software engineering.
2. Analyzing the adaptation of Software Processing Model

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Rubrics CTA COMPONENT (10 Marks)

1. First Phase(3 marks)

   Requirement Collection
   Preparing SRS document
   Frontend Design using WEB TECHNOLOGY
   (Before FIRST - IA)

2. Second Phase(2 marks)

   Backend design(database creation), writing queries, establishing connectivity from frontend to Backend.
   (Before SECOND - IA)

3. Third Phase(5 marks)

   Validation, verification presentation and report generation.
   (Before THIRD - IA)

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BEST PRACTICE

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Title of the Best Practice	Designing software project
Course Name:	Agile Methodologies
Semester:	VI
Division	A
Duration of the Course:	3 Months
Course Teacher:	Prof. Vasudev K. Parvati

Objectives:

1. Adopting different agile techniques.
2. Learning to design the various modules using Agile methodologies

Implementation Details:

1. Designing the software model using different agile methods.
2. Creating Algorithm for each module designed.
3. Creating pseudo-codes for each module using Agile techniques.

Outcomes and Conclusion:

1. Understanding different concepts of Agile methodology.
2. Analyzing the suitable agile technology for the implementation.

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BEST PRCTICES

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HOD – ISE

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NOTEWORTY TEACHING / LEARNING (TL) PRACTICE

By
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Course:	**Digital Circuits and Computer Organization - 21UISC301**
Semester:	**3rd – Class Size :60 at Under Graduate level**
Duration of the Course:	**Nov-March 2023**
Course Teacher:	**Deepa Bendigeri**

Name of the TL Practice: Simulation based Learning

Objectives:

- To Make use of simplifying techniques in the design of combinational circuits.
- To illustrate combinational and sequential digital circuits.
- To demonstrate the use of flip-flops and apply for registers.
- To Design and test counters.

Outcomes:

- Students will be able to Design different Combinational and Sequential circuits, its working principle using simulators.

Description of the Practice:

- Students are asked to make a team of two members.
- Students will be given different Combinational and sequential circuits as term works.
- Students should simulate the assigned term works using simulators such as P-Spice, VHDL simulator.
- For simulation carries 5 marks.

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Impact Analysis:

Based on simulation based learning, students will easily understand working of Sequential and Combinational Circuits.

Course Instructor

(Mrs.Deepa Bendigeri)

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NOTEWORTY TEACHING / LEARNING(TL) PRACTICE

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Course:	**Finite Automata and Formal Language – 21UISC303**
Semester:	**III - Under Graduate level**
Duration of the Course:	**Nov- Mar 2023**
Course Teacher:	**Dr. Pushpalatha S. Nikkam**

Name of the TL Practice: Activity Based - Hands on Practice

Objectives and Outcomes:

1. To learn the basic segment of the compiler
2. Implementation of the Lex and Yacc

Description of the Practice:

The lex programming concepts are explained. C programming language is used to generate the tokens.

The Yacc programming concepts are explained. C programming language is used to further process the tokens in the form of Parse Tree and check out whether the given grammar is ambiguous or not.

50% of this activity is allocated for CTA evaluation as a performance measure

Impact Analysis:

Once the basic concepts are implemented it illustrate a view as how the compiler when asked to design for any language can be rigged-up.

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NOTEWORTY TEACHING / LEARNING(TL) PRACTICE

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Course:	**Financial Markets – 21UAEE306**
Semester:	**3rd – A div : Class Size : at Under Graduate level**
Duration of the Course:	**Nov-Mar- 2023.**
Course Teacher:	**Dr. Vandana S. Bhat**

Name of the TL Practice: Case Study on Financial Market

Objectives

1. To study and understand the various types of financial markets.
2. To have a knowledge of the fundamental concepts and working of financial system.
3. To provide a solution for a given case study.

Outcomes

Description of the Practice:

1. Entire class is divided into groups with a size of three to four members. They are asked to study the different types of financial markets and working of financial system.

2. At the end it is mandatory for each group to submit a report an give a presentation of the case study through Power Point Slides.

3. 40% of CTA is assigned to this case study.

Impact Analysis:

Working in groups during completion of case studies significantly improves student perceptions of learning and may increase performance on assessment questions.

Name of the Course Instructor : Dr. Vandana S. Bhat

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NOTEWORTY TEACHING / LEARNING (TL) PRACTICE

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Course:	**Unix with Shell Programming**
Semester:	**III**
Duration of the Course:	**Nov-March 2023**
Course Teacher:	**Varsha S Jadhav**

Name of the TL Practice: Value Added Lab for prescribed course

Objectives and Outcomes:

The objective of the course is to provide introduction to UNIX Operating System, comprehensive introduction to SHELL, PERL, AWK programming, and use them for pattern matching.

Description of the Practice:

1. Each student is asked to execute the commands thought in classroom every week.
2. Student Record is maintained to in the form of observation book.
3. Students expected to solve the assignment based on regular execution of commands.
4. Finally will be conducted one quiz session based on the work carried out throughout the lab.
5. Marks will be assessed based on the regular performance in the lab as well as marks scored in the quiz.
6. Allocation of marks as follows 5 Marks will be overall Performance in the lab includes attendance submission of the assignments and remaining 5 Marks for Quiz.

Impact Analysis:

This practice will help the students to learn the basic and advanced level commands operation in the Linux environment. Also they will gain the knowledge of execution of scripting language scuh as AWK PERL and SHELL.

NOTEWORTY TEACHING / LEARNING(TL) PRACTICE

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Course:	Advanced Data Structures- 18UISE512
Semester:	5th: Class Size :69 at Under Graduate level
Duration of the Course:	September-December 2022
Course Teacher:	Ms. Arati S. Nayak

Name of the TL Practice:**Practice basedLearning**

Objectives and Outcomes:

3. An ability to design and develop programs for computing real-life applications either in C or C++ or Python using different design strategies
4. To analyze the complexity of algorithms
5. To work in team and improve communication skills
6. To improve analytical and coding skills

Description of the Practice:

Advanced Data structures is an elective subject, where students learn about the creation and different operations on advanced data structures. In 4th semester they have learnt different design strategies, algorithms and analysis (course-Design and Analysis of Algorithms). In both courses there are no associated labs. So, to improve the coding skills, a class of 69 students is divided into 29 groups, where each group consists of either 2 or 3 students. Each group is assigned one concept on which they have to carry out the implementation of algorithms using either C/C++/ Python and demonstrate with illustration. They can use either PowerPoint presentations or board- chalk. Finally, they have to submit a report on their presentation.

Impact Analysis:

- Data structures and algorithms are crucial for landing a job since they make it easier to handle programming-related issues and speed up the campus placement process.A better understanding of data structures and algorithms will ultimately make a student a better programmer. This is done by implementation and presentation.
- Working in team teaches essential communication skills, such as active listening, effective speaking and encourages personal growth.

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NOTEWORTY TEACHING / LEARNING (TL) PRACTICE

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Course:	**Database Management Systems-18UISC502**
Semester:	**5th – Class Size :69 at Under Graduate level**
Duration of the Course:	**September -December 2022.**
Course Teacher:	**Prof.Leena I.Sakri**

Name of the TL Practice: Project based Learning

Objectives :

- Ability to Understand the design of a database from scratch by applying ER Design and Normalization

Outcomes:

- Students will be able to demonstrate different database applications using any of the above mentioned methods.

Description of the Practice:

1. Students are asked to make a team of two members.
2. Students will be given different applications and queries on the same application
3. Students should design the database application as follows,
    - ER Diagram
    - Normalization
4. The project should be implemented using database server(MySQL) and any front end tool(PhP,Java applets)

Impact Analysis:

Project based learning will help the students to design the database from scratch and learn the concepts of designing the database and also learn frontend tools like php, java applets etc. Evaluation is done as a part of laboratory and will b evaluated for 20 marks.

Course Instructor

(Prof.Leena I.Sakri)

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NOTEWORTHY TEACHING / LEARNING(TL) PRACTICE

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Course:	**Java and Web Technology – 18UISC501**
Semester:	**5th – A div : Class Size : 69 at Under Graduate level**
Duration of the Course:	**Sept 2022 - Jan 2023**
Course Teacher:	**Ms. Pratibha Badiger**

Name of the TL Practice: Project based learning(Coding Assignment)

Objectives and Outcomes:

1. To learn framework tools
2. To implement the project using a framework
3. To improve coding and debugging skills

Description of the Practice:

Students will be divided into teams with a size of 3 in each and are expected to implement the coding assignment using a framework. Demonstration of the implementation will be evaluated before IA-III.

This activity will be evaluated for 50% of the CTA marks.

Impact Analysis:

The students will get familiar with the framework usage and this helps them to be able to leverage the knowledge of programming language. This activity improves their coding and debugging skills.

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NOTEWORTY TEACHING / LEARNING (TL) PRACTICE

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Course:	**Computer Networks- 18UISC503**
Semester:	**5th – Class Size :69 at Under Graduate level**
Duration of the Course:	**September -December 2022.**
Course Teacher:	**Mr. Sachidanand S Joshi**

Name of the TL Practice: Simulation based Learning

Objectives:

- Ability to Understand the working of any Network simulators such as (NS2/NS3/OMNET++/Opnet)

Outcomes:

- Students will be able to demonstrate different network topologies using UDP and TCP connection and its working principle using any of the above mentioned simulators.

Description of the Practice:

- Students are asked to make a team of two members.
- Students will be given different network topologies, routing algorithms as term works.
- Students should simulate the assigned term works using any of the simulators(NS-2/NS-3/Omnet++/Opnet)

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Impact Analysis:

Based on simulation based learning, students will easily understand the Network functionalities without using test bed.

Course Instructor

(Mr. Sachidanand S Joshi)

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SDM College of Engineering & Technology

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NOTEWORTY TEACHING / LEARNING(TL) PRACTICE

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Course:	**Management, Entrepreneurship and IPR – 18UHUC500**
Semester:	**5th – A div : Class Size : 69 at Under Graduate level**
Duration of the Course:	**Aug-Dec 2022.**
Course Teacher:	**Dr. Vandana S. Bhat**

Name of the TL Practice: Cooperative Learning *(Presentation)*

Objectives

1. To foster cooperation rather than competition.
2. To develop communicative and presentation skills through face to face interaction.

Outcomes

1. Students will be able to engage in group activities that increase learning and add other important dimensions.
2. Overall presentation skills are expected to improve.

Description of the Practice

Management, Entrepreneurship and IPR is a course at undergraduate for V semester level. Cooperative learning is a teaching strategy which is adopted for this subject.

- Entire class is divided into groups with a size of three in a team. Topics pertaining to financial market are to be chosen by the students and presentation has to be given on the chosen topic. 40% of the CTA is allocated to this assignment.

- Each group is expected to

  1. To study and understand the concepts of financial market.

  2. At the end of their study, they have to prepare a report of their topic and give a oral presentation of their work through PowerPoint slides.

Impact Analysis:

- Cooperative efforts may be expected to be more productive than competitive and individualistic effort. Thus Cooperative learning will be an effective teaching and learning tool for students with special educational needs.

- Working in team would be help an Individual student to enhance communication skills such as effective speaking, Group accountability, Interpersonal and group skills, group processing.

Name of the Course Instructor : Dr. Vandana S. Bhat Signature :

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NOTEWORTY TEACHING / LEARNING(TL) PRACTICE

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Course:	**Storage Management- 18UISC701**
Semester:	**7th- Class Size :79 at Under Graduate level**
Duration of the Course:	**Sept-Dec 2022.**
Course Teacher:	**Dr. Anita Dixit**

Name of the TL Practice: Case study on Storage Technologies

Objectives and Outcomes:

1. To estimate the data usage by an individual
2. To study the various types of storage technologies used in different organization
3. To summarize the observation made during the visit to organization and prepare a report and present it orally

Description of the Practice:

1. Each student is asked to record his/her data usage in mobile as well as in Laptop/Desktop for one week. They are asked to calculate total, average, maximum and minimum data usage. This assignment helps the student to know about the data generation per day. 30% of the CTA is allocated to this assignment
2. A group comprising of 3-4 members are asked to visit the organization of their choice such as, Insurance Company, AIR, BSNL, Passport office, LIC, Railways, RUDSET, etc.
3. Each group is expected to
    i. Study about the kind and amount of data generated every day.
    ii. Note down the means of storage devices and technologies.
    iii. Backup methods used to recover the data.
    iv. Security measures used to protect the data.
4. At the end of their case study, they have to prepare a report of their observation and give a oral presentation of their work through PowerPoint slides
5. 70% of the CTA is allocated to this case study

Impact Analysis:

This case study will help the students to have an exposure to the real world and study about the data generation, data dissemination, data storage, data protection in the real scenario. Also they study about the different storage devices and technology.

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Course:	Big Data Analytics 18UISC700
Semester:	**7th Semester Size :79 at Under Graduate level**
Duration of the Course:	**Sept-Dec 2022**
Course Teacher:	**Dr. Rajashekarappa**

Name of the TL Practice: Case Study on Big Data

Objectives and Outcomes:

1. To study the various types of storage technologies used in different organization with respect to Big Data.
2. To learn modern tools for solving the Big Data Analytics problems.
3. To summarize the observation made during the Literature Survey and prepare a report and present it orally.

Description of the Practice:

1. A group comprising of 3-4 members are asked to do the Literature Survey for the same.
2. At the end of their case study, they have to prepare a report of their observation and give a verbal presentation of their work through PowerPoint slides.
3. 50% of the CTA is allocated to this case study

Impact Analysis:

This case study will help the students to have an exposure to the real world and study about the data generation, data storage, Big Data Analytics in the real scenario. Also they study about the different Tools and Technologies.

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Course:	**Mobile Communication and Computing- 18UISE712**
Semester:	**7th – Class Size :79 at Under Graduate level**
Duration of the Course:	**September -December 2022.**
Course Teacher:	**Mr. Sachidanand S Joshi**

Name of the TL Practice: Simulation based Learning

Objectives:

- Ability to Understand the working of any Network simulators such as (NS2/NS3/OMNET++/Opnet)

Outcomes:

- Students will be able to demonstrate different routing protocols and its working principle using any of the above mentioned simulators.

Description of the Practice:

- Students are asked to make a team of two members.
- Students will be given some Adhoc and sensor routing protocols and ask them to compare the routing protocols as term works.
- Students should simulate the assigned term works using any of the simulators(NS-2/NS-3/Omnet++/Opnet)

Impact Analysis:

Based on simulation based learning, students will easily understand the Network functionalities without using test bed.

Course Instructor

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