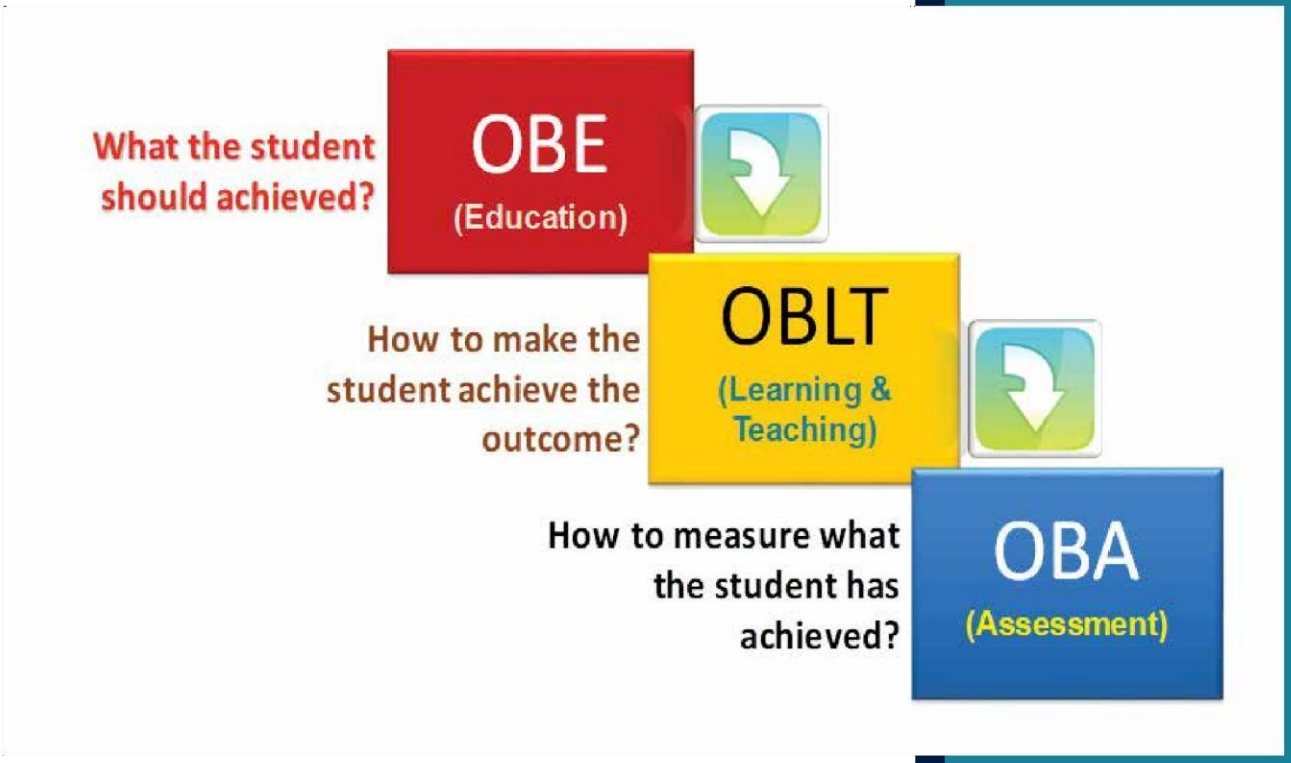
GALGOTIAS UNIVERSITY

GUSOP-01

Course-Pack Framework

A comprehensive instructional delivery document



Prepared by:

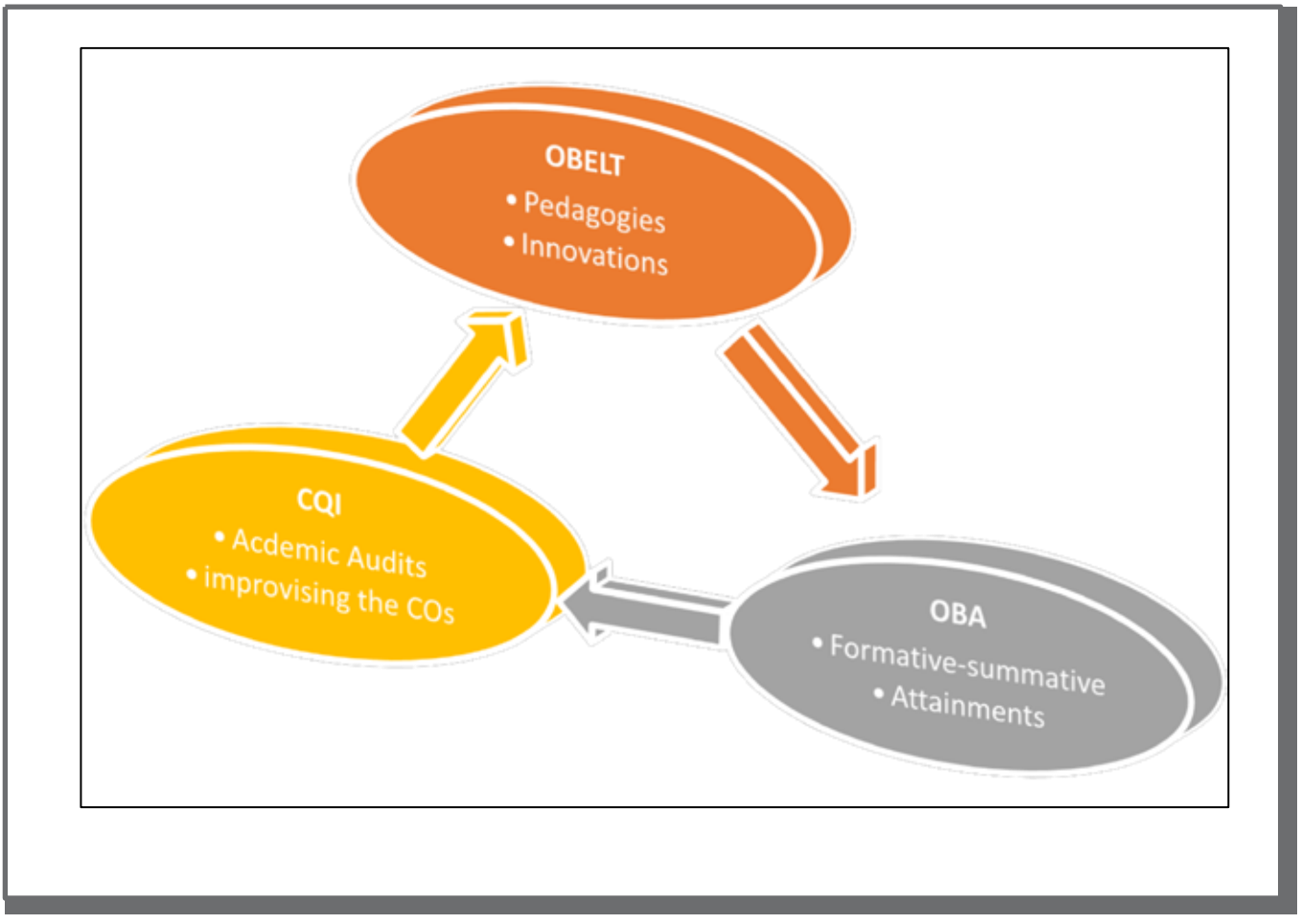
VCO

(Revised on Aug-2023)

The Course Pack is a comprehensive and complete pedagogical guideline document that describes the components of instruction delivery by a faculty member. It consists of the scheme of the course, Course Overview, Course Objectives, Prerequisite course, Program-specific Outcomes (PSOs), Course outcomes (COs), Bloom's taxonomy (Knowledge Levels), Types of Courses, Course articulation matrix, Course assessment patterns, Course content, Lesson Plan, Bibliography, Problem-based learning/case-studies/clinical, and Student-Centered learning (self-learning towards life-long-learning). It not only provides a uniform design of Course delivery across the University but also ensures freedom and flexibility to introduce innovations in learning and teaching and create vivid kinds of assessment tools (alternate assessment tools) by a faculty member.

The course pack is developed by the faculty member teaching a course. If more than one faculty teaches the same course, all the faculty members teaching the course shall be formed as a cluster, and a senior faculty member (Course-lead) lead the Course delivery design in a team effort. The Course Pack provides ample scope and opportunity to bring innovations in teaching pedagogies in a school/department.

Hence, the Course pack is a comprehensive learning-teaching strategy framework to be followed by all the faculty members in schools/departments in the university. It is not only a tool for measuring the learning of a class but also analyses the achievement levels (learning outcomes of the course) of all the students in a class in a continuous manner.



1. THE SCHEME

The scheme is an overview of work-integrated learning opportunities and gets students out into the real world. This will give what a course entails.

<table>
<tr><td>Course Title</td><td colspan="3">Design Thinking</td><td colspan="2">Course Type</td><td colspan="4">Theory</td></tr>
<tr><td>Course Code</td><td colspan="3">R1UC301L</td><td colspan="2">Class</td><td colspan="4">B. Tech CSE III Semester</td></tr>
<tr><td rowspan="6">Instruction delivery</td><td>Activity</td><td>Credits</td><td>weekly Hours</td><td colspan="4" rowspan="2">Total Number of Classes per Semester</td><td colspan="2" rowspan="2">Assessment in Weightage</td></tr>
<tr><td>Lecture</td><td>1</td><td>1</td></tr>
<tr><td>Tutorial</td><td>0</td><td>0</td><td rowspan="4">Theory</td><td rowspan="4">Tutorial</td><td rowspan="4">Practical</td><td rowspan="4">Self-study</td><td rowspan="4">CIE</td><td rowspan="4">SEE</td></tr>
<tr><td>Practical</td><td>0</td><td>0</td></tr>
<tr><td>Self-study</td><td>0</td><td>3</td></tr>
<tr><td>Total</td><td>1</td><td>4</td></tr>
<tr><td>Course Lead</td><td colspan="2">Mr. VINAY DWIVEDI</td><td>Course Coordinator</td><td colspan="6">Mr. Ranjan Singh</td></tr>
<tr><td rowspan="2">Names Course Instructor</td><td colspan="9">Theory</td></tr>
<tr><td colspan="9">Dr. Manish Verma
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Dr. Muzafar Mehraj Misgar
Mr. P.SELVRAJ
Ms. Pragya
Dr. Prakash Anand
Ms. Preeti Gupta
Mr. R Radhakrishnan
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Ms. Rakshita Mall
Mr. Rikendra
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Dr. Brijesh Kumar Singh
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Mr. Gaurav Vinchurkar
Dr. Gurmeet Singh
Ms. Isha Chopra
Ms. Jyoti
Ms. Km Ikra
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</table>

2. COURSE OVERVIEW

Design Thinking is a human-centered approach to innovation and problem-solving that emphasizes empathy, ideation, prototyping, and testing. This course provides students with the tools and methodologies to tackle complex challenges, foster creativity, and develop innovative solutions across various domains.

3. PREREQUISITE COURSE

PREREQUISITE COURSE REQUIRED	No	
If, yes please fill in the Details	Course code	Course Title
	NA	NA

4. PROGRAM OUTCOMES (POs):

In general, the Program Outcomes are defined by the respective apex body or council. In the event the POs are not prescribed by a Council, then the concerned school offering the program to design and develop the POs based on the PEOs. This has to be approved by the concerned BOS and submitted to the Academic Council for approval. After the completion of the course, the student will be able to:

PO No.	Description of the Program Outcome
PO1	**Computing Science knowledge:** Apply the knowledge of mathematics, statistics, computing science and information science fundamentals to the solution of complex computer application problems.
PO2	**Problem analysis:** Identify, formulate, review research literature, and analyze complex computing science problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and computer sciences**.**
PO3	**Design/development of solutions:** Design solutions for complex computing problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
PO4	**Conduct investigations of complex problems**: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
PO5	**Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern computing science and IT tools including prediction and modeling to complex computing activities with an understanding of the limitations.
PO6	**IT specialist and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional computing science and information science practice.
PO7	**Environment and sustainability**: Understand the impact of the professional computing science solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
PO8	**Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the computing science practice.
PO9	**Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO10	**Communication:** Communicate effectively on complex engineering activities with the IT analyst community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
PO11	**Project management and finance:** Demonstrate knowledge and understanding of the computing science and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
PO12	**Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

5. PROGRAM SPECIFIC OUTCOMES (PSOs):

Program Specific Outcomes (PSO) are statements that describe what the graduates of a discipline-specific program should be able to do. Two to Three PSOs per program should be designed.

PO No.	Description of the Program-Specific Outcome
PSO1	Have the ability to work with emerging technologies in computing requisite to Industry 4.0.
PSO2	Demonstrate Engineering Practice learned through industry internship and research project to solve live problems in various domains.

6. COURSE CONTENT (THEORY)

CONTENT (Syllabus)
An Insight to Learning Understanding the Learning Process, Kolb's Learning Styles, Assessing and Interpreting **Remembering Memory** Understanding the Memory process, Problems in retention, Memory enhancement techniques **Emotions: Experience & Expression** Understanding Emotions: Experience & Expression, Assessing Empathy, Application with Peers **Basics of Design Thinking** Definition of Design Thinking, Need for Design Thinking, Objective of Design Thinking, Concepts & Brainstorming, Stages of Design Thinking Process (explain with examples) – Empathize, Define, Ideate, Prototype, Test. **Being Ingenious & Fixing Problem** Understanding Creative thinking process, Understanding Problem Solving, Testing Creative Problem Solving **Process of Product Design** Process of Engineering Product Design, Design Thinking Approach, Stages of Product Design, Examples of best product designs and functions, Assignment – Engineering Product Design **Prototyping & Testing** What is Prototype? Why Prototype? Rapid Prototype Development process, Testing, Sample Example, Test Group Marketing **Celebrating the Difference** Understanding Individual differences & Uniqueness, Group Discussion and Activities to encourage the understanding, acceptance and appreciation of Individual differences **Design Thinking & Customer Centricity** Practical Examples of Customer Challenges, Use of Design Thinking to Enhance Customer Experience, Parameters of Product experience, Alignment of Customer Expectations with Product Design **Feedback, Re-Design & Re-Create**

Feedback loop, Focus on User Experience, Address "ergonomic challenges, User focused design, rapid prototyping & testing, final product, Final Presentation – "Solving Practical Engineering Problem through Innovative Product Design & Creative Solution".

7. COURSE OUTCOMES (COs)

After the completion of the course, the student will be able to:

CO No.	Description of the Course Outcome
CO1	Compare and classify the various learning styles and memory techniques and apply them in their engineering education.
CO2	Analyze emotional experience and inspect emotional expressions to better understand users while designing innovative products.
CO3	Develop new ways of creative thinking and learn the innovation cycle of Design Thinking process for developing innovative products.
CO4	Propose real-time innovative engineering product designs and choose appropriate frameworks, strategies, techniques during prototype development.

8. TAXONOMY LEVEL OF THE COURSE OUTCOMES

Bloom's taxonomy is a set of hierarchical models used for the classification of educational learning objectives into levels of complexity and specificity. The learning domains are cognitive, affective, and psychomotor.

Mapping of COs with Bloom's Level

CO No.	Remember **KL1**	Understand **KL 2**	Apply **KL 3**	Analyse **KL 4**	Evaluate **KL 2**	Create **KL 6**
CO1	√	√				
CO2			√	√		
CO3			√	√	√	
CO4						√

9. COURSE ARTICULATION MATRIX

The Course articulation matrix indicates the correlation between Course Outcomes and Program Outcomes and their expected strength of mapping in three levels (low, medium and high).

CO/PO Mapping (1 / 2 / 3 indicates strength of correlation) 3 - Strong, 2 - Medium, 1 – Low														
Cos	**Programme Outcomes (POs)**													
	PO 1	**PO2**	**PO 3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**
CO 1	**3**	**2**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
CO 2	**-**	**2**	**-**	**-**	**2**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

CO 3	-	-	-	-	-	-	-	**2**	-	**3**	-	-	-	-
CO 4	**2**	-	**2**	**3**	**1**	-	-	-	-	-	-	-	-	-
CO 1	**3**	**2**	-	-	-	-	-	-	-	-	-	-	-	-

Note: 1-Low, 2-Medium, 3-High \ *first semester first course and first Course Outcome

10. TYPICAL EXAMPLE OF COURSES, CREDIT HOURS AND TEACHING HOURS

Type of Course	Credits Hours					Hours of engagement/ Week					15 weeks/ semester	Remarks
	Theory	Tutorial	Practical	Self-study	Total	Theory	Tutorial	Practical	Self-study	Total	Total no. of classes	
Theory Course	3	0	0	0	3	3	0	0	0	3	45	45 classes for theory
Theory Course with Tutorial	3	1	0	0	4	3	1	0	0	4	60	45 classes for theory and 15 for tutorial
Lab Course	0	0	1	0	1	0	0	2	0	2	30	30 hours lab sessions
Integrated Course	3	0	1	0	4	3	0	2	0	5	75	45 classes for theory and 30 hours of lab sessions
Comprehensive Course	3	0	1	1	5	3	0	2	3	5+3*	75	45 classes for theory & 30 hours of lab sessions
Seminar/Project/ Internship Course	0	0	0	0	1	0	0	0	0	0	0	-

*1 credit = 3 self-learning hours (Not to mention in the lesson plan)

11. LESSON PLAN FOR COMPREHENSIVE COURSES

FOR THEORY (weeks * Hours = Classes) (1credit = 1Lecture Hour)

L.No.	Topics for Delivery	Theory / Tutorial	Skills	Competency
1	Learning Process, Kolb's Learning Styles, Assessing and Interpreting	Theory	Understanding learning, design thinking & stages, concepts of brain storming	CO1, CO2
2	Understanding the Memory process, Problems in retention, Memory enhancement techniques	Theory		
3	Problems in retention, Memory enhancement techniques, Understanding Emotions: Experience & Expression	Theory		
4	Assessing Empathy, Application with Peers	Theory		

5	Design Thinking, Need for Design Thinking, Objective of Design Thinking, Concepts & Brainstorming	Theory		
6	Concepts & Brainstorming, Stages of Design Thinking Process – Empathize, Define, Ideate, Prototype, Test	Theory		
7	Stages of Design Thinking Process– Empathize, Define, Ideate, Prototype, Test	Theory		
8	Revision & Assignment	Theory		
9	Revision & Assignment	Theory		
10	Creative thinking process, Understanding Problem Solving, Testing Creative	Theory	Understanding the thinking process, solution of problem, design stages & testing	C02, CO3
11	Problem Solving Process of Engineering Product Design, Design Thinking Approach,,	Theory		
12	Stages of Product Design, Examples of best product designs and functions	Theory		
13	Stages of Product Design, Examples of best product designs and functions	Theory		
14	Prototype, importance or need of Prototype, Rapid Prototype Development process	Theory		
15	Rapid Prototype Development process			
16	Testing, Sample Example, Test Group Marketing	Theory		
17	Revision & Assignment	Theory		
18	Revision & Assignment	Theory		
19	Understanding Individual differences & Uniqueness, Group Discussion and Activities to encourage the understanding,	Theory	Product design & know about customer expectation	CO3, CO4
20	Activities to encourage the understanding, acceptance and appreciation of Individual differences	Theory		
21	Practical Examples of Customer Challenges	Theory		
22	Use of Design Thinking to Enhance Customer Experience	Theory		
23	Parameters of Product experience, Alignment of Customer Expectations with Product Design	Theory		
24	Revision & Assignment	Theory		
25	Revision & Assignment	Theory		
26	Feedback loop, Focus on User Experience	Theory	Feedback, final presentation of product	CO5, CO6
27	Address “ergonomic challenges, User focused design, rapid prototyping & testing, final product	Theory		

28	Final Presentation – "Solving Practical Engineering Problem through Innovative Product Design & Creative Solution"	Theory		
29	Final Presentation – "Solving Practical Engineering Problem through Innovative Product Design & Creative Solution"	Theory		
30	Revision & Assignment	Theory		

12. BIBLIOGRAPHY

TEXT BOOKS:

1. Karmic Design Thinking by Prof. Bala Ramadurai, available at Amazon (paperback), Amazon (e book), Flipkart, Pothi, halfpricebooks.in.

REFERENCE BOOKS:

1. Design: Creation of Artifacts in Society by Prof. Karl Ulrich, U. Penn
2. Change by Design by Tim Brown

LINKS :

1. https://youtu.be/4nTh3AP6knM?si=rNnDPaZ1B80oY9IY
2. https://youtube.com/playlist?list=PLsh2FvSr3n7ctIa1TY50t5jP7_gLmfgvE&si=uwuztLCwck_OfoIW
3. https://youtube.com/playlist?list=PLsh2FvSr3n7ctIa1TY50t5jP7_gLmfgvE&si=sR3rMo4QJbze_YB_

MOOCs Courses :

1. https://onlinecourses.nptel.ac.in/noc19_mg60/preview

13. COURSE ASSESSMENT

Assessment forms an integral part of curriculum design. A learning-teaching system can only be effective if the student's learning is measured at various stages which means while the student processes learning (Assessment for Learning) a given content and after completely learning a defined content (Assessment of Learning). Assessment for learning is referred to as formative assessment, that is, an assessment designed to inform instruction.

The ability to use and apply the knowledge in different ways may not be the focus of the assessment. With regard to designing assessments, the faculty members must be willing to put in the time required to create a valid, reliable assessment, that ideally would allow students to demonstrate their understanding of the information while remaining. The following are the five main areas that assessment reporting should cover.

1. **Learning Outcomes**: At the completion of a program, students are expected to know their knowledge, skills, and attitude. Depending on whether it is a UG or PG program, the level of sophistication may be different. There should be no strict rule on the number of outcomes to be achieved, but the list should be reasonable, and well-organized.
2. **Assessable Outcomes**: After a given learning activity, the statements should specify what students can do to demonstrate. Criteria for demonstration are usually addressed in rubrics and there should be specific examples of work that doesn't meet expectations, meets expectations, and exceeds expectations. One of the main challenges is faculty communication whether all faculty agreed on explicit criteria for assessing each outcome. This can be a difficult accomplishment when multiple sections of a course are taught or different faculty members. Hence there is a need for common understanding among the faculty on what is assessed and how it is assessed.

3. **Assessment Alignment**: This design of an assessment is sometimes in the form of a curriculum map, which can be created in something as easy as an Excel spreadsheet. Courses should be examined to see which program outcomes they support, and if the outcome is assessed within the course. After completion, program outcomes should be mapped to multiple courses within the program.
4. **Assessment Planning**: Faculty members need to have a specific plan in place for assessing each outcome. Outcomes don't need to be assessed every year, but faculty should plan to review the assessment data over a reasonable period of time and develop a course of action if the outcome is not being met.
5. **Student Experience**: Students in a program should be fully aware of the expectations of the program. The program outcomes are aligned on the syllabus so that students are aware of what course outcomes they are required to meet, and how the program outcomes are supported. Assessment documents should clearly communicate what is being done with the data results and how it is contributing to the improvement of the program and curriculum.
6. **Designing quality assessment tools** or tasks involves multiple considerations if it is to be fit for purpose. The set of assessments in a course should be planned to provide students with the opportunity to learn as they engage with formative tasks as well as the opportunity to demonstrate their learning through summative tasks. Encouraging the student through the use of realistic, authentic experiences is an exciting challenge for the course faculty team, who are responsible for the review and quality enhancements to assessment practices.

14. DIFFERENCE BETWEEN FORMATIVE AND SUMMATIVE ASSESSMENT

a) Formative Assessment

The goal of formative assessment is to monitor student learning to provide ongoing feedback that can be used by Course Faculty to improve their teaching and by students to improve their learning. More specifically, formative assessments help students identify their strengths and weaknesses and target areas that need work, and faculty members recognize where students are struggling and address problems immediately. Examples of formative assessments include Mid Term Exam (MTE) as well as asking students to:

- Draw a concept map in class to represent their understanding of a topic
- Submit one or two sentences identifying the main point of a lecture
- Turn in a research proposal for early feedback

b) Summative assessment

The goal of summative assessment is to evaluate student learning at the end of a Course by comparing it against some standard or benchmark. Examples of summative assessments include:

- a final project
- a paper
- Semester-End Examination (For courses running in Semester mode)
- End-Term Examination (For courses running in Annual Mode)

Information from summative assessments can be used formatively when students or faculty use it to guide their efforts and activities in subsequent courses.

c) Weightage

The formative and summative assessments are given 50-50 weightage to ensure proper learning levels among the students.

14.1 Assessment Pattern for Theory Course:

Type of Course (T)	CIE			Total Marks		Final Marks CIE*0.5+SEE*0.5
	IA1#	MTE	IA2#	CIE	SEE	

THEORY	25	50	25	25	75	100

#Typical Rubric for the Internal Assessments

Type of Assessment Tools	QUIZ	AAT$/MOOC Certifications
Internal Assessments	25	75
$AAT is Literature survey, Seminar, Assignment, Term Paper, Slip Test (or) MOOC Certificate relevant to the course		

14.2 Assessment Pattern for Integrated (Blended) Course:

Type of Course (B)	**CIE**			**Total Marks**		**Final Marks CIE*0.5+SEE*0.5**
	LAB Work@ + Record	MTE	LAB EXAM*	CIE	SEE	
INTEGRATED	25	50	25	100	100	100

@Lab Work-15 marks + Lab Record-10 marks

*Passing Criteria-30% of marks to be secured in the lab Exam conducted by two examiners (one internal and one external)

14.3 Assessment Pattern for Comprehensive Course:

Type of Course (C)	**CIE**			**Total Marks**		**Final Marks CIE*0.5+SEE*0.5**
	LAB@(Work+ Record)	MTE	Course-based Project^	CIE	SEE	
COMPREHENSIVE	25	50	25	100	100	100

@Lab Work-15 marks + Lab Record-10 marks

^Typical Rubric for the Course-based project

Type of Assessment Tools	Preliminary Project Plan	Technical Seminar	TRL-1	Viva-voce
Course-based Project Work	05	05	10	05
PPP (Preliminary Project Plan): *The preliminary project plan (PPP) provides an initial, overview of the project and all of its known parameters. It outlines the project's objectives, relevance to the program, merit, and conformity to current industry/ government policy, proposed methodology, and expected outcomes. It should also include any known constraints related to the time frame (Gantt Chart), budget, etc.*				
TRL (Technology Readiness Level)-1: *Basic Research: Initial scientific research has been conducted. Principles are qualitatively postulated and observed. Focus is on new discovery rather than applications.*				

14.4 Assessment Pattern for Two Credit MOOC Courses (Online/Self-Paced Learning)

Type of Course (M)	**CIE**		**Total Marks**		**Final Marks CIE+SEE**
	IA1	IA2	CIE*	SEE	

2 CREDIT MOOC COURSES	25	25	50	50	100

*from MOOC portal

14.5 Assessment Pattern for Lab Course:

Type of Course (L)	CIE		Total Marks		Final Marks CIE+SEE
	LAB Work@ + Record	LAB TEST	CIE	SEE LAB EXAM*	
LABORATORY	25	25	50	50	100

@Lab Work-15 marks + Lab Record-10 marks

*Passing Criteria-30% of marks to be secured in the lab Exam conducted by two examiners (one internal and one external)

14.6 Assessment Pattern for Seminar/Minor Project/Internship Course:

Type of Course (V)	CIE		Total Marks		Final Marks CIE+SEE
	IA1@	IA2@	CIE	SEE	
SEMINAR/PROJECT/INTERNSHIP	25	25	50	50	100

@Rubric to be specified by the concerned Faculty

14.7 Assessment Pattern for Final Year Student Capstone Project:

Type of Course (R)	CIE					Total Marks		Final Marks CIE+SEE
	Problem Identification	LiteratureReview/ Applicability	Experimental/ Methodology	ResultAnalysis	Conclusion/ Findings	CIE	SEE%	
CAPSTONE PROJECT	10	10	10	10	10	50	50	100

%Typical Rubric for SEE

Formulation of Problem Statement	TRL (Technology Readiness Level)					Presentation	Viva Voce
10	20 (TRL-1 to TRL-4)					10	10
	0 marks for no TRL	5 marks for TRL-1	10 marks for TRL-2	15 marks for TRL-3	20 marks for TRL-4		

TRL 1 Basic Research	Initial scientific research has been conducted. Principles are qualitatively postulated and observed. Focus is on new discovery rather than applications.
TRL 2 Applied Research	Initial practical applications are identified. Potential of material or process to solve a problem, satisfy a need, or find application is confirmed.
TRL 3 Critical Function or Proof of Concept Established	Applied research advances and early stage development begins. Studies and laboratory measurements validate analytical predictions of separate elements of the technology.
TRL 4 Lab Testing/ Validation of Alpha Prototype Component/ Process	Design, development and lab testing of components/processes. Results provide evidence that performance targets may be attainable based on projected or modelled systems.

Note: Council Driven Programs can follow their own assessment pattern.

15. PASSING STANDARDS

High standards are maintained in all aspects of the examination. The relative grading method is followed. The minimum standard of passing in respect of CIE and SEE for each course as shown in the table shall be effective from the academic session 2022-23 onwards.

Note: The programs running with the approval of respective councils shall follow the passing standards as defined by the respective councils.

Passing Criteria for Different Course Types Effective from AY 2022-23 Onwards

S.No.	Course Type	Passing Criterion
1.	**Theory Course (T)**	A student shall secure a minimum of **30% of the maximum marks** in the semester-end examination (SEE/ETE) and **40% of aggregate marks** in the course including Continuous internal examination (CIE) and SEE/ETE marks. i.e., the minimum Passing Grade is "P".
2.	**Integrated course (B)**	A student shall secure a minimum of **30% of the maximum marks** in the semester-end examination (SEE/ETE), **30% of the maximum marks in the LAB EXAM,** and **40% of aggregate marks** in the course Continuous internal examination (CIE) and SEE/ETE marks i.e., minimum Passing Grade in a course is "P".
3.	**Comprehensive Course (C)**	A student shall secure a minimum of **30% of the maximum marks** in the semester-end examination (SEE/ETE) and **40% of aggregate marks** in the course Continuous internal examination (CIE) and SEE/ETE marks i.e., minimum Passing Grade in a course is "P".
4.	**Lab Course (L)**	A student shall secure a minimum of **30% of the maximum marks in the SEE LAB EXAM** and **40% of aggregate marks** in the course Continuous internal examination (CIE) and SEE/ETE marks i.e., minimum Passing Grade in a course is "P".
5.	**Seminar/Project/ Internship Course (R)**	A student shall secure a minimum of **40% of aggregate marks** in the Continuous internal examination (CIE) and SEE/ETE marks i.e., minimum Passing Grade in a course is "P".

Note: Students unable to meet the overall passing criteria as mentioned in Sr. No-1, 2 & 3 shall be eligible for the following options to clear the course:

- Appear in the Back Paper Examinations and have to meet the criteria to score 40% in marks overall appear in summer examinations (internal +External) to meet the criteria as per Sr. No-1, 2 & 3.

17. STUDENT-CENTERED LEARNING (SELF-LEARNING TOWARDS LIFE-LONGLEARNING)

Self-Learning, self-doing, and application of the knowledge acquired through the course after gaining adequate knowledge

It's a typical course-based project to be carried out by a whole class in groups of four students each; they should exhibit higher level Knowledge Levels (Bloom's Revised Taxonomy). To enhance their skill set in the integrated course, the students are advised to execute course-based **Design projects**.

The students, in a group not exceeding 4, are expected to conceive an idea based on the content (objectives/ outcomes) and apply the suitable knowledge to demonstrate their ability to learn.

A list of 30-40 project statements can be offered to the students to choose or develop their own ideas (teamwork) to define a problem statement, design and develop a product/ process/service/application, and provide a suitable solution (design thinking). They may also upload this Idea on the Yukti Portal (contact the University IIC Team) and also patent the same.

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