Lecture Plan 1

<u>Unit:-I</u>

<u>Faculty</u>:-Poonam Yadav <u>Semester:-VI</u> <u>Class:-</u>ECS <u>Course Code: -</u> CSE-302-F

Subject: - Principles of Software Engg

S. No.	Topic :- Introduction , concept of s/w product	Time Allotted:-
1.	Introduction: Introduction to the basic of s/w engg and concept of s/w product Evolving role of S/W.	<u>10</u>
2	Division of the Topic Introduction to the subject And importance of s/w engg and definition and explanation of s/w product	<u>20</u>
3.	Conclusion Interest has been build in the students in the subject	<u>15</u>
4	Question / Answer What is the use of s/w engg? How Software evolved?	<u>5</u>

Assignment to be given:-No assignment was given

Lecture Plan 2

Semester:-VI

<u>Faculty: -</u> Poonam Yadav 302-F <u>Subject</u>:-Principles of Software Engg Class:-ECS

Course Code: - CSE-

<u>Unit:-I</u>

S. No.	Topic :- System and there environment	Time Allotted:-
1.	Introduction	<u>15</u>
	What do you mean bye System and there environment Software Characteristics.	
2	Division of the Topic Definition of system and the Introduction to the system and there environment	<u>20</u>
3.	Conclusion A brief intro of the topic was delivered to students in an interactive way	<u>5</u>
4	Question / Answer What is the difference between the system and software product	<u>10</u>

Assignment to be given:-

Students were asked to go through the concerned topic with related topics What are software Characteristics?

Lecture Plan 3

Faculty:- Poonam Yadav Semester:-VI Class:-ECS Course Code:- CSE-302-F

Subject:-Principles of Software Engg.

Unit:-I

S. No.	Topic :- Attributes of well engineered s/w	Time Allotted:-
1.	Introduction What qualities of a s/w counts in Attributes of well engineered s/w Application of Software Engg	<u>10</u>
2	Division of the Topic It should be easy to understand Portable and delivered in time	<u>25</u>
3.	Conclusion It is very important to tell the students what is the importance of making a good software and the quality of good s/w	<u>5</u>
4	Question / Answer What is the difference between the good and bad software	<u>10</u>

Assignment to be given:-Applications of s/w engg.

Lecture Plan 4

Faculty:- Poonam Yadav

Semester:-VI

Class:-ECS Course Code:- CSE-302-F

<u>Unit:-I</u>

Subject: - Principles of Software Engg.

S. No.	Topic :- System procurement, system engg	Time Allotted:-
1.	Introduction Definition and types of System procurement, system engg Software Crisis	<u>10</u>
2	Division of the Topic System procurement And there types Evolutionary and throwaway	<u>20</u>
3.	Conclusion This is the kind of marketing strategies that the companies usually adopt while Getting the s/w order from customers	<u>10</u>
4	Question / Answer What is the need of system procurement and What is system engg? What is S/W crisis?	<u>10</u>

Assignment to be given:-

Students were asked to go through the concerned topic with related topics

Lecture Plan 5

<u>Faculty: -</u> Poonam Yadav	Semester:-VI	Class:-ECS	Course Code: - CSE-302-F
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Subject: - Principles of Software Engg.

<u>Unit:-I</u>

S. No.	Topic :- System architecture modeling and human factor	Time Allotted:-
1.	Introduction	<u>10</u>
	Detail introduction to System architecture modeling and the factors of human factor	
2	Division of the Topic The different models to explain the software architecture	<u>20</u>
	Like water fall model Spiral model etc	
3.	Conclusion	<u>10</u>
	This the basic while going for making any s/w The first step of making a s/w	
4	Question / Answer Difference between these different model	<u>10</u>

Assignment to be given:-

Students were asked to go through the concerned topic with related topics

Lecture Plan 6

<u>Faculty: -</u> Poonam Yadav <u>Semester:-VI</u> <u>Class:-</u>ECS <u>Course Code: -</u> CSE-302-F

Subject: - Principles of Software Engg.

<u>Unit:-I</u>

	Allotted:-
Introduction	<u>15</u>
What are the various mgt activities Various management activities	
Division of the Topic	<u>20</u>
Report management s/w management	
Conclusion	<u>10</u>
All the management activities involved in the development of s/w Was successfully taught	
Question / Answer Do we have any s/w management tool available for these activites	<u>5</u>
	What are the various mgt activities Various management activities Division of the Topic Report management s/w management Conclusion All the management activities involved in the development of s/w Was successfully taught

Assignment to be given:-

No assignment was given

Lecture Plan 7

Faculty: - Poonam YadavSemester:-VIClass:-ECSCourse Code: - CSE-302-F

Subject: - Principles of Software Engg.

Unit:-I

S. No.	Topic :- Project planning and scheduling	Time
5.110.		Allotted:-
1.	Introduction	<u>15</u>
	The importance of Project planning and scheduling	
2	Division of topic The role of the project manager	<u>20</u>
	Importance of planning and scheduling in s/w development Different strategies	
3.	Conclusion Who is responsible of planning the s/w	<u>10</u>
4	Question / Answer What is deliverable and what is milestones	<u>5</u>

Assignment to be given:-

Students were asked to go through the concerned topic with related topic

Lecture Plan 8

Faculty: - Poonam Yadav	Semester:-VI	Class:-ECS	Course Code: - CSE-302-F
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Subject: - Principles of Software Engg.

<u>Unit:-I</u>

S. No.	Topic :- s/w requirement and there specifications	Time Allotted:-
1.	Introduction The detail study of s/w requirement and there specifications	<u>10</u>
2	Division of the Topic Functional req Non functional req. Examples	<u>20</u>
3.	Conclusion What is the importance of collecting the good and complete requirements	<u>10</u>
4	Question / Answer Why it is necessary to always start with the requirement collection	<u>10</u>

Assignment to be given:-

Students were asked to go through the concerned topic with related topics

Lecture Plan 9

<u>Faculty: -</u> Poonam Yadav

Semester:-VI

Class:-ECS Course Code: - CSE-302-F

Unit:-I

Subject: - Principles of Software Engg.

S. No.	Topic :- Validation Requirement analysis	Time Allotted:-
1.	Introduction The importance and uses of Validation Requirement analysis	<u>15</u>
	Project matrics, project estimation?	
2	Division of the Topic	<u>20</u>
	Validation	
	SRS Other documents	
	Data flow diagram	
3.	Conclusion The role of these documents in the industry	<u>10</u>
4	Question / Answer How these documents are written and who is responsible for writing these kinds of documents	<u>5</u>

Assignment to be given:- Explain the concept of data flow diagram.

Reference Readings:-

Introduction to SE by Summerville and by pressman

Lecture Plan 10

<u>Faculty: -</u> Poonam Yadav	Semester:-VI	Class:-ECS	Course Code: - CSE-302-F
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Subject: - Principles of Software Engg.

<u>Unit:-I</u>

S. No.	Topic :- View point oriented analysis ,Method based analysis	Time Allotted:-
1.	Introduction	<u>10</u>
	Different methods of collecting the requirements View point oriented analysis ,Method based analysis Project Scheduling and risk management	
2	Division of the Topic	<u>20</u>
	The different techniques of collecting the requirements, View point oriented analysis Method based analysis Examples	
3.	Conclusion The different methods of analyzing the requirements were taught successfully	<u>10</u>
4	Question / Answer Are these methods really used in industries?	<u>10</u>

Assignment to be given:- No assignment was given

Lecture Plan 11

Faculty: - Poonam Yadav	Semester:-VI	Class:-ECS	Course Code: - CSE-302-F
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Subject: - Principles of Software Engg.

Unit:-I

Time S. No. **Topic :-** Data flow model, semantic object oriented design object Allotted:-1. Introduction 15 Different techniques of making the system's outlook Data flow model, semantic object oriented design object Software prototyping 2 Division of the Topic 20 Different between data and semantic model Importance of these models Introduction to semantic object oriented design Examples Prototyping tools and methods 3. Conclusion 10 Different kinds of models has been taught successfully with Examples 4 Ouestion / Answer <u>5</u> Where are these models used?

Assignment to be given:- assignment was given on the following topics

System procurement, its types, importance of SE, diff between product and process(s/w)

Lecture Plan 12

Faculty: - Poonam Yadav Semester:-VI

Class:-ECS

Course Code: - CSE-302-F

Subject: - Principles of Software Engg.

<u>Unit:-I</u>

Topic :- Design & specifications of system requirement	Time Allotted:-
Introduction	<u>15</u>
Why we need to design the requirements Design & specifications of system requirement The data dictionary.	
Division of the Topic	<u>20</u>
Importance and definition of the system requirement How to make good requirement document SRS Data dictionary	
Conclusion Students were given to write the SRS for a particular requirement collection	<u>10</u>
Question / Answer What are the other documents needed to write the requirements	<u>5</u>
	Introduction Why we need to design the requirements Design & specifications of system requirement The data dictionary. Division of the Topic Importance and definition of the system requirement How to make good requirement document SRS Data dictionary Conclusion Students were given to write the SRS for a particular requirement collection Question / Answer

Assignment to be given:-

Explain Data Dictionary and other classical methods.

Lecture Plan 13

Faculty: -Poonam YadavSemester:-VIClass:-ECSCourse Code:-CSE-302-F

Subject: - Principles of Software Engg.

<u>Unit:-II</u>

S. No.	Topic :- Design & specifications of system requirement	Time Allotted:-
1.	Introduction	<u>10</u>
	Why we need to design the requirements Design & specifications of system requirement	
2	Division of topic Importance and definition of the system requirement How to make good requirement document SRS the Topic	<u>20</u>
3.	Conclusion Students were given to write the SRS for a particular requirement collection	<u>10</u>
4	Question / Answer What are the other documents needed to write the requirements	<u>10</u>

Assignment to be given:- No assignment was given

Lecture Plan 14

<u>Faculty: -</u> Poonam Yadav <u>Semester:-VI</u> <u>Clas</u>	<u>ss:-</u> ECS <u>Course Code: -</u> CSE-302-F
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Subject: - Principles of Software Engg.

<u>Unit:-II</u>

S. No.	Topic :- s/w prototype technique	Time Allotted:-
1.	Introduction	<u>15</u>
	Two types of s/w prototype technique	
2	Division of the Topic Definition Importance Types of s/w prototype	<u>20</u>
3.	Conclusion All the related topics and examples were given successfully	<u>10</u>
4	Question / Answer Do they really exist in industry?	<u>5</u>

Assignment to be given:- No assignment was given

Lecture Plan 15

<u>Faculty: -</u> Poonam Yadav

<u>Semester:-VI</u> <u>Class:-</u>ECS

Course Code: - CSE-302-F

Unit:-II

Subject: - Principles of Software Engg.

S. No.	Topic :- Design methods and structured design	Time Allotted:-
1.	Introduction	<u>15</u>
	What are the important design techniques Design methods and structured design	
2	Division of the Topic Different design techniques What are there use Structured design	<u>20</u>
3.	Conclusion All the topics with the related information was taught successfully	<u>10</u>
4	Question / Answer What are the uses of these strategies in different application?	<u>5</u>
4		5

Assignment to be given:-

No assignment was given

Lecture Plan 16

Faculty: - Poonam Yadav

Semester:-VI

Class:-ECS

<u>Unit:-II</u>

Course Code: - CSE-302-F

Subject: - Principles of Software Engg.

S. No.	Topic :- Object oriented design object	Time Allotted:-
1.	Introduction What is the use of OOPs	10
	Object oriented design object	
2	Division of the Topic	<u>20</u>
	Introduction to the basic of OOPs Classes objects etc Then the design approach	
3.	Conclusion Through examples and problems the basic of this method was done successfully	<u>10</u>
4	Question / Answer What is the application of this model in industrial environment	<u>10</u>

Assignment to be given:- No assignment was given

Lecture Plan 17

Faculty: - Poonam Yadav

Semester:-VI

<u>Class:-</u>ECS

Unit:-II

Course Code: - CSE-302-F

Subject: - Principles of Software Engg.

S. No.	Topic :- Object classes and inheritance	Time Allotted:-
1.	Introduction The basics of OOPS Object classes and inheritance	<u>15</u>
2	Division of the Topic Details of objects and classes and inheritance Topic like polymorphism	<u>20</u>
3.	Conclusion Relationship between the objects and classes thru examples	<u>10</u>
4	Question / Answer Is this method simple or complex?	<u>5</u>

Assignment to be given:- No assignment was given

Lecture Plan 18

Faculty: - Poonam YadavSemester:-VIClass:-ECSCourse Code: - CSE-302-F

<u>Unit:-II</u>

Subject: - Principles of Software Engg.

S. No.	Topic :- Object identification	Time Allotted:-
1.	Introduction Introduction to Object identification and the other related topic	10
2	Division of the Topic Different methods To identify the objects from a particular example	<u>20</u>
3.	Conclusion Done successfully	<u>20</u>
4	Question / Answer No questions	

Assignment to be given:-

nil

Lecture Plan 19

<u>Faculty: -</u> Poonam Yadav	Semester:-VI	Class:-ECS	Course Code: - CSE-302-F
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<u>Unit:-II</u>

Subject: - Principles of Software Engg.

S. No.	Topic :- An object oriented design	Time Allotted:-
1.	Introduction	<u>15</u>
	What are the different methods in An object oriented design	
2	Division of the Tonic	20
Z	Division of the Topic	<u>20</u>
	Record based design Object based design	
	Examples	
3.	Conclusion	<u>15</u>
	All the topic were delivered to the students successfully	
4	Question / Answer	
	No question was asked	

Assignment to be given:-

Assignment on following topic was given Record based design,Object based design with working Examples from the books

Lecture Plan 20

<u>Faculty: -</u> Poonam Yadav	Semester:-VI	Class:-ECS	Course Code: - CSE-302-F
Subject: - Principles of Softv	vare Engg.		<u>Unit:-II</u>

S. No.	Topic :- Overview of functional oriented design	Time Allotted:-
1.	Introduction	<u>15</u>
	In list of the functional requirements Overview of functional oriented design	
2	Division of the Topic Importance of functional requirement The overview And design with examples	<u>20</u>
3.	Conclusion All the topic were delivered to the students successfully	<u>10</u>
4	Question / Answer From where these requirements can be collected	<u>5</u>

Assignment to be given:- No assignment was given

Lecture Plan 21

<u>Faculty:-</u> Poonam Yadav	Semester:-VI	Class:-ECS	Course Code: - CSE-302-F

Subject: - Principles of Software Engg.

<u>Unit:-II</u>

S. No.	Topic :- Real time system design, User interface design	Time Allotted:-
1.	Introduction	<u>15</u>
	The introduction to Real time system design, User interface design	
2	Division of the Topic	<u>20</u>
	Definition Importance of real time system design User interface design	
3.	Conclusion All the topic were delivered to the students successfully with all related topics and materials	<u>15</u>
4	Question / Answer	
	No question asked	

<u>Assignment to be given:-</u> No assignment was given <u>Reference Readings:- Introduction to SE by Summerville and by pressman</u>

Lecture Plan 22

<u>Faculty: -</u> Poonam Yadav <u>Semester:-VI</u> <u>Class:-</u>ECS <u>Course Code: -</u> CSE-302-F

Subject: - Principles of Software Engg.

<u>Unit:-II</u>

Topic :- s/w reliability fault avoidance, Fault tolerance	Time Allotted:-
Introduction	<u>10</u>
What is s/w reliability s/w reliability fault avoidance, Fault tolerance	
Division of the Topic s/w reliability Fault avoidance Fault tolerance	<u>20</u>
Conclusion All these reliability measures and there uses was taught successfully	<u>10</u>
Question / Answer Are they used in the industry	<u>10</u>
	Introduction What is s/w reliability s/w reliability fault avoidance, Fault tolerance Division of the Topic s/w reliability Fault avoidance Fault tolerance Conclusion All these reliability measures and there uses was taught successfully Question / Answer

Assignment to be given:- No assignment was given

Lecture Plan 23

Faculty: - Poonam YadavSemester:-VIClass:-ECSCourse Code: - CSE-302-F

Subject: - Principles of Software Engg.

<u>Unit:-III</u>

S. No.	Topic :- Testing and maintenance	Time Allotted:-
1.	Introduction Software Testing: It is used for finding out all bugs in a program while program is executing.	10
2	Division of the Topic 1.Software Testing Objectives 2. Software Testing Principles	<u>20</u>
3.	Conclusion The importance of testing techniques and types were discussed	<u>10</u>
4	Question / Answer Q1.What is the Software Testing? Q2.What is the Software Testing Objectives? Q3.What is the Software Testing Principles?	<u>10</u>

Assignment to be given:-nil

Lecture Plan 24

<u>Faculty: -</u> Poonam Yadav	Semester:-VI	Class:-ECS	Course Code: - CSE-302-F
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Subject: - Principles of Software Engg.

<u>Unit:-III</u>

Topic :- Test case design	Time Allotted:-
Introduction	<u>15</u>
When the particular concept is implemented or software is developed, developer has to design test cases which decide software reliability as well as software strength.	
Division of the Topic	<u>20</u>
 Quadratic Equation Set of character input, will get set of number(integer) output 	
Conclusion Finally before developing any software developer has to design test cases.	<u>10</u>
Question / Answer What are test cases for quadratic equation?	<u>5</u>
	When the particular concept is implemented or software is developed, developer has to design test cases which decide software reliability as well as software strength. Division of the Topic 1.Quadratic Equation 2. Set of character input, will get set of number(integer) output Conclusion Finally before developing any software developer has to design test cases. Question / Answer

Assignment to be given:- No assignment was given

Lecture Plan 25

Semester:-VI Class:-ECS Course Code: - CSE-302-F

Unit:-III

Subject: - Principles of Software Engg.

Faculty: - Poonam Yadav

S. **Topic :-** Software Testing Strategies Time No. Allotted:-1. Introduction 15 When developer develops software with a design principle or software is being tested with software testing strategies. 2 Division of the Topic 30 1. Verification and validation 2. Unit testing 3.Integration testing (i) Top- bottom level integrated testing (ii) Bottom-Up level integrated testing 4. Validation testing (i) alpha and beta testing 5.System testing: Recovery testing, security testing, stress testing, performance testing 3. Conclusion <u>5</u> Finally before developing any software developer has to design test cases. Question / Answer 4

Assignment to be given:- No assignment was given

Lecture Plan 26

Faculty: - Poonam YadavSemester:-VIClass:-ECSCourse Code: - CSE-302-F

Subject: - Principles of Software Engg.

Time S. No. **Topic :-** Types of Software Testing Allotted:-1. 10 Introduction Software Testing is classified into two types : Black box testing and White box testing 2 Division of the Topic 30 1. White box testing(Structural Testing) (i) Basis path testing (ii) Control structure testing 2. Black box testing(Functional Testing) (i) Equivalence Partitioning (ii) Boundary Value Analysis (iii) Robustness testing (iv) Comparison testing 3. Conclusion By doing the following above testing finally, we will get reliable software. <u>5</u> 4 **Ouestion / Answer** Q1. What are the difference between white box testing and black box testing? 5 Q2. Discuss control structure testing and basis path testing?

Unit:-III

Lecture Plan 27

<u>Faculty: -</u> Poonam Yadav <u>Semester:-VI</u> <u>Class:-</u>ECS <u>Course Code: -</u> CSE-302-F

<u>Unit:-III</u>

Subject: - Principles of Software Engg.

S. No.	Topic :- The art of Debugging	Time Allotted:-
1.	Introduction After implementing the developed software there is need of debugging. Debugging is the process to finding out all bugs in the software.	<u>10</u>
2	Division of the Topic 1.Debugging process 2. Debugging approaches 3. Software re-engineering 4.Reverse engineering 5. Restructuring 6. Forward engineering	<u>30</u>
3.	Conclusion Was taught successfully with a small discussion on this topic	<u>5</u>
4	 Question / Answer Q1. What is debugging? Explain art of debugging. Q2. Explain the following: (i) Software re-engineering (ii) Reverse engineering (iii) Restructuring (iv) Forward engineering 	<u>5</u>

Assignment to be given:- No assignment was given

Lecture Plan 28

Semester:-VI

Class:-ECS Course Code: - CSE-302-F

Subject: - Principles of Software Engg.

Faculty: - Poonam Yadav

Unit:-IV

S. No.	Topic :- s/w development with reuse introduction to CASE	Time Allotted:-
1.	Introduction	<u>15</u>
	What are the tools that are used s/w development with reuse introduction to CASE	
2	Division of the Topic	<u>20</u>
	Concept of reuse and Intro to CASE Different CASE tools	
3.	Conclusion Was taught successfully with a small discussion on this topic	<u>10</u>
4	Question / Answer What are the examples of CASE	<u>5</u>

Assignment to be given:- No assignment was given

Lecture Plan 29

Faculty: - Poonam Yadav

Semester:-VI

<u>Class:-</u>ECS <u>Course Code: -</u> CSE-302-F

Unit:IV

Subject: - Principles of Software Engg.

S. No.	Topic :- Process quality assurance	Time Allotted:-
1.	Introduction	<u>10</u>
	The role of QA in industies Process quality assurance	
2	Division of the Topic What is QA What is the difference between s/w testing and QA Examples and many different standards for QA	<u>20</u>
3.	Conclusion Importance of QA and quality process	<u>10</u>
4	Question / Answer How we assure the quality product	<u>10</u>

Assignment to be given:- No assignment was given

Lecture Plan 30

Semester:-VI

Course Code: - CSE-302-F

Subject: - Principles of Software Engg.

Faculty: - Poonam Yadav

<u>Unit:-IV</u>

Class:-ECS

S. No.	Topic :- Process and product quality	Time Allotted:-
1.	Introduction	<u>10</u>
	Why we need to know and getting through Process and product quality	
2	Division of the Topic Process and product There difference Method to assure the quality of process and product	<u>20</u>
3.	Conclusion The importance of s/w quality assurance	<u>10</u>
4	Question / Answer Where it is used? Examples.	<u>10</u>

Assignment to be given:-nill

Lecture Plan 31

Faculty: - Poonam YadavSemester:-VIClass:-ECSCourse Code: - CSE-302-F

Subject: - Principles of Software Engg.

Unit:IV

S. No.	Topic :- s/w reengineering	Time Allotted:-
1.	Introduction	<u>15</u>
	What is the importance of s/w reengineering	
2	Division of the Topic Why it is required How it can be done examples	<u>20</u>
3.	Conclusion The aim behind the re engineering was taught successfully	<u>10</u>
4	Question / Answer Is it related with the type of s/w engg	<u>5</u>

Assignment to be given:- No assignment was given

Lecture Plan 32

<u>Faculty: -</u> Poonam Yadav	Semester:-VI	Class:-ECS	Course Code: - CSE-302-F
Subject: - Principles of Softw	vare Engg.		<u>Unit:-IV</u>

Time **Topic :-** s/w maintenance, introduction to reengineering S. No. Allotted:-1. Introduction 10 Why we need to maintain the s/w s/w maintenance, introduction to reengineering 2 Division of the Topic 20 What is the s/w maintenance Is it related with the quality of s/w Re-engg 3. Conclusion 10 Importance of maintenance And how to maintain 4 Question / Answer Why s/w require maintenance 10

Assignment to be given:- No assignment was given

Lecture Plan 33

Faculty: - Poonam YadavSemester:-VIClass:-ECS

Course Code: - CSE-302-F

Subject: - Principles of Software Engg.

<u>Unit:-IV</u>

S. No.	Topic :-Computer Aided Software Testing	Time Allotted:-
1.	Introduction	
	Case, Building Blocks Integrated case environment.	
2	Division of the Topic	
	What is CASE, How Can it be implemented	
3.	Conclusion	
	CASE is a specialized tool to conduct test on Software engineering	
4	Question / Answer	
	What is CASE?	

Assignment to be given:-NIL

Lecture Plan 34

Faculty: - Poonam YadavSemester:-VIClass:-ECSCourse Code: -CSE-302-F

Subject: - Principles of Software Engg.

Unit:-IV

S. No.	Topic :-CASE	Time Allotted:-
1.	Introduction	
	Architecture and repository.	
2	Division of the Topic:-	
	Explain the CASE Architecture?	
3.	Conclusion Student understood fully about the topic.	
4	Question / Answer	
	Explain the architecture.	