ETHIRAJ COLLEGE FOR WOMEN (Autonomous)
Chennai – 600 008
Affiliated to the University of Madras
College with Potential for Excellence
Reaccredited with A+ Grade by NAAC

CURRICULUM DESIGN & DEVELOPMENT

1.1.1CURRICULUM IMPLEMENTATION

OUTCOME BASED EDUCATION

(*Implemented from the Academic Year 2019-2020)

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OBE MANUAL
*(*Choice based Credit System)*

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DEFINITIONS

❖ **Graduates Attributes (GAs)** are the components indicative of the graduate's potential to acquire competence to practice at the appropriate level. GAs form a set of individually assessable outcomes of the programme.

❖ **Programme Educational Objectives (PEOs)** describe the career and professional developments of graduates, which are to be assessed after 2 or 3 years of graduation.

❖ **Programme Outcomes (POs)** explain the Knowledge, Skills and Attitude that the students are expected to attain upon graduation.

❖ **Course Outcomes (COs)** outline the course specifications to be acquired by students.

❖ **Knowledge, Skills and Attitude (KSA)** are the three types of behavior elements, also known as educational activities that are selected from Bloom's taxonomy.

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VISION & MISSION

VISION

MISSION

To holistically develop women, by imparting knowledge, value systems, technological competencies and Global skill sets

To harness their full potential to prepare them to be responsible citizens, compassionate leaders, agents of social change and participants in the National Development

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OBE DESIGN

Vision & Mission

↓

Programme Educational Objectives (PEO)

↓

Programme Outcomes (PO)

↓

Course Outcomes 1

Course Outcomes 2

Course Outcomes 3

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OBE DEFINITION

Outcome-Based Education (OBE) is an educational approach that focuses on the graduate attributes or outcomes after completing an academic programme

- ❖ An educational philosophy organized around several basic beliefs and principles.
- ❖ Organized from a focus on **exit level outcomes** and designed downwards to the unit levels.
- ❖ It focuses teaching & learning strategies on clearly defined learning outcomes getting high standards with high expectations for all students & includes expanded opportunities for enrichment and remediation.

OUTCOME BASED EDUCATION- CHART

Standard of Education

Continuous Improvement

Curriculum

OBE

Industry

Accreditation Requirements

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Components of OBE

❖ Desired outcomes

❖ Planning courses

❖ Nurturing desired outcomes

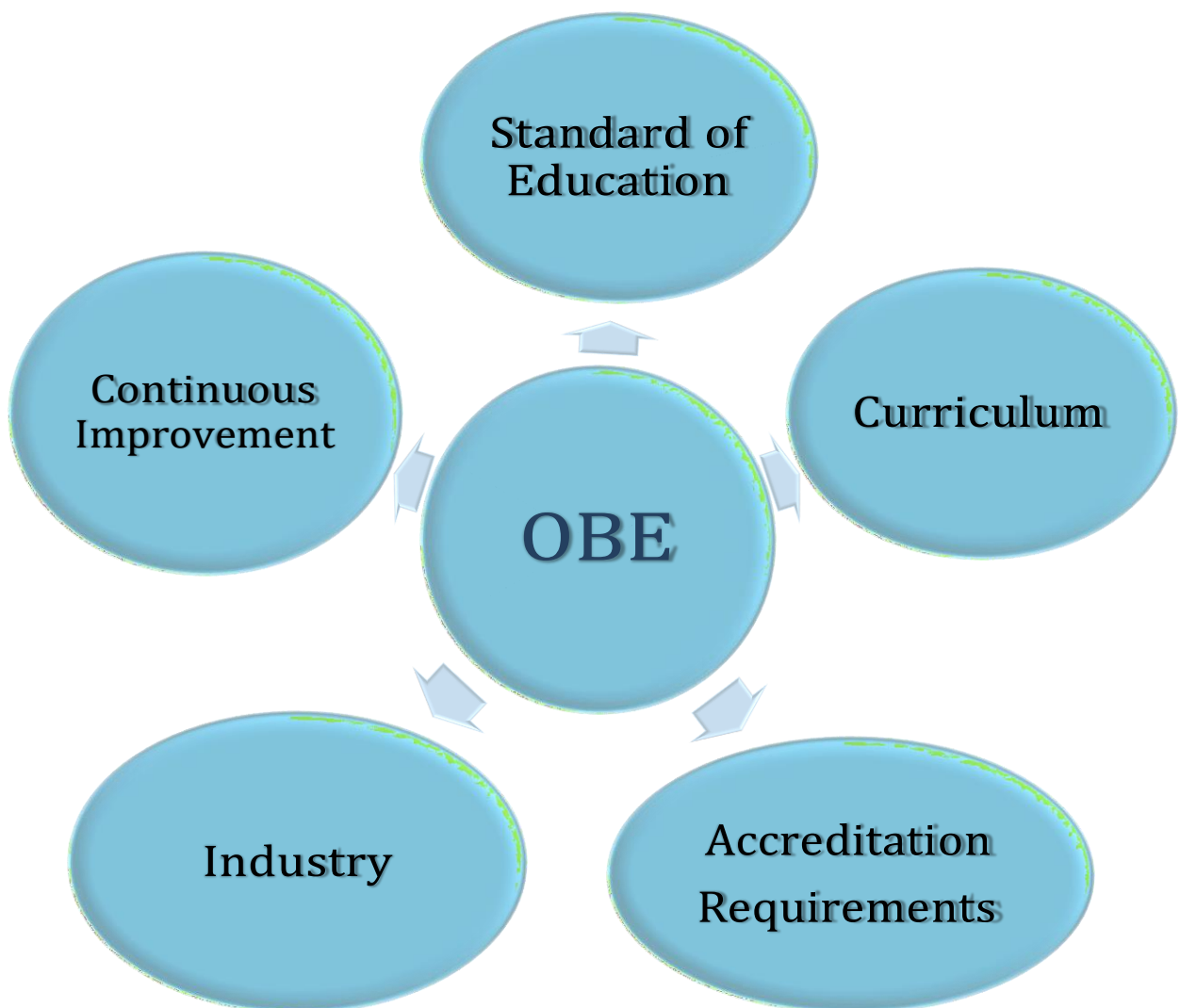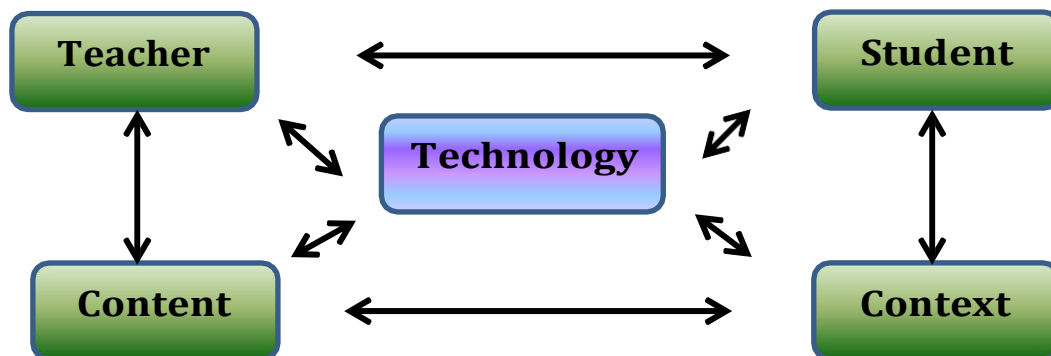❖ Assessment

❖ Feedback for improvement

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PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)

PEO are broad statements that describe the career and professional accomplishments that the programme is preparing graduates to achieve.

The Programme aims at producing Graduates who will able to:

PEO1: Technical/Subject Proficiency:

Succeed in obtaining employment appropriate to their interests, education and will become productive and valued professional.

PEO2: Professional Growth:

Continue to develop professionally through life-long learning, higher education and other creative pursuits in their areas of expertise or interest.

PEO3: Management Skills:

Exercise leadership (management) qualities in a responsive, ethical and innovative manner.

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PROGRAMME OUTCOMES (POs)

At the end of the program the students will be able to:

PO 1: Scientific Knowledge:

Apply the knowledge of chemistry, physics, mathematics and computer science to the scientific issues and problems being faced in society/industry

PO 2: Problems Analysis:

Identify, formulate, research literature and analyze complex problems reaching substantiated conclusions using first principles of mathematics, natural sciences and physical sciences.

PO 3: Design/development of solutions:

Design solutions for complex problems and processes that meet the specified needs with appropriate consideration for the public health and safety and the cultural, societal and environmental considerations.

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PO 4: Conduct investigations of complex problems

PO 5: Modern tool usage

PO 6: Link with society

PO 7: Environment and sustainability

PO 8: Ethics

PO 9: Individual and team work

PO 10: Communication

PO 11: Project management and finance

PO12: Life-long learning

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PROGRAMME SPECIFIC OUTCOME (PSOs)

PSOs are what the graduates of a specific UG/PG programme should be able to do at the time of graduation.

❖ The PSOs are programme specific.

❖ PSOs are written by the Department offering the programme.

❖ PSOs should be two to six in number.

❖ A Department can differentiate its programme through PSOs.

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OBE OUTCOMES

Course Outcomes (CO):

CO are statements that describe what students are expected to know, attitudes they are expected to hold, and what they are able to do as a result of taking a course.

❖ *Describe what students demonstrate upon the completion of course*

❖ *Students will be able to choose suitable X and Y for a given specification*

Typically 4-6 COs are identified/course COs are major domain specific outcomes written using action verbs which are specific, measurable and can be demonstrated by students on completion of the course. COs should aim to develop higher order skills in each domain of learning. Evaluation, Synthesis and Analysis are typical examples in cognitive Domain.

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MAPPING WITH COS & PSOS

CO	PSO				
CO 1					
CO 2					
CO 3					
CO 4					
CO 5					

S   **- Strongly correlated (3)**

M   **- Moderately correlated (2)**

L   **- Weakly correlated (1)**

NC   **- No Correlation (0)**

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ACCESS TO THE COURSES

Programme Educational Objectives (PEO)

⬆

Programme Outcomes (POs)

⬆

Course Outcomes (Cos)

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BLOOMS TAXONOMY

Provides taxonomy of cognitive levels for learning objectives which was originally proposed by psychologist Benjamin Bloom in 1956 and it was revised in the year 2001 by Anderson and Krathwohl.
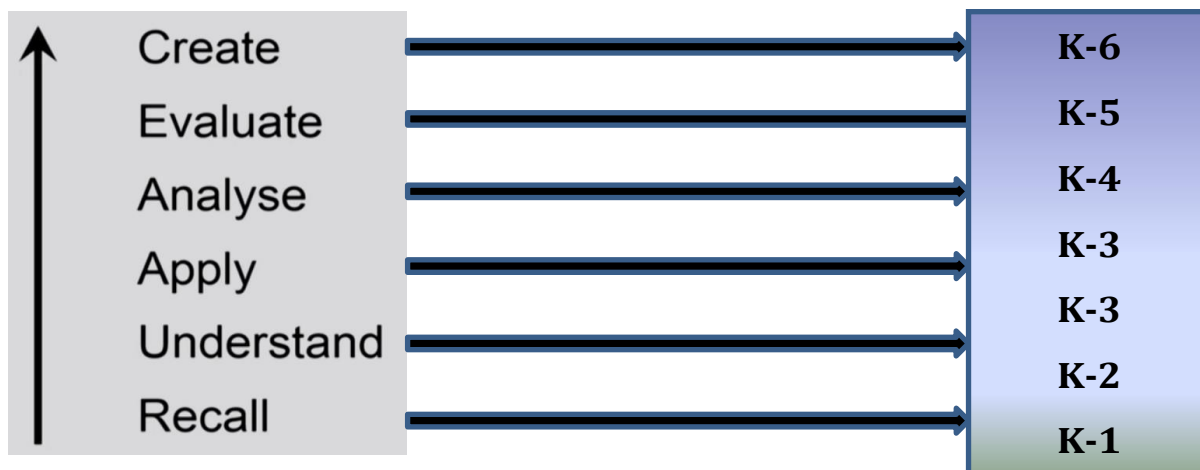
Create	→	K-6
Evaluate	→	K-5
Analyse	→	K-4
Apply	→	K-3
		K-3
Understand	→	K-2
Recall	→	K-1

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TEMPLATE FOR COURSE SYLLABUS

Course Code & Title   :

Class   :

Cognitive Level   :   K1
                                        K2
                                        K3

Course Objectives   : The Course aims

CO & PO Attainment Rubrics

From Direct Assessment

CFA & ESE	– 40 %
Assignments/ reports/ case studies/ records/ observations	- 30 %

From Indirect Assessment

Exit survey – 30 %

- ❖ Based on the cognitive level of the course percentage of marks for K1, K2 etc. to be fixed.
- ❖ Apart from the question, CO & K level also to be mentioned in the question paper.
- ❖ Apart from total marks scored by the individual the mark scored in CO1, CO2 etc. to be measured.
- ❖ Attainment mapping to be done for the individual as well as the class by the office through customized software.

For CFA (2 tests)

Knowledge Level	Section	Marks
K1	Section A (Answer all)	10×1=10
K2	Section B (Either or Pattern)	4×5=20
K3 & K4	Section C (Answer 2 out of 3)	2×10=20

For ESE

Knowledge Level	Section	Marks
K1	Section A (Answer	10×2=20
K2	Section B (Either or Pattern)	6×5=30
K3 & K4	Section C (Answer 5 out of 7)	5×10=50

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CO Attainment Calculation

CO Nos	Question Numbers										Marked Scored
	1	2	3	4	5	6	7	8	9	10	
CO 1							2				2/5 = 0.4
CO 2	3		2					3		3	11/20 = 0.65
CO 3		4									4/5 = 0.8
CO 4				5							5/5 = 1.0
CO 5					3				1		4/10 = 0.4
CO 6						3					3/5 = 0.6

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TEMPLATE FOR THE PREPARATION OF OBE

Programme Educational Objectives

The PEOs of Ethiraj College for Women are:

➤ **Undergraduate Programme**

Programme Educational Objectives

On obtaining an undergraduate degree the students will be able to:

PEO 1: Apply and advance the knowledge and skills acquired, to become a creative professional in their chosen field.

PEO 2: Engage in self-directed continuous learning, aimed at global competency, which will promote professional and personal growth

PEO 3: Develop management skills and entrepreneurial skills, by harnessing core competencies tempered by values and ethics

PEO 4: Work towards achieving economic and social equity for women through application of relevant knowledge

PEO 5: Contribute to promoting environmental sustainability and social inclusivity

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> ## Postgraduate Programme:
On obtaining a postgraduate degree the students will be able to:

PEO 1: Display higher order thinking in the knowledge domain and demonstrate professional skills

PEO 2: Contribute to the advancement and application of relevant knowledge by self-directed learning

PEO 3: Extend and integrate knowledge and skills to design and develop novel products and explore innovative solutions to national and international goals of development.

PEO 4: Exercise management skills and develop social interactions in a responsive, ethical and constructive way to meet global standards of excellence in all spheres of activity.

PEO 5: Strive for social and economic equity based on the need for gender parity and ecological sustainability.

> ## M.Phil. Research Programme
On obtaining a research degree the scholar will be able to:

PEO1 Demonstrate advanced domain knowledge competencies and display high order discerning and synthesizing capabilities to address local, regional and national concerns through innovative well researched solutions.

PEO2 Continue to serve the community of professionals and experts as both independent and team player with a strong grounding in ethics, inclusivity, gender parity and environmental sustainability.

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OBE OUTCOMES

Course Outcomes (CO):

CO are statements that describe what students are expected to know, attitudes they are expected to hold, and what they are able to do as a result of taking a course.

❖ Describe what students demonstrate upon the completion of course

❖ Students will be able to choose suitable X and Y for a given specification

Typically 4-6 COs are identified/course COs are major domain specific outcomes written using action verbs which are specific, measurable and can be demonstrated by students on completion of the course. COs should aim to develop higher order skills in each domain of learning. Evaluation, Synthesis and Analysis are typical examples in cognitive Domain.

Course Objectives:

❖ Describe what a teacher needs to teach and what needs to be planned to teach

❖ Students will understand the concept of X and Y in respective domain

Guidelines for CO:

❖ Outcomes must measure something useful and meaningful.

❖ Outcomes must be consistent with programme goals, core curriculum outcomes and university mission.

❖ Outcomes must be measurable.

❖ Outcomes must be explicitly stated in terms of what students can do.

❖ There are no fixed rules for the number of learning outcomes but it will be better to restrict to 4-6.

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PROGRAMME PROFILE

PROGRAMME PROFILE -B.A. NAME OF DISCIPLINE

SEM	PART	COURSE CODE	TITLE OF THE PAPER	CREDITS	HOURS/WK	TOTAL HOURS	CA	SE	TOTAL
I	I		FOUNDATION TAMIL-I	3			40	60	100

Total minimum credits for the programme must be given

Include compulsory extension activity credits while showing minimum credits for UG programmes

Give separate Programme Profiles for UG/PG/M.Phil

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EVALUATION PATTERN FOR CA

EVALUATION PATTERN FOR CONTINIOUS ASSESSMENT-UG
INTERNAL VALUATION BY COURSE TEACHER/S

PART I, II AND III-THEORY PAPERS

COMPONENT	TIME	MAX.MARKS	CA MARK
1.*TEST I	2 HRS	50 MARKS (TO BE CONVERTED)	10
2.*TEST II	2 HRS	50 MARKS (TO BE CONVERTED)	10
3. ASSIGNMENT / SEMINAR / FIELD VISIT			10
4. PARTICIPATORY LEARNING			10
TOTAL			40

PART III- PRACTICAL PAPERS
COMPONENT   MARKS
1.
2.
3…

PART IV-SKB/SOFT SKILLS
COMPONENT   TIME   MAX.MARKS

1.
2.

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CA QUESTION PAPER PATTERN-UG

Knowledge Level	Section	Word Limit	Marks	Total
K 1	A-6X2 marks	50	12	
K1. K 2	B-3/5x6 marks	200	18	50
K2, K 3	C-1/2x20 marks	500	20	

CA QUESTION PAPER PATTERN FOR PART IV

Knowledge Level	Section	Word Limit	Marks	Total
K 1, K2	A-5X10	350	50	50

EVALUATION PATTERN FOR CONTINIOUS ASSESSMENT-PG
INTERNAL VALUATION BY COURSE TEACHER/S

CORE/ELECTIVE/PROJECT-THEORY PAPERS

COMPONENT	TIME	MAX.MARKS	CA MARK
1. TEST I	2 HRS	50 MARKS (TO BE CONVERTED)	10
2. TEST II	2 HRS	50 MARKS (TO BE CONVERTED)	10
3. ASSIGNMENT/SEMINAR/FIELD VISIT			10
4. PARTICIPATORY LEARNING			10
TOTAL			**40**

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CORE/ELECTIVE-PRACTICAL PAPERS

COMPONENT   MARKS

1.

2.

3…

PROJECT:

COMPONENT   MARKS

1.

2.

3.

4….

SOFT SKILL PAPERS

COMPONENT   TIME   MAX.MARKS

1.

2…

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CA QUESTION PAPER PATTERN-PG

Knowledge Level	Section	Word Limit	Marks	Total
K 4	A-2/4X5 marks	500	10	
K4. K 5	B-2/3x20 marks	1200	40	50

EVALUATION PATTERN FOR CONTINIOUS ASSESSMENT-M.Phil

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RUBRICS FOR CA EVALUATION

Assignment	Content/originality/Presentation/Schematic Representation and Diagram/Bibliography
Seminar	Organisation/Subject Knowledge/Visual Aids/Confidence level/presentation-Communication and Language
Field Visit	Participation/Preparation/Attitude/Leadership
Participation	Answering Questions/Clearing Doubts/Participating in Group Discussions/Regular Attendance
Case Study	Finding the Problem/Analysis/Solution/Justification
Problem Solving	Understanding Concepts/Formula and Variable Identification/Logical Sequence/Answer
Group Discussion	Preparation/Situation Analysis/Relationship Management/Information Exchange/Delivery Skills
Flipped/Blended Learning	Preparation/Information Exchange/ Group interaction/Clearing doubts

❖ FIRST FOUR RUBRICS SHOULD BE INCLUDED.

❖ OTHERS ARE OPTIONAL BASED ON TEACHING-LEARNING METHODOLOGY ADOPTED FOR THE PROGRAMME OF STUDY

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EVALUATION PATTERN FOR END SEMESTER

> **UG - THEORY PAPERS**

PART I/II/III (Choose what is offered by the Department)
SEMSTER I/II/III/IV/V/VI
DOUBLE VALUATION BY COURSE TEACHER AND EXTERNAL EXAMINER
MAXIMUM MARKS: 100 TO BE CONVERTED TO 60
PASSING MARK: 40

PART IV
SINGLE VALUATION

ORAL TEST/WRITTEN TEST

MAXIMUM MARKS: 50

PASSING MARK:

> **UG - PRACTICAL PAPERS**

PART III

SEMSTER I/II/III/IV/V/VI

DOUBLE VALUATION BY COURSE TEACHER AND EXTERNAL EXAMINER

MAXIMUM MARKS:

PASSING MARKS

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END SEMESTER EVALUATION PATTERN

➢ **PG- THEORY PAPERS**

SEMSTER I/II/III/IV

DOUBLE VALUATION BY COURSE TEACHER AND EXTERNAL EXAMINER

MAXIMUM MARKS: 100 TO BE CONVERTED TO 60

PASSING MARKS: 50

➢ **PG- PRACTICAL PAPERS**

SEMSTER I/II/III/IV

DOUBLE VALUATION BY COURSE TEACHER AND EXTERNAL EXAMINER

MAXIMUM MARKS: 100 TO BE CONVERTED TO 60

PASSING MARK:

➢ **SOFT SKILLS PAPERS**

SEMESTER I/II/III/IV

SINGLE VALUATION BY COURSE TEACHER

MAXIMUM MARKS:

PASSING MARKS:

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EVALUATION PATTERN- PROJECT

SEMESTER:

DOUBLE VALUATION BY RESEARCH SUPERVISOR AND EXTERNAL EXAMINER

DISSERTATION:

VIVA:

MAXIMUM MARKS:

PASSING MARKS:

INTERNSHIP

YEAR   SEMESTE

END SEMESTER EVALUATION PATTERN- M.Phil

SEMESTER I

COURSE PROFILE-PROGRAMME OF STUDY

COURSE CODE	TITLE OF THE PAPER	CREDITS	HOURS/WK	TOTAL HOURS	L-T-P	CA	SA	TOTAL
	FOUNDATION TAMIL-I	3				40	60	100
	TOTAL							
	TOTAL CREDITS							

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COURSE TEMPLATE

SEMESTER I

TOTAL HOURS: **COURSE CODE:**

CREDITS: **L-T-P:**

COURSE OBJECTIVES:

1.

2.

3.

Minimum 3 for UG

Minimum 5 for PG

COURSE OUTLINE:

UNIT I	Hours
UNIT II	Hours
UNIT III	Hours
UNIT IV	Hours
UNIT V	Hours

RECOMMENDED TEXTBOOKS:

 Minimum **two**

REFERENCE BOOKS:

Minimum **five**

-Recent editions can be given preference

-Complete bibliographical details must be given

JOURNALS:

Minimum **two**

One international and one Indian journal

E-LEARNING RESOURCES:

Minimum **five** links must be provided-one for each unit

While doing so please ensure that the links are:

-directly relevant to the units

-contain complete URLs as far as possible

-avoid generic web ids such as www.wikepedia.com, http://nptel.ac.in, http://ebscohost.com

COURSE OUTCOMES:

CO Number	CO STATEMENT
CO 1	
CO 2	
CO 3	
CO 4	
CO 5	

MAPPING-COURSE OUTCOME WITH PROGRAMME SPECIFIC OUTCOME

CO/PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5
CO1					
CO2					
CO3					
CO4					
CO5					
AVERAGE					

KEY: **S**TRONGLY CORELATED-3 **M**ODERATELY CORELATED-2 **W**EAKLY CORELATED-1 **N**O CORELATION-0

TEACHING METHODOLOGY:

Lecture (Chalk and Talk-OHP-LCD)

Flipped Learning/Blended Classroom-E Content, Videos-

Problem Solving-Group Discussion-Role Modelling

Quiz-Seminar-

Peer Learning-

Field Visits-

Self-Study Papers

Any of the Methodologies Mentioned Can Be Used Or Other Innovative Methodologies Can Be Approved By The BOS

QUESTION PAPER PATTERN-UG*

Knowledge Level	Section	Word Limit	Marks	Total	Special Instructions if any
K 1	A-10X2 marks	50	20		Question No.- is compulsory Section B/C-must be have 2 theory and 3problems
K1. K 2	B-5/8x8 marks	200	40	100	
K2, K 3	C-2/3x20 marks	500	40		

QUESTION PAPER PATTERN-PG*

Knowledge Level	Section	Word Limit	Marks	Total	Special Instructions if any
K 3	A-5X8 marks	500	40		Question No.- is compulsory Section B/C- must be have 2 theory and 3problems
K4, K5	B-3/5x20 marks	1500	60	100	

QUESTION PAPER PATTERN M.Phil

 K Level 5-6

*Question Paper pattern given above is common to the college but may be slightly modified to suit the discipline in case the BoS so recommends. Any deviation from the norm may be recorded in the minutes of the BoS

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INSTRUCTIONS

STYLE:

FONT: TIMES NEW ROMAN

HEADINGS: 14 BOLD

CONTENT: 12

As the Revised Bloom's Taxonomy is being used for teaching learning and evaluation under the Outcome Based Education to improve the skills of students, all syllabi must be framed keeping this objective in mind.

Course objectives may be framed keeping the teaching in mind

Course outcomes may be framed keeping the student in mind

Suggested Verbs to be included in Outcome Statements:

Compile	Select	Discuss	Outline
Identify	Utilize	Explain	Evaluate
Create	Apply	Predict	Formulate
Plan	Demonstrate	Assess	Revise
Prepare	Compare	Select	Analyse
Use	Rate	Communicate	Design
Compute	Critique		

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All outcomes should be observable and measurable.

- **BoS has to decide the percentage of questions to be asked for each cognitive level**
- **K levels to be mentioned for each question in the QP pattern**

All question papers can be framed in the following cognitive levels

Knowledge Level 1: Recall

Knowledge Level 2: Understanding

Knowledge Level 3: Application

Knowledge Level 4: Analysis

Knowledge Level 5: Evaluation

Knowledge Level 6: Creation

- UG syllabi and question paper pattern can be oriented towards teaching/learning and testing K1 level to K3
- PG syllabi and question paper pattern can be oriented towards teaching/learning and testing K4 level to K5
- In case the BoS recommends that the cognitive levels for any PG question paper can include K1 to K3 questions also it must be clearly mentioned in the **Question Paper pattern attached to each course and also must be recorded in the minutes of the BoS.**
- Project papers and Research programme papers can be oriented towards K6 levels

KEYWORDS FOR QUESTION PAPERS BASED ON KNOWLEDGE LEVELS

KNOWLEDGE LEVEL 1-REMEMBERING/RECALLING

Exhibit memory of previously learned material by recalling facts, terms, basic concepts and answers

Who	What	Why	When	Omit
Where	Which	Choose	Find	How
Define	Label	Show	Spell	List
Match	Name	Relate	Tell	Recall
Select	Describe			

KNOWLEDGE LEVEL 2- UNDERSTANDING

Demonstrate understanding of facts and ideas by organising, comparing, translating, interpreting, giving descriptions and stating main ideas

Compare	Contrast	Demonstrate	Interpret	Explain
Extent	Illustrate	Infer	Outline	Relate
Rephrase	Translate	Summarise	Show	Classify
Describe	Discuss			

KNOWLEDGE LEVEL 3-APPLYING

Solve problems to new situations by applying acquired knowledge, facts, techniques and rules differently

Apply	Build	Choose	Construct	Develop
Experiment with	Identify	Interview	Make use of	Model
Organise	Plan	Select	Solve	Utilise
List	Use	Compute	Simplify	Survey
Demonstrate	Dramatise	Illustrate	interpret	Sketch
Write	Show	Manipulate	Relate	Schedule

KNOWLEDGE LEVEL 4- ANALYZING

Examine and break information into parts by identifying motives or causes.
Make inferences and find evidence to support generalisations.

Analyse	Assume	Categorize	Classify	Compare		
Conclude	Contrast	Divide	Examine	Function		
Infer	Discover	Dissect	Distinguish	Inspect		
List	Motive	Relationship	Simplify	Survey		
Take part in	Test for	Identify theme				

KNOWLEDGE LEVEL 5-EVALUATING

Present and defend opinions by making judgements about information,
validity of ideas or quality of work based on a set of criteria

Agree	Appraise	Assess	Award	Choose
Compare	Conclude	Criteria	Decide	Deduct
Defend	Determine	Disprove	Dispute	Estimate
Evaluate	Explain	Importance	Influence	Interpret
Judge	Justify	Measure	Opinion	Perceive
Prioritize	Prove	Rate	Recommend	Select
Support	Value			

KNOWLEDGE LEVEL 6-CREATING

Compile information together in a different way by combining elements in a
new pattern or proposing alternate solutions

Adapt	Change	Choose	Compile	Compose
Construct	Create	Design	Develop	Discuss
Elaborate	Estimate	Formulate	Imagine	Improve
Invent	Minimise	Maximise	Modify	Originate plan
Predict	Propose	Solve	Test	Theory

This list is only suggestive and not exhaustive

THE GATHERING

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