

# AMERICAN INTERNATIONAL UNIVERSITY-BANGLADESH (AIUB)

Faculty of Science and Technology (FST)
Department of Computer Science (CS)
Undergraduate Program

## **COURSE PLAN**

#### Summer 2020-2021 SEMESTER

I. Course Core and Title

**CSC 3114: Software Engineering** 

II. Credit

3 credit hours (2 hours of theory & 3 hours of lab class per week)

III. Nature

**Core Course for CSE** 

IV. Prerequisite

CSC 2210: Object Oriented System Analysis and Design

#### V. Vision:

Our vision is to be the preeminent Department of Computer Science through creating recognized professionals who will provide innovative solutions by leveraging contemporary research methods and development techniques of computing that is in line with the national and global context.

#### VI. Mission:

The mission of the Department of Computer Science of AIUB is to educate students in a student-centric dynamic learning environment; to provide advanced facilities for conducting innovative research and development to meet the challenges of the modern era of computing, and to motivate them towards a life-long learning process.

# VII - Course Description:

- Comprehend introduction to the modern study of software engineering.
- Discuss the present software engineering practices.
- Discuss various process models used software engineering
- Describe requirements engineering and design process.
- Comprehend the technologies used in coding and testing.
- Discuss the software project management and planning

# VIII – Course outcomes (CO) Matrix:

By the end of this course, students should be able to:

COs *	Description		Level of			PO
			Dom	ain**		Assessed***
		С	P	Α	S	
CO1	Describe for impact of software engineering models over various context of software development	2			СТ	7.1
CO2	Discuss the software engineering models for sustainability software development in a dynamic environment	2			СТ	7.2
CO3	Choose appropriate software engineering model in a software development environment		5		СТ	6.1
CO4	Explain the software project management roles and their skills in a team environment		5		СТ	6.2

C: Cognitive; P: Psychomotor; A: Affective; S: Soft-skills (CT: Critical Thinking, TS: Teamwork)

<sup>\*</sup> CO assessment method and rubric of COs assessment is provided in Appendix section

<sup>\*\*</sup> The numbers under the Level of Domain' columns represent the level of Bloom's Taxonomy each CO corresponds to.

<sup>\*\*\*</sup> The numbers under the PO Assessed' column represent the PO each CO corresponds to.

# IX – Topics to be covered in the class:

Introduction to Software Vision of AIUB and course outline Congress of Software and building blocks of Engineering Software & Understand various Software and engineering Software and building blocks of Engineering Software and Engineering Software Engineering	TOPICS	Learning Objective(s)	Time Frame	Suggested Activities	Teaching Strategy(s)	CO mapped
Software Engineering - Course outline Software and Software & Understand various building blocks of Software and engineering software and engineering wilding blocks of Software and engineering and engineering building blocks of Software and engineering a	Introduction to	•				шарреа
Engineering - Software & Understand various building blocks of Engineering software and different traditional process models in software engineering software			VV COR 1			
Software & building blocks of software and engineering					-	
Software Engineering software and engineering with the software of Engineering software and engineering with the software of the software and engineering with the software of the software engineering with the software of t					1 /	
Engineering software and engineering engineering and engineering engineering and engineering engineering engineering and engineering engin					_	
Traditional Understanding the different traditional process models in software engineering  Agile Understand and appreciate the concepts of Agile methods in software engineering and practices of SCRUM Understand the phases, roles, and practices of SCRUM in software engineering  Dynamic System Development (PDD)  Dynamic System Development (PDD)  Peature Dirven Development (PDD)  Requirements engineering  Requirements  Extreme Understand the phases, roles, and practices of SDDM in software engineering  Dynamic System Development (PDD)  Dynamic System Development (PDD)  Requirements engineering  Midterm Exam Week  Meek 2 Lecture: necessary explanation on principles of agile development on principles of agile d	Engineering					
Software Development Development Software engineering SCRUM Understand the phases, roles, and practices of SCRUM in software engineering SCRUM Understand the phases, roles, and practices of DSDM in software engineering SCRUM Understand the phases, roles, and practices of DSDM in software engineering SCRUM Understand the phases, roles, and practices of DSDM in software engineering SCRUM Understand the phases, roles, and practices of FDD in software engineering SCRUM Understand the phases, roles, and practices of DSDM in software engineering SCRUM Understand the phases, roles, and practices of DSDM in software engineering SCRUM Software		engineering				
Software Development Development Process Models of Process Models	Traditional	Understanding the	Week 2	Lecture: necessary	Lecture	
Development Process Models  Process Models  Agile Understand and appreciate the concepts of Agile methods in software engineering practice  Extreme Values, phases, roles, and practices of XP in software engineering  SCRUM  Understand the phases, roles, and practices of SCRUM in software engineering  Dynamic System Development  Dynamic System Development  Development  Dynamic System Development  Development  Different Dirven Development  Development  Method (DSDM)  Feature Dirven Development  Requirements  Engineering  Requirements  Engineering  Different Dirven Development  Development  Agile director necessary explanation on principles of agile development on principles	Software				notes, reallife	CO1
Process Models  Agile  Agile  Development  Agile  Development  Develop	Development	process models in	$\Delta M c$		examples,	CO2
Agile Understand and appreciate the concepts of Agile methods in software engineering practice of XP in software engineering with software engineering masses, roles, and practices of SCRUM in software engineering engineering with software engineering process of FDD in software engineering process of requirements elicitation, analysis, modelling elements, specification and validation methods with software with software with software engineering processes with specification and validation methods with software with software with software engineering with software engineering processes with software engineering with software engineering with software engineering processes with software engineering engineering examples, cod and software engineering examples, examples, cod and software engineering examples	Process Models		$U_{IJ}U_{IJ}$	traditional process	question-	
Development appreciate the concepts of Agile methods in software engineering practice  Extreme Programming (XP) Understand the values, phases, roles, and practices of XP in software engineering  SCRUM Understand the phases, roles, and practices of SCRUM in software engineering  Dynamic System Development Development Development Process of DSDM in software engineering  Dynamic System Development Development Development Development Understand the phases, roles, and practices of DSDM in software engineering Development Peature Dirven Development Development Development Software engineering Development Software engineering Development Software Software Development Software Software Development Software Sof				models	answer	
Concepts of Agile methods in software engineering practice   Differential principles of agile development   Differential process in software engineering	Agile	Understand and	Week 2	Lecture: necessary	Lecture	
Extreme Programming (XP) Understand the phases, roles, and practices of SCRUM Understand the phases, roles, and practices of SCRUM in software engineering with software engineering explanation on the requirements elicitation, analysis, modelling elements, specification and validation methods  Midterm Exam Week	Development	appreciate the	V	explanation on	notes, reallife	CO1
Extreme		concepts of Agile			examples,	
Extreme Programming (XP) Understand the values, phases, roles, and practices of XP in software engineering Understand the phases, roles, and practices of SCRUM in software engineering Understand the phases, roles, and practices of SCRUM in software engineering Understand the phases, roles, and practices of SCRUM in software engineering Understand the phases, roles, and practices of DSDM in software engineering Understand the phases, roles, and practices of DSDM in software engineering Understand the phases, roles, and practices of DSDM in software engineering Understand the phases, roles, and practices of DSDM in software engineering Understand the process, roles and, practices of FDD in software engineering Understand the process, roles and, practices of FDD in software engineering Understand the engineering Understand the process, roles and, practices of FDD in software engineering Understand the engineering process of FDD in software engineering understand the engineering process of requirements elicitation, analysis, modelling elements, specification and validation methods  Midterm Exam Week	/	methods in software		development	question-	CO2
Extreme Programming (XP) Understand the values, phases, roles, and practices of XP in software engineering Understand the phases, roles, and practices of SCRUM in software engineering Understand the phases, roles, and practices of SCRUM in software engineering Understand the phases, roles, and practices of SCRUM in software engineering Understand the phases, roles, and practices of SCRUM in software engineering Understand the phases, roles, and practices of DSDM in software engineering Understand the phases, roles, and practices of DSDM in software engineering Understand the phases, roles, and practices of DSDM in software engineering Understand the process, roles and, practices of FDD in software engineering Understand the process, roles and, practices of FDD in software engineering Understand the engineering Understand the process, roles and, practices of FDD in software engineering Understand the engineering understand the engineering process of requirements elicitation, analysis, modelling elements, specification and validation methods  Midterm Exam Week	/ /	engineering practice			answer	
CO3   CO4   CO5   CO4   CO5   CO4   CO5   CO4   CO5   CO4   CO5   CO4   CO5	Extreme	77 /	Week 3	Lecture: necessary	Lecture	
CO3   CO4   CO5   CO4   CO5   CO4   CO5   CO4   CO5   CO4   CO5   CO4   CO5	Programming	values, phases, roles,	M	explanation on XP	notes, reallife	GG2
in software engineering  SCRUM  Understand the phases, roles, and practices of SCRUM in software engineering  Dynamic System Development Method (DSDM)  Feature Dirven Development (FDD)  Requirements Engineering  Understand the engineering by the first of requirements elicitation, analysis, modelling elements, specification and validation methods  Week 4  Lecture: necessary explanation on software explanation on ontes, reallife examples, question-answer  Lecture notes, reallife examples, question-answer  Lecture potent (SCRUM process in software explanation on practices of DSDM in software engineering explanation on practices of DSDM process in software explanation on practices of FDD in software engineering explanation on the requirements elicitation, analysis, modelling elements, specification and validation methods  Midterm Exam Week	(XP)		\		examples,	
SCRUM  Understand the phases, roles, and practices of SCRUM in software engineering  Dynamic System Development Method (DSDM)  Feature Dirven Development (FDD)  Requirements Engineering  Understand the phases, roles, and practices of FDD in software engineering  Week 4 Lecture: necessary explanation on development answer  Week 4 Lecture: necessary explanation on DSDM process in software engineering examples, question-answer  Week 5 Lecture: necessary explanation on potes, reallife examples, question-answer  Week 5 Lecture: necessary explanation on notes, reallife examples, question-answer  Week 5 Lecture: necessary explanation on potes, reallife examples, question-answer  Week 6 Lecture: necessary explanation on notes, reallife examples, question-answer  Week 6 Lecture: necessary explanation on notes, reallife examples, question-answer  Week 6 Lecture: necessary explanation on notes, reallife examples, question-answer  Week 6 Lecture: necessary explanation on notes, reallife examples, question-answer  Week 6 Lecture: necessary explanation on notes, reallife examples, question-answer  Week 6 Lecture: necessary explanation on notes, reallife examples, question-answer  Week 6 Lecture: necessary explanation on notes, reallife examples, question-answer  Week 6 Lecture: necessary explanation on notes, reallife examples, question-answer  Week 6 Lecture: necessary explanation on notes, reallife examples, question-answer  Week 6 Lecture: necessary explanation on notes, reallife examples, question-answer  Midterm Exam Week			1	development	question-	CO4
SCRUM  Understand the phases, roles, and practices of SCRUM in software engineering  Dynamic System Development Method (DSDM)  Feature Dirven Development (FDD)  Requirements Engineering  Understand the phases, roles, and practices of FDD in software engineering engineering  Week 4 Lecture: necessary explanation on software explanation on practices of DSDM in software engineering  Week 5 Lecture: necessary explanation on potes, reallife examples, question-answer  Lecture notes, reallife examples, question-answer  CO3 question-and validation methods  Week 5 Lecture: necessary explanation on potes, reallife examples, question-answer  Lecture notes, reallife examples, question-answer  Meek 6 Lecture: necessary explanation on notes, reallife examples, question-answer  Meek 6 Lecture: necessary explanation on notes, reallife examples, question-answer  Meek 6 Lecture: necessary explanation on notes, reallife examples, question-answer  Midterm Exam Week		engineering		- /	answer	
phases, roles, and practices of SCRUM in software engineering  Dynamic System Development Method (DSDM)  Method (DSDM)  Feature Dirven Development (FDD)  Requirements Engineering  Dynamic System Development (PDD)  Requirements Engineering  Dynamic System Development (PDD)  Dynamic System Development (PDD)  Dynamic System Development (PDD)  Understand the process, roles and, practices of FDD in software engineering (PDD)  Requirements Engineering  Dynamic System Development (PDD)  Understand the process, roles and, practices of FDD in software engineering engineering (PDD)  Requirements Engineering  Dynamic System Development (PDD)  Understand the process, roles and, practices of FDD in software engineering engineering engineering engineering engineering engineering process of requirements elicitation, analysis, modelling elements, specification and validation methods  Midterm Exam Week	SCRUM		Week 3	Lecture: necessary	Lecture	
practices of SCRUM in software engineering  Dynamic System Development Method (DSDM)  Method (DSDM)  Feature Dirven Development (FDD)  Requirements Engineering  Understand the engineering process of requirements elicitation, analysis, modelling elements, specification and validation methods  Posciliary and 5 SCRUM process in software development  Week 4 Lecture: necessary explanation on DSDM process in software development  Neek 5 Lecture: necessary explanation on process, reallife examples, coa question-answer  Lecture notes, reallife examples, question-answer  Midterm Exam Week		phases, roles, and	and 4		notes, reallife	
Dynamic System Development  Method (DSDM)  Feature Dirven Development  Development  Development  Feature Dirven Development  Development  Development  Feature Dirven Development  Development  Development  Feature Dirven Development  Development  Feature Dirven Development  For De	\	-			1, 1, 7, 7	CO3
Dynamic System Development Method (DSDM)  Feature Dirven Development (FDD)  Requirements Engineering  Dynamic System Development  Method (DSDM)  In software engineering  Week 4 and 5 DSDM process in software engineering  Week 5 Lecture: necessary explanation on DSDM process in software explanation on process, roles and, practices of FDD in software engineering  Week 5 Lecture: necessary explanation on FDD process in software explanation on the requirements elicitation, analysis, modelling elements, specification and validation methods  Midterm Exam Week	\	l * 1	UL.		- I	CO4
Development Method (DSDM)  Method (D	\	engineering	R.	development	answer	
Development Method (DSDM)  Method (D		10, 1	10000	200 / O223		
Method (DSDM) practices of DSDM in software engineering						
Feature Dirven Development  Understand the process, roles and, practices of FDD in software engineering  Requirements Engineering  Understand the engineering process of requirements elicitation, analysis, modelling elements, specification and validation methods  In software development  Week 5  Lecture: necessary explanation on process in software explanation on the requirements examples, question-answer  Lecture  explanation on the requirements examples, question-answer  Midterm Exam Week			and 5		1 //	G G 2
Feature Dirven Development (FDD)  Requirements Engineering  Understand the process, roles and, practices of FDD in software engineering  Requirements Engineering  Understand the engineering  Understand the engineering  Week 5  Lecture: necessary explanation on process in software question-question-question-question-notes, reallife explanation on the requirements explanation on the requirements engineering process of requirements elicitation, analysis, modelling elements, specification and validation methods  Midterm Exam Week	Method (DSDM)		10	N. N. / N		
Feature Dirven Development (FDD) Understand the process, roles and, practices of FDD in software engineering  Requirements Engineering Understand the engineering process of requirements elicitation, analysis, modelling elements, specification and validation methods  Week 5 Lecture: necessary explanation on software question-answer  Lecture explanation on the requirements examples, question-answer  Lecture explanation on the requirements examples, question-answer  Midterm Exam Week			_ 13			CO4
Development (FDD) process, roles and, practices of FDD in software engineering		engineering	VGL	development	answer	
(FDD) practices of FDD in software engineering software development answer  Requirements Engineering Understand the engineering process of requirements elicitation, analysis, modelling elements, specification and validation methods  FDD process in software question-answer  Lecture explanation on the requirements examples, question-answer  Engineering process of FDD in software question-answer  Week 6  Lecture: necessary explanation on the requirements examples, question-answer  Midterm Exam Week	Feature Dirven	Understand the	Week 5	Lecture: necessary	Lecture	
(FDD) practices of FDD in software engineering software development answer  Requirements Engineering Understand the engineering process of requirements elicitation, analysis, modelling elements, specification and validation methods  FDD process in software question-answer  Lecture explanation on the requirements examples, question-answer  Engineering process of FDD in software question-answer  Week 6  Lecture: necessary explanation on the requirements examples, question-answer  Midterm Exam Week	Development				notes, reallife	
Requirements Engineering  Understand the engineering process of requirements elicitation, analysis, modelling elements, specification and validation methods  Software engineering software development answer  Week 6 Lecture: necessary explanation on the notes, reallife requirements examples, question-answer  engineering process of requirements examples, engineering processes  Midterm Exam Week	(FDD)	1 -		FDD process in	examples,	CO3
Requirements Engineering Understand the engineering process of requirements elicitation, analysis, modelling elements, specification and validation methods  Week 6 Lecture: necessary explanation on the requirements examples, engineering question- answer  Midterm Exam Week  Lecture notes, reallife requirements examples, question- answer		=		software	question-	CO4
Engineering engineering process of requirements elicitation, analysis, modelling elements, specification and validation methods  explanation on the requirements examples, engineering question-answer  modelling elements, specification and validation methods  Midterm Exam Week				development	-	
Engineering engineering process of requirements elicitation, analysis, modelling elements, specification and validation methods  explanation on the requirements examples, engineering question-answer  modelling elements, specification and validation methods  Midterm Exam Week	Requirements	Understand the	Week 6	Lecture: necessary	Lecture	
of requirements elicitation, analysis, modelling elements, specification and validation methods  requirements engineering processes answer  Midterm Exam Week	_ <u> </u>			1	notes, reallife	
elicitation, analysis, modelling elements, specification and validation methods  Midterm Exam Week				requirements	examples,	
modelling elements, specification and validation methods processes answer  Midterm Exam Week				=	-	
specification and validation methods  Midterm Exam Week				processes	answer	
validation methods  Midterm Exam Week						
Week 7		N	lidterm Ex	am Week		
			Week	7		

Design Concepts and User Interface Design  Testing Strategies	Understand various principles of software and user interface design  Understand various testing techniques and debugging strategies	Week 8 Week 9	Lecture: necessary explanation on design principles of software and user interface  Lecture: necessary explanation on testing techniques and debugging	Lecture notes, reallife examples, question- answer  Lecture notes, reallife examples, question- answer				
Software Quality Attributes	Understand various quality attributes and their inter relations, trade-offs in software operations	Week 10	Lecture: necessary explanation on software quality attributes	Lecture notes, reallife examples, question- answer				
Product Metrics	Understand various Software Metrics and their usage	Week 11	Lecture: necessary explanation on software product metrics	Lecture notes, reallife examples, question- answer				
Software Configuration Management	Understand Software Configuration Management principles and version controlling	Week 12	Lecture: necessary explanation on software configuration management	Lecture notes, reallife examples, question- answer				
Estimation for Software Projects	Understand various conventional software project estimation techniques	Week 13	Lecture: necessary explanation on software effort estimation	Lecture notes, reallife examples, question- answer				
Project Scheduling	Understand various conventional software project scheduling techniques	Week 13	Lecture: necessary explanation on software project scheduling	Lecture notes, reallife examples, question- answer				
Risk Management	Understand various Risk management strategy	Week 13	Lecture: necessary explanation on risk management in project development	Lecture notes, reallife examples, question- answer				
	Final term Exam Week Week 14							

<sup>\*</sup> The faculty reserves the right to change, amend, add or delete any of the contents.

# **XI- Course Requirements**

#### 1. Student Attendance

All students are expected to attend all scheduled classes as well as counselling, and to read all assigned chapters/materials before coming to class. At least 80% class attendance is mandatory to pass the course. If there is any assignment given to the students, they have to submit it before the deadline decided by the course teacher

#### 2. Class Participation & Peer Evaluation

Students are expected to participate actively in the class. Your contribution towards your team will be counted too.

#### 3. Quiz & Exam

For both terms, there will be at least 2 quizzes based on the theoretical knowledge and conceptual understanding of the topic covered discussed in the classes.

#### 4. Assignment/Projects

Submit report based on the given software engineering related problems in the class. Assignment report should be presented by the dateline assigned.

#### XII - Evaluation & Grading System

The following grading system will be strictly followed in this class

Marking system for Theory Classes (Midterm and Final term)		Letter	Grade Point	Numerical %
		A+	4.00	90-100
Quiz(s):	40%	A	3.75	85-89.99
Class Attendance and Performance:	10%	B+	3.50	80-84.99
		В	3.25	75-79.99
Midterm/Final term exam:	50%	C+	3.00	70-74.99
Total	100%	С	2.75	65-69.99
1 100	13000	D+	2.50	60-65.99
Final Grade/ Grand Total	122	D	2.25	50-59.99
Quiz(s):	40%	F	0.00	<50(Failed)
Final Term:	40%			
Assignment/Projects	20%			
Total	100%			

The evaluation system will be strictly followed as par the AIUB grading policy.

# XIII - Teaching Methods

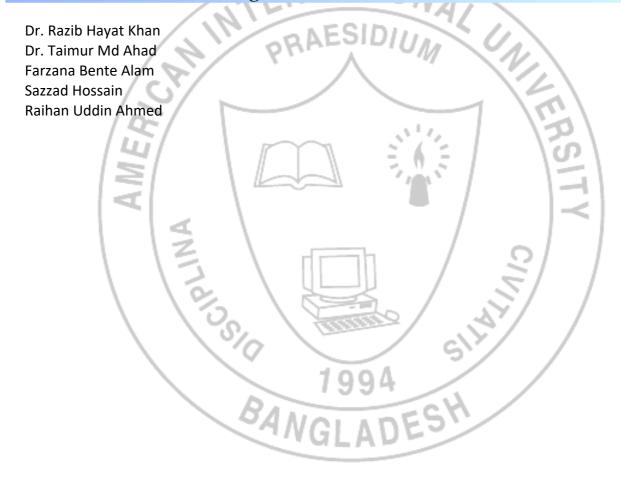
Maximum topics will be covered from the textbook. For the rest of the topics, reference books will be followed. Some Class notes will be uploaded on the web. White board will be used for most of the time. For some cases, multimedia projector will be used for the convenience of the students.

Students must study up to the last lecture before coming to the class and it is suggested that they should go through the relevant chapter before coming to the class. Just being present in the class is not enough-students must participate in classroom discussions.

### XIV - Textbook/ References

- 1) Software Engineering: A Practitioner's Approach, Seventh Edition, Roger S. Pressman
- 2) Software Engineering, Sommereville
- 3) An Integrated Approach to Software Engineering, Pankaj Jalote
- 4) Object Oriented Software Engineering, Ivar Jacobson, Magnus Christerson, Patrik Jonsson, Gunnar Overgaard
- 5) Systems Analysis and Design: An Object-Oriented Approach with UML, 5th Edition, Alan Dennis
- 6) The Art of Computer Programming, The, Volumes 1-3 Boxed Set (2nd Edition), Donald E. Knuth
- 7) Component Software: Beyond Object-Oriented Programming, Clemens Szyperski
- 8) Practices of an Agile Developer: Working in the Real World, Venkat Subramaniam, Andy Hunt
- 9) Code Complete: A Practical Handbook of Software Construction, Steve McConnell
- 10) Lectures will be provided online at the course website weekly.

# XV - List of Faculties Teaching the Course



## XVI - Verification:

Prepared by:	Moderated by :				
Dr. Razib Hayat Khan Course Convener	Mahmudul Hasan  Point Of Contact  OBE Implementation Committee for CS				
Date:	Date:				
Checked by:	Certified by:	Approved by:			
	ERNATION				
Dr. Mahbub Chowdhury Mishu Head, Department of Computer Science	<b>Dr. Dip Nandi</b> Director,  Faculty of Science & Information  Technology	Mr. Mashiour Rahman Associate Dean, Faculty of Science & Information Technology			
Date:	Date:	Date:			



# **Program Outcomes (POs)**

PO7	Environment and sustainability
7.1	Understand the impact of professional engineering solutions in societal and environmental contexts
7.2	Demonstrate the knowledge of and need for sustainable development.
PO6	The engineer and society
6.1	Apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues
6.2	Assess the consequent responsibilities relevant to professional engineering practice.

# **Mapping of CO - Assessment Method and Rubric**

The mapping between Course Outcome(s) (COs) and The Selected Assessment method(s) and the mapping between Assessment method(s) and Evaluation Rubric(s) is shown below:

COs	Description	POs	Learning Domain	Assessment Method	Assessment Rubric
CO1	Describe the impact of software engineering models over various context of software development	7.1	Cognitive	Quiz	Rubric for Quiz
CO2	Discuss the software engineering models for sustainable software development in a dynamic environment	7.2	Cognitive	Quiz	Rubric for Quiz
CO3	Choose appropriate software engineering model in a software development environment	6.1	Psychomotor	Project	Rubric for Project
CO4	Explain the roles and their responsibilities in the software project management activities	6.2	Psychomotor	Project	Rubric for Project
	BANGLI	AD!	ESH		

# Rubric for Quiz Assessment (CO1 & CO2)

Marking	Marks Distribution (Maximum 5X3=15)	Acquired
Criteria		Marks

	Inadequate (1-2)	Satisfactory (3)	Good (4)	Excellent (5)			
Definition	Student vaguely define the terms or the concept of the s/w engineering models	Definition provided with partial relevance to the model	Correctly define the model with minor missing of model details.	Comprehensively defines the model.			
Logical Argument	No logical arguments / explanation supporting the definition.	Offers lossy related arguments.	Strong argument /explanation offered.	Comprehensive argument presented to clarify the concept.			
Relevant Example	Ambiguous representative example.	Correctly identify / indicate towards real-life example.	Real-life example is strongly connected towards the definition.	Comprehensively defend with real life example.			
Acquired Marks: CO Pass / Fail:							



**Rubric for Project Assessment (CO3)** 

	N	Tarks distribution (	Max 4X5= 20)		Acquired
Criteria	Inadequate (1-2)	Satisfactory (3)	Good (4)	Excellent (5)	Marks
Content Knowledge	Student does not have grasp of information and cannot answer the questions about subject.	Student is uncomfortable with information and is able to answer only basic questions.	Student is at ease with content but fails to elaborate.	Student demonstrates full knowledge (more than required) with explanations and elaboration.	
Argumentation	Does not articulate a position or argument of choosing appropriate model	Articulates a position or argument for choosing models that is unfocused or ambiguous	Articulates a position or argument of choosing models that is incomplete or limited in scope	Clearly articulates a position or argument for the choosing software engineering models	
Evidence of Argumentation	Does not present any evidence to support the arguments for the choice of the model	Presents incomplete/vague evidence to support argument for model choice	Does not present enough evidence to support the argument for the choice of the model	Presents sufficient amount of evidence to support argument for the model selection	
Completeness, Spelling, grammar and Organization of the Answer	Answer is not complete and Several errors in spelling and grammar. Present a Confusing organization of concepts, supporting arguments, and real-life example. Sentences rambling, and details are repeated	Some errors in spelling and grammar. Some problems of organizing the answer in a logical order of defining, elaborating, and providing reallife examples	Few errors in spelling and grammar. Presents most of the details in a logical flow of organization in definition, details, and example	Answer is complete and No errors in spelling and grammar. Consistently presents a logical and effective organization of definition, details, and reallife example of the topic	
			1	Acquired marks:	
				CO Pass / Fail:	

# **Rubric for Project Assessment (CO4)**

Cuitania	I	Marks distribution	n (Max 4X5= 20)		Acquired
Criteria	Inadequate (1-2)	Satisfactory (3)	Good (4)	Excellent (5)	Marks
Background	No background	Insufficient	Sufficient	Thorough and	
Analysis	information is	background	background	relevant	
	given; project	information is	information is	background	
	goals and	given; project	given; the	information	
	benefits are	goals and	purpose and	is given; project	
	missing.	benefits are	goals of the	goals are clear	
		poorly stated	project are	and easy to	
			explained.	identify.	
Role	Does not identify	Identify few	Identify most	Identify all of	
identification	any roles in the	roles in the	of the roles in	the roles in the	
	project	project	the project	project	
	management	management	management	management	
	activities		7	activities	
Responsibility	The project has	Some of the	Few of the	Well planned	
Allocation	poor project	roles are left	roles are left	project with	
	management	alone with any	alone with any	proper resource	
	plans for	project	project	allocation	
/	assigning the	responsibilities	responsibilities	101	
/	responsibilities			1:01	
Completeness,	Answer is not	Some errors in	Few errors in	Answer is	
Spelling,	complete and	spelling and	spelling and	complete and	
grammar and	Several errors in	grammar. Some	grammar.	No errors in	
Organization	spelling and	problems	Presents most	spelling and	
of the Answer	grammar. Present	of organizing	of the details	grammar.	
	a Confusing	the answer in a	in a logical	Consistently	
\	organization of	logical order of	flow of	presents a	
\	concepts,	defining,	organization in	logical	
\	supporting	elaborating, and	definition,	and effective	
\	arguments, and	providing real-	details, and	organization of definition,	
	real-life example.	life examples	example		
	Sentences rambling, and	7	/ 5 <sup>1</sup>	details, and real-	
	details are	100	1	life example of the topic	
	repeated	199	7	the topic	
	Тереатей	PANOLE	DEGH		
				Acquired marks:	
				CO Pass / Fail:	