J.B. INSTITUTE OF ENGINEERING & TECHNOLOGY

(AUTONOMOUS)

SOFTWARE ENGINEERING COURSE PLAN

BIJAYA KUMAR BISWAL
Assistant Professor, CSE

		ACADEMIC YEAR	**2013-14**

		2013-14
	COURSE PLAN	Regulation: R11

FACULTY DETAILS:

Name of the Faculty:	Bijaya Kumar Biswal
Designation:	Assistant Professor
Department:	Computer Science & Engineering

COURSE DETAILS:

Name Of The Programme:	B.Tech	Batch::	2011
Designation:	B. Tech-III Year		
Year :	2013	Semester:	I
Department:	CSE		
Title of The Subject:	Software Engineering	Subject Code:	SE
No of Students:	131		

		2013-14
	COURSE PLAN	Regulation: R11

FACULTY DETAILS:

Name of the Faculty: Bijaya Kumar Biswal
Designation: Assistant Professor
Department: Computer Science & Engineering

1. TARGET

a) Percentage Pass   100 %

b) Percentage I class   90%

2. COURSE PLAN

(Please write how you intend to cover the contents: i.e., coverage of Units by lectures, guest lectures, design exercises, solving numerical problems, demonstration of models, model preparation, or by assignments, etc.)

3. METHOD OF EVALUATION

3.1. ☐ Continuous Assessment Examinations (CAE 1, CAE 2)

3.2. ☐ Assignments / Seminars

3.3. ☐ Mini Projects

3.4. ☐ Quiz

3.5. ☐ Term End Examination

3.6. ☐ Others

4. List out any new topic(s) or any innovation you would like to introduce in teaching the subject in this Semester.

Signature of HOD   Signature of Faculty
Date: Date:

FACULTY DETAILS:

Name of the Faculty: Bijaya Kumar Biswal

Designation: Assistant Professor

Department: Computer Science & Engineering

Guidelines for Preparing the Course:

Course Description:

Software Engineering (SE) comprises the core principles consistent in software construction and maintenance: fundamental software processes and life-cycles, mathematical foundations of software engineering, requirements analysis, software engineering methodologies and standard notations, principles of software architecture and re-use, software quality frameworks and validation, software development, and maintenance environments and tools. An introduction to object-oriented software development process and design. Topics include: iterative development, interpretation of requirements and use case documents into code; application of design notation in UML and use of commonly-used design patterns. Current industry-strength programming languages, technologies and systems feature highly in the practical components, electives and projects of the course, but they are also taught with a view to understanding and applying principles underlying their more ephemeral character.

Course Objectives:

1. Knowledge of basic SW engineering methods and practices, and their appropriate application.
2. Describe software engineering layered technology and Process frame work.
3. A general understanding of software process models such as the waterfall and evolutionary models.
4. Understanding of software requirements and the SRS documents.
5. Understanding of the role of project management including planning, scheduling, risk management, etc.
6. Describe data models, object models, context models and behavioural models.
7. Understanding of different software architectural styles.
8. Understanding of implementation issues such as modularity and coding standards.

9. Understanding of approaches to verification and validation including static analysis, and

   reviews.

10. Understanding of software testing approaches such as unit testing and integration testing.

11. Describe software measurement and software risks.

12. Understanding of software evolution and related issues such as version management.

13. Understanding on quality control and how to ensure good quality software.

	COURSE OBJECTIVES	2013-14
		Regulation: R11

Learning Outcomes:

1. Basic knowledge and understanding of the analysis and design of complex systems.
2. Ability to apply software engineering principles and techniques.
3. Ability to develop, maintain and evaluate large-scale software systems.
4. To produce efficient, reliable, robust and cost-effective software solutions.
5. Ability to perform independent research and analysis.
6. To communicate and coordinate competently by listening, speaking, reading and writing english for technical and general purposes.
7. Ability to work as an effective member or leader of software engineering teams.
8. To manage time, processes and resources effectively by prioritising competing demands to achieve personal and team goals Identify and analyzes the common threats in each domain.
9. Ability to understand and meet ethical standards and legal responsibilities.

FACULTY DETAILS:

Name of the Faculty: Bijaya Kumar Biswal
Designation: Assistant Professor
Department: Computer Science & Engineering

On completion of this Subject / Course the student shall be able to:

S. No.	Objectives	Outcomes
1.	Understand basic SW engineering methods and practices, and their appropriate application.	1
2.	Understand u of software process models such as the waterfall and evolutionary models.	3
3.	Role of project management including planning, scheduling and, risk management.	5
4.	Discuss data models, object models, context models and behavioural models.	6
5.	Understand of different software architectural styles and Process frame work.	2,7
6.	Understand of implementation issues such as modularity and coding standards.	8
7.		

	Understand to verification and validation including static analysis, and reviews.	9,10
8.	Describe software measurement and software risks.	11
9.	Discuss software evolution and related issues such as version management.	12
10.	Understand on quality control and how to ensure good quality software.	13

Signature of Faculty
Date:

Note: For each of the OBJECTIVE indicate the appropriate OUTCOMES to be achieved.
Kindly refer Page 16, to know the illustrative verbs that can be used to state the objectives.

FACULTY DETAILS:

Name of the Faculty: Bijaya Kumar Biswal
Designation: Assistant Professor
Department: Computer Science & Engineering

The expected outcomes of the Course / Subject are:

S.No.	General Categories of Outcomes	Specific Outcomes of the Course
A.	An ability to apply knowledge of mathematics, science, and engineering	Fundamental knowledge in mathematics, computer science, programming and computer systems
B.	An ability to design and conduct experiments, as well as to analyze and interpret data	Basic knowledge and understanding of the analysis, synthesis and design of complex systems
C.	An ability to design a system, component, or process to meet desired needs within realistic Constraints such as economic, environmental, social, political, ethical, health and safety, Manufacturability and sustainability	Software engineering principles and techniques
D.	An ability to function on multi-disciplinary teams	To develop, maintain and evaluate large-scale software systems
E.	An ability to identify, formulate, and solve engineering problems	To produce efficient, reliable, robust and cost-effective software solutions
F.	An understanding of professional and ethical responsibility	To meet ethical standards and legal responsibilities
G.	An ability to communicate effectively	To communicate and coordinate competently by listening, speaking, reading and writing
H.	The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context	Apply the principles, tools and practices of IT project management
I.	A recognition of the need for, and an ability to engage in life-long learning	To manage time, processes and resources effectively by prioritising competing demands
J.	A knowledge of contemporary issues	To work as an effective member or leader of software engineering teams

K.	An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.	To rapidly learn and apply emerging technologies

Objectives – Outcome Relationship Matrix (Indicate the relationships by ☒ mark)**.**

Objectives \ Outcomes	A	B	C	D	E	F	G	H	I	J	K
1.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
2.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
3.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
4.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
5.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
6.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
7.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
8.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
9.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
10.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

<table>
<tr><td rowspan="2"></td><td></td><td colspan="2">2013-14</td></tr>
</table>

	COURSE SCHEDULE	2013-14
		Regulation: R11

FACULTY DETAILS:

Name of the Faculty:	Bijaya Kumar Biswal
Designation:	Assistant Professor
Department:	Computer Science & Engineering
The Schedule for the whole Course / Subject is:	Software Engineering

S. No.	Description	Duration (Date) From	To	Total No. of Periods
1.	Introduction to Software Engineering and a generic view of process	03-07-2013	15-07-2013	09
2.	Process models and software requirements	16-07-2013	27-07-2013	08
3.	Requirements engineering process and system models	29-07-2013	05-08-2013	07
4.	Design engineering creating an architectural design	06-08-2013	17-08-2013	07
5.	Model component- level design and performing user interface design	20-08-2013	24-08-2013	06
6.	Testing strategies product metrics	26-08-2013	11-09-2013	10
7	Metrics for process and products Risk management	13-09-2013	23-09-2013	07
8	Quality Management	24-09-2013	19-10-2013	06

Total No. of Instructional periods available for the course: 50 Hours / 60 Periods

<table>
<tr><td colspan="3">

SCHEDULE OF INSTRUCTIONS

UNIT - I

</td><td>

2013-14

Regulation:
R11

</td></tr>
</table>

FACULTY DETAILS:

Name of the Faculty:	Bijaya Kumar Biswal
Designation:	Assistant Professor
Department:	Computer Science & Engineering
The Schedule for the whole Course / Subject is:	Software Engineering

Sl. No.	Date	No. of Periods	Topics / Sub - Topics	Objectives & Outcome Nos.	References (Text Book, Journal…) Page No___ to ___	
1	03-07-2013	1	Introduction to software Engineering	1	TB1	
2	03-07-2013	2	The evolving role of software	1	TB1	
3	03-07-2013	3	Changing nature of software	1	TB1	
4	03-07-2013	4	Legacy systems, software myths	1	TB1	
5	03-07-2013	5	Software engineering- a layered technology	2	TB1	
6	03-07-2013	6	Process frame work	2	TB1	TB1
7	03-07-2013	7	CMMI, Process patterns	2	TB1	
8	03-07-2013	8	Process assessment	1, 2	TB1	
9	15-07-2013	9	Personal and team process models	1, 2	TB1	

Text Book:

TB1: Software Engineering: A Practitioner's Approach, Roger S Pressman 6th Edition

TB1: Software Engineering: Iyan Somarville, 7th Edition

Signature of Faculty
Date

	SCHEDULE OF INSTRUCTIONS	2013-14
	UNIT - II	Regulation: R11

FACULTY DETAILS:

Name of the Faculty: Bijaya Kumar Biswal
Designation: Assistant Professor
Department: Computer Science & Engineering
The Schedule for the whole Course / Subject is: Software Engineering

Sl. No.	Date	No. of Periods	Topics / Sub - Topics	Objectives & Outcome Nos.	References (Text Book, Journal…) Page No___ to ___
10	16-07-2013	10	The water fall model, Incremental process models	3	TB1,TB2
11	19-07-2013	11	Evolutionary process models	3	TB1
12	20-07-2013	12	Specialized process models	3	TB1,TB2
13	22-07-2013	13	The unified process	3,4	TB1,TB2
14	23-07-2013	14	Functional requirements	3,4	TB1,TB2
15	24-07-2013	15	Non functional requirements	4	TB1,TB2
16	26-07-2013	16	User requirements, System requirements	4	TB1,TB2
17	27-07-2013	17	System requirements and Interface specification	4	TB1

Signature of Faculty
Date

FACULTY DETAILS:

Name of the Faculty: Bijaya Kumar Biswal
Designation: Assistant Professor
Department: Computer Science & Engineering
The Schedule for the whole Course / Subject is: Software Engineering

Sl. No.	Date	No. of Periods	Topics / Sub - Topics	Objectives & Outcome Nos.	References (Text Book, Journal…) Page No___ to ___
18	29-07-2013	18	Feasibility studies	5	TB2
19	30-07-2013	19	Requirements elicitation and analysis	5	TB2
20	31-07-2013	20	Requirements validation,	5	TB2
21	02-08-2013	21	Requirements management	5	TB2
22	03-08-2013	22	Context models, Behavioral models	6	TB2
23	04-08-2013	23	Structured methods	6	TB2
24	05-08-2013	24	data models, object models	6	TB2

Signature of Faculty
Date

Note: 1. ENSURE THAT ALL TOPICS SPECIFIED IN THE COURSE ARE MENTIONED.
2. ADDITIONAL TOPICS COVERED, IF ANY, MAY ALSO BE SPECIFIED **BOLDLY**.
MENTION THE CORRESPONDING COURSE OBJECTIVE AND OUT COME NUMBERS AGAINST EACH TOPIC.

FACULTY DETAILS:

Name of the Faculty: Bijaya Kumar Biswal
Designation: Assistant Professor
Department: Computer Science & Engineering
The Schedule for the whole Course / Subject is: Software Engineering

Sl. No.	Date	No. of Periods	Topics / Sub - Topics	Objectives & Outcome Nos.	References (Text Book, Journal…) Page No___ to ___
25	06-08-2013	25	Design process & design quality	8	TB1
26	06-08-2013	26	Design concepts, The design models	8	TB1
27	06-08-2013	27	Software architecture	7	TB1
28	06-08-2013	28	Data design	8	TB1
29	06-08-2013	29	Architectural styles & patterns	7	TB1
30	06-08-2013	30	Architectural design, Assessing alternative architectural designs	7	TB1
31	17-08-2013	31	Mapping data flow into a software architecture.	8	TB1

Signature of Faculty
Date

Note: 1. ENSURE THAT ALL TOPICS SPECIFIED IN THE COURSE ARE MENTIONED.
2. ADDITIONAL TOPICS COVERED, IF ANY, MAY ALSO BE SPECIFIED **BOLDLY**.
MENTION THE CORRESPONDING COURSE OBJECTIVE AND OUT COME NUMBERS AGAINST EACH TOPIC.

FACULTY DETAILS:

Name of the Faculty: Bijaya Kumar Biswal
Designation: Assistant Professor
Department: Computer Science & Engineering
The Schedule for the whole Course / Subject is: Software Engineering

Sl. No.	Date	No. of Periods	Topics / Sub - Topics	Objectives & Outcome Nos.	References (Text Book, Journal...) Page No___ to ___
32	20-08-2013	32	Designing class based components, conducting component level design	8	TB1
33	20-08-2013	33	Object constraint language	8	TB1
34	21-08-2013	34	Designing conventional components	9	TB1
35	22-08-2013	35	Golden rules, user interface analysis and design	8	TB1
36	23-08-2013	36	Interface analysis	9	TB1
37	24-08-2013	37	Interface design steps, design evaluation	9	TB1

Signature of Faculty
Date

Note: 1. ENSURE THAT ALL TOPICS SPECIFIED IN THE COURSE ARE MENTIONED.
2. ADDITIONAL TOPICS COVERED, IF ANY, MAY ALSO BE SPECIFIED **BOLDLY**.
MENTION THE CORRESPONDING COURSE OBJECTIVE AND OUT COME NUMBERS AGAINST EACH TOPIC.

	SCHEDULE OF INSTRUCTIONS	2013-14
	UNIT - VI	Regulation: R11

FACULTY DETAILS:

Name of the Faculty: Bijaya Kumar Biswal
Designation: Assistant Professor
Department: Computer Science & Engineering
The Schedule for the whole Course / Subject is: Software Engineering

Sl. No.	Date	No. of Periods	Topics / Sub - Topics	Objectives & Outcome Nos.	References (Text Book, Journal...) Page No___ to ___
38	26-08-2013	38	A strategic approach to software testing	9	TB1
39	26-08-2013	39	Test strategies for conventional software	9	TB1
40	26-08-2013	40	Black box and white box testing, Validation testing	10	TB1
41	26-08-2013	41	System testing, The art of debugging	10	TB1
42	26-08-2013	42	Functional and Non functional testing	10	TB1
43	11-09-2013	43	Planning and Ad hoc testing	10	TB1
44	11-09-2013	44	Test case format representation	9	TB1
45	11-09-2013	45	Frame work for product metrics	9	TB1
46	11-09-2013	46	Metrics for analysis model, metrics for design model	9	TB1
47	11-09-2013	47	Metrics for source code, metrics for testing, metrics for maintenance	9	TB1

Signature of Faculty
Date

Note: 1. ENSURE THAT ALL TOPICS SPECIFIED IN THE COURSE ARE MENTIONED.
2. ADDITIONAL TOPICS COVERED, IF ANY, MAY ALSO BE SPECIFIED **BOLDLY**.
MENTION THE CORRESPONDING COURSE OBJECTIVE AND OUT COME NUMBERS AGAINST EACH TOPIC.

FACULTY DETAILS:

Name of the Faculty: Bijaya Kumar Biswal
Designation: Assistant Professor
Department: Computer Science & Engineering
The Schedule for the whole Course / Subject is: Software Engineering

Sl. No.	Date	No. of Periods	Topics / Sub - Topics	Objectives & Outcome Nos.	References (Text Book, Journal…) Page No___ to ___
48	13-09-2013	48	Software measurement	11	TB1
49	14-09-2013	49	Metrics for software quality	11	TB1
50	16-09-2013	50	Reactive vs. Proactive risk strategies	11	TB1
51	17-09-2013	51	Software risks	11	TB1
52	20-09-2013	52	Risk identification, Risk projection	11	TB1
53	21-09-2013	53	Risk refinement	11	TB1
54	23-09-2013	54	RMMM, RMMM Plan	11	TB1

Signature of Faculty
Date

Note: 1. ENSURE THAT ALL TOPICS SPECIFIED IN THE COURSE ARE MENTIONED.
2. ADDITIONAL TOPICS COVERED, IF ANY, MAY ALSO BE SPECIFIED **BOLDLY**.
MENTION THE CORRESPONDING COURSE OBJECTIVE AND OUT COME NUMBERS AGAINST EACH TOPIC.

FACULTY DETAILS:

Name of the Faculty: Bijaya Kumar Biswal
Designation: Assistant Professor
Department: Computer Science & Engineering
The Schedule for the whole Course / Subject is: Software Engineering

Sl. No.	Date	No. of Periods	Topics / Sub - Topics	Objectives & Outcome Nos.	References (Text Book, Journal…) Page No___ to ___
55	24-09-2013	55	Quality concepts	12, 13	TB1
56	24-09-2013	56	Software quality assurance	12, 13	TB1
57	19-10-2013	57	Software reviews, formal technical reviews	12	TB1
58	19-10-2013	58	Statistical software quality assurance	13	TB1
59	19-10-2013	59	Software reliability	13	TB1
60	19-10-2013	60	The ISO 9000 quality standards	13	TB1

Signature of Faculty
Date

Note: 1. ENSURE THAT ALL TOPICS SPECIFIED IN THE COURSE ARE MENTIONED.
2. ADDITIONAL TOPICS COVERED, IF ANY, MAY ALSO BE SPECIFIED **BOLDLY**.
MENTION THE CORRESPONDING COURSE OBJECTIVE AND OUT COME NUMBERS AGAINST EACH TOPIC.

<table>
<tr><td colspan="2" rowspan="2"></td><td rowspan="2">**COURSE COMPLETION STATUS**</td><td>2013-14</td></tr>
<tr><td>Regulation: R11</td></tr>
</table>

FACULTY DETAILS:

Name of the Faculty: Bijaya Kumar Biswal

Subject: Software Engineering   Subject Code: SE

Department: Computer Science & Engineering

Actual Date of Completion & Remarks, if any

Units	Remarks	Nos. of Objectives Achieved
Unit 1	No	1,2
Unit 2	No	3,4
Unit 3	No	5,6
Unit 4	No	7,8
Unit 5	No	8,9
Unit 6	No	9,10
Unit 7	No	11
Unit 8	No	12,13

Signature of Dean of School   **Signature of Faculty**
Date: **Date:**

NOTE: AFTER THE COMPLETION OF EACH UNIT MENTION THE NUMBER OF OBJECTIVES ACHIEVED.

FACULTY DETAILS:

Name of the Faculty:	Bijaya Kumar Biswal
Designation:	Assistant Professor
Department:	Computer Science & Engineering
The Schedule for the whole Course / Subject is:	Software Engineering

Date: 07-08-2013

This Tutorial corresponds to Unit Nos.: I and II   Time: 10.00 A.M

Q1. Define software and explain the software characteristics.

Q2. Discuss the attributes of a good software.

Q3. Explain the process maturity levels in detail.

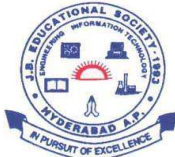Q4. Discuss the about various phases of the assessment.

Q5. Define Functional & Non functional requirements.

Q6. Explain various types of evolutionary development.

Please write the Questions / Problems / Exercises which you would like to give to the students and also mention the objectives to which these questions / Problems are related.

Signature of Dean of School   **Signature of Faculty**
Date: **Date:**

FACULTY DETAILS:

Name of the Faculty: Bijaya Kumar Biswal
Designation: Assistant Professor
Department: Computer Science & Engineering
The Schedule for the whole Course / Subject is: Software Engineering

Date: 04-09-2013

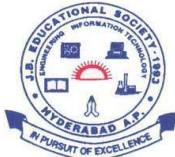This Tutorial corresponds to Unit Nos.: III, IV and V   Time: 10.00 A.M

Q1. Explain the requirement analysis techniques.

Q2. Explain the structure of viewpoints and services template form.

Q3. What is requirements management and why is it needed.

Q4. Discuss the advantages and disadvantages of modularization.

Q5. What are the goals of the user interface design.

Q6. What is software architecture gives an example.

Please write the Questions / Problems / Exercises which you would like to give to the students and also mention the objectives to which these questions / Problems are related.

Signature of Dean of School   **Signature of Faculty**
Date: **Date:**

FACULTY DETAILS:

Name of the Faculty::   Bijaya Kumar Biswal
Designation: Assistant Professor
Department::   Computer Science & Engineering

Date: 11-10-2013

This Tutorial corresponds to Unit Nos.: VI, VII and VIII

Time: 10.00 A.M

Q1. What is the overall strategy for software testing.

Q2. State and explain various debugging tactics.

Q3. Explain the size oriented metrics with an example.

Q4. Distinguish between metrics and measurements.

Q5. Discuss the importance of quality assurance.

Q6. Discuss about ISO 9000 quality standards.

Please write the Questions / Problems / Exercises which you would like to give to the students and also mention the objectives to which these questions / Problems are related.

Signature of Dean of School
Date:

Signature of Faculty
Date:

	ILLUSTRATIVE VERBS FOR STATING INSTRUCTIONAL OBJECTIVES	2013-14
		Regulation: R11

These verbs can also be used while framing questions for Continuous Assessment Examinations as well as for End – Semester (final) Examinations.

ILLUSTRATIVE VERBS FOR STATING **GENERAL OBJECTIVES**

Know Comprehend	Understand Apply	Analyze Design	Generate Evaluate

ILLUSTRATIVE VERBS FOR STATING **SPECIFIC OBJECTIVES:**

A. Cognitive Domain

1	2	3	4	5	6
Knowledge	**Comprehension Understanding**	**Application** of knowledge & comprehension	**Analysis** of whole w.r.t. its constituents	**Synthesis** combination of ideas/constituents	**Evaluation** judgement
Define	Convert	Change	Breakdown	Categorize	Appraise
Identify	Defend	Compute	Differentiate	Combine	Compare
Label	Describe (a	Demonstrate	Discriminate	Compile	Conclude
List	procedure)	Deduce	Distinguish	Compose	Contrast
Match	Distinguish	Manipulate	Separate	Create	Criticize
Reproduce	Estimate	Modify	Subdivide	Devise	Justify
Select	Explain why/how	Predict		Design	Interpret
State	Extend	Prepare		Generate	Support
	Generalize	Relate		Organize	
	Give examples	Show		Plan	
	Illustrate	Solve		Rearrange	
	Infer			Reconstruct	
	Summarize			Reorganize	
				Revise	

B. Affective Domain		**C. Psychomotor Domain (skill development)**				
Adhere	Resolve	Bend	Dissect	Insert	Perform	Straighten
Assist	Select	Calibrate	Draw	Keep	Prepare	Strengthen
Attend	Serve	Compress	Extend	Elongate	Remove	Time
Change	Share	Conduct	Feed	Limit	Replace	Transfer
Develop		Connect	File	Manipulate	Report	Type
Help		Convert	Grow	Move	precisely Reset	Weigh
Influence		Decrease	Handle	Operate	Run	
Initiate		Demonstrate	Increase	Paint	Set	

	LESSON PLAN Unit-1	2013-14
		Regulation: R11

Name of the Faculty: Bijaya Kumar Biswal

Subject: Software Engineering

Subject code: SE

Unit: I

INSTRUCTIONAL OBJECTIVES:

Session No	Topics to be covered	Time	Ref	Teaching Method
1	Introduction to software Engineering	50 Min	TB1	Black Board
2	The evolving role of software	50 Min	TB1	Black Board
3	Changing nature of software	50 Min	TB1	Black Board
4	Legacy systems, software myths	50 Min	TB1	Black Board
5	Software engineering- a layered technology	50 Min	TB1	PPT
6	Process frame work	50 Min	TB1	Black Board
7	CMMI, Process patterns	50 Min	TB1	PPT
8	Process assessment	50 Min	TB1	Black Board
9	Personal & team process models	50 Min	TB1	PPT

On completion of this lesson the student shall be able to (Outcomes)

1. Understand the basic SW engineering methods and practices, and their appropriate application.

2. Describe software engineering layered technology and Process frame work.

	ASSIGNMENT **Unit-I**	2013-14
		Regulation: R11
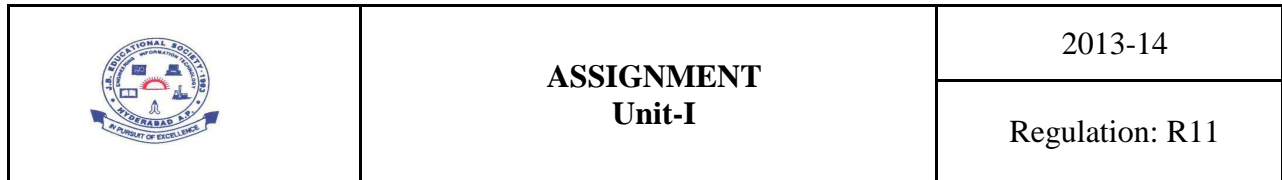
Assignment / Questions

A1- Explain Software engineering Layered technology.

A2- What are the objectives of CMMI.

A3- Explain Software Myths.

Signature of Faculty

Note: Mention for each question the relevant objectives and outcomes.

	LESSON PLAN Unit-II	2013-14
		Regulation: R11

Name of the Faculty: Bijaya Kumar Biswal

Subject: Software Engineering

Subject Code: SE

Unit: **II**

INSTRUCTIONAL OBJECTIVES:

Session No	Topics to be covered	Time	Ref	Teaching Method
10	The water fall model, Incremental process models	**50 Min**	TB1,TB2	Black Board
11	Evolutionary process models	**50 Min**	TB1	Black Board
12	Specialized process models	**50 Min**	TB1,TB2	Black Board
13	The unified process	**50 Min**	TB1,TB2	Black Board
14	Functional requirements	**50 Min**	TB1,TB2	Black Board
15	Non functional requirements	**50 Min**	TB1,TB2	Black Board
16	User requirements, System requirements	**50 Min**	TB1,TB2	Black Board
17	System requirements & Interface specification	**50 Min**	TB1	Black Board

On completion of this lesson the student shall be able to

1. Understanding of software process models such as the waterfall and evolutionary models.

2. Understanding of software requirements and the SRS documents

	ASSIGNMENT **Unit-II**	2013-14
		Regulation: R11

Assignment / Questions

A4- What are the phases of waterfall model.

A5- Explain about Functional and non-functional requirements.

A6- Explain about Spiral and Incremental process models.

Signature of Faculty

Note: Mention for each question the relevant objectives and outcomes.

	LESSON PLAN Unit-III	2013-14
		Regulation: R11

Name of the Faculty: Bijaya Kumar Biswal

Subject: Software Engineering

Subject Code: SE

Unit: III

INSTRUCTIONAL OBJECTIVES:

Session No	Topics to be covered	Time	Ref	Teaching Method
18	Feasibility studies	50 Min	TB2	Black Board
19	Requirements elicitation and analysis	50 Min	TB2	Black Board
20	Requirements validation,	50 Min	TB2	Black Board
21	Requirements management	50 Min	TB2	Black Board
22	Context models, Behavioral models	50 Min	TB2	Black Board
23	Structured methods	50 Min	TB2	Black Board
24	data models, object models	50 Min	TB2	Black Board

On completion of this lesson the student shall be able to (Outcomes)

1. Understanding of the role of project management including planning, scheduling and risk management.

2. Describe data models, object models, context models and behavioural models.

	ASSIGNMENT Unit-III	2013-14
		Regulation: R11

Assignment / Questions

A7. Briefly explain about the Requirements elicitation and analysis.

A8. Write short notes on Object models and structured methods.

.

Signature of Faculty

Note: Mention for each question the relevant objectives and outcomes.

Name of the Faculty: Bijaya Kumar Biswal

Subject: Software Engineering

Subject Code: SE

Unit: IV

INSTRUCTIONAL OBJECTIVES:

Session No	Topics to be covered	Time	Ref	Teaching Method
25	Design process & design quality	50 Min	TB1	Black Board
26	Design concepts, The design models	50 Min	TB1	Black Board
27	Software architecture	50 Min	TB1	PPT
28	Data design	50 Min	TB1	Black Board
29	Architectural styles & patterns	50 Min	TB1	PPT
30	Architectural design, Assessing alternative architectural designs	50 Min	TB1	PPT
31	Mapping data flow into a software architecture.	50 Min	TB1	PPT

On completion of this lesson the student shall be able to (Outcomes)

1. Understanding of different software architectural styles.

2. Understanding of implementation issues such as modularity and coding standards.

Assignment / Questions

A9. What is Software architecture? Briefly explain with Architectural styles and patterns.

A10. What is prototype in software engineering? Mapping data flow into a software architecture.

Signature of Faculty

Note: Mention for each question the relevant objectives and outcomes.

Name of the Faculty: Bijaya Kumar Biswal

Subject: Software Engineering

Subject Code: SE

Unit: V

INSTRUCTIONAL OBJECTIVES:

Session No	Topics to be covered	Time	Ref	Teaching Method
32	Designing class based components, conducting component level design	50 Min	TB1	Black Board
33	Object constraint language	50 Min	TB1	Black Board
34	Designing conventional components	50 Min	TB1	Black Board
35	Golden rules, user interface analysis and design	50 Min	TB1	Black Board
36	Interface analysis	50 Min	TB1	
37	Interface design steps, design evaluation	50 Min	TB1	Black Board

On completion of this lesson the student shall be able to (Outcomes)

1. Understanding of approaches to verification and validation including static analysis and reviews.

2. Understanding the Interface design steps and evaluation.

	ASSIGNMENT Unit-V	2013-14
		Regulation: R11

Assignment / Questions

A11. Briefly explain Design evaluation in modelling component level design.

A12. Write short notes on User interface analysis and design.

Signature of Faculty

Note: Mention for each question the relevant objectives and outcomes.

Name of the Faculty: Bijaya Kumar Biswal

Subject: Software Engineering

Subject Code: SE

Unit: VI

INSTRUCTIONAL OBJECTIVES:

Session No	Topics to be covered	Time	Ref	Teaching Method
38	A strategic approach to software testing	50 Min	TB1	Black Board
39	Test strategies for conventional software	50 Min	TB1	Black Board
40	Black box and white box testing, Validation testing	50 Min	TB1	Black Board
41	System testing, The art of debugging	50 Min	TB1	Black Board
42	Functional and Non functional testing	50 Min	TB1	Black Board
43	Planning and Adhoc testing	50 Min	TB1	Black Board
44	Test case format representation	50 Min	TB1	Black Board
45	Frame work for product metrics	50 Min	TB1	PPT
46	Metrics for analysis model, metrics for design model	50 Min	TB1	PPT
47	Metrics for source code, metrics for testing, metrics for maintenance	50 Min	TB1	PPT

On completion of this lesson the student shall be able to (Outcomes)

 1. Understanding of software testing approaches such as unit testing and integration testing.

 2. Understanding of approaches to verification and validation including static analysis and
     metrics for analysis mode.

.

	ASSIGNMENT Unit-VI	2013-14
		Regulation: R11

Assignment / Questions

A13. Explain about test strategies for conventional software.

A14. What is the difference between product measurements and metrics.

Signature of Faculty

Note: Mention for each question the relevant objectives and outcomes.

	LESSON PLAN Unit-VII	2013-14
		Regulation: R11

Name of the Faculty: Bijaya Kumar Biswal

Subject: Software Engineering

Subject Code: SE

Unit: VII

INSTRUCTIONAL OBJECTIVES:

Session No	Topics to be covered	Time	Ref	Teaching Method
48	Software measurement	**50 Min**	TB1	Black Board
49	Metrics for software quality	**50 Min**	TB1	Black Board
50	Reactive vs. Proactive risk strategies	**50 Min**	TB1	Black Board
51	Software risks	**50 Min**	TB1	Black Board
52	Risk identification, Risk projection	**50 Min**	TB1	Black Board
53	Risk refinement	**50 Min**	TB1	Black Board
54	RMMM, RMMM Plan	**50 Min**	TB1	Black Board

On completion of this lesson the student shall be able to

1. Understanding the software measurement and software risks.

2. Understanding risk refinement and risk projection.

	ASSIGNMENT Unit-VII	2013-14
		Regulation: R11

Assignment / Questions

A15. Discuss the direct and indirect measures of software process and product.

A16. Discuss about software tools for test case design.

Signature of Faculty

Note: Mention for each question the relevant objectives and outcomes.

Name of the Faculty: Bijaya Kumar Biswal

Subject: Software Engineering

Subject
Code: SE

Unit: VIII

INSTRUCTIONAL OBJECTIVES:

Session No	Topics to be covered	Time	Ref	Teaching Method
55	Quality concepts	**50 Min**	TB1	Black Board
56	Software quality assurance	**50 Min**	TB1	Black Board
57	Software reviews, formal technical reviews	**50 Min**	TB1	Black Board
58	Statistical software quality assurance	**50 Min**	TB1	Black Board
59	Software reliability	**50 Min**	TB1	Black Board
60	The ISO 9000 quality standards	**50 Min**	TB1	Black Board

On completion of this lesson the student shall be able to

1. Understanding on quality control and how to ensure good quality software.

2. Understanding of software evolution and related issues such as version management.

Assignment / Questions

A17. What is meant by SQA? Discuss in detail SQA activities.

A18. What is formal technical review? Explain how it will assess software design quality.

Signature of Faculty

Note: Mention for each question the relevant objectives and outcomes.