

Chhatrapati Shahu Ji
Maharaj University,
Kanpur UP



**OUTCOME
BASED
EDUCATION
(OBE)
POLICY**

OUTCOME BASED EDUCATION (OBE) POLICY

This policy may be called Outcome Based Education (OBE) Policy of **Chhatrapati Shahu Ji Maharaj University** and will be applicable for the programmes running in CSJM University residential wing. The policy shall have effect from the date of approval by the Executive Council of CSJM University.

Introduction:

Chhatrapati Shahu Ji Maharaj University, Kanpur strongly believes in proactively contributing towards growth of higher education in India and in tune with this objective it follows an approach of outcome-based education (OBE) to inculcate student cent red learning and maximize learning outcomes. The objective of laying down OBE policy is to build knowledge, skills and positive attitude among its students to meet the global standards of Education. The meticulously designed OBE model shall link student learning with performance outcomes. The aim is to motivate study, consolidate learning, prevent overconfidence and assist students in monitoring their own development.

Scope:

The OBE framework will form the basis of quality education at Chhatrapati Shahu Ji Maharaj University. This policy will provide the necessary guidelines to implement quality teaching and learning processes in order to attain global recognition. The guidelines of this OBE policy will be implemented across all the academic programs/courses/curricular activities undertaken in the University residential wing and will be applicable to all students and teachers of CSJM University residential wing until otherwise directed by any academic/ professional body governing the programme.

Objectives

The major objectives of this policy are:

- To design a learner centric curriculum.
- To design curriculum carefully drafted and aligned with the national goals and institutional vision and mission on higher education.
- To define Programme Educational Objectives (PEOs) and Graduate attributes aligned with national culture.
- To define Programme Outcomes (POs) to meet global standards.
- To define Course Outcomes (COs) aligned with clarity and precision to improve employability of students.

- To adapt its pedagogy to the requirement of the different stakeholders like Students, Parents, Industry and Recruiters.
- To revise and restructure its curriculum, assessment and feedback practices to reflect the achievement of high order learning.
- To involve students in their own learning so as to maximize their learning outcome.
- To make teachers more creative and innovative so as to allow them to shape the future of their students.

Defining Programme, Programme specific and Course outcomes under OBE framework at CSJMU

Outcome-based education (OBE) is emerging as a strategic driving force for creating sustainable systems of teaching- learning in Higher Education. India is pursuing strong structural and systemic changes to produce better results in the field of higher education. This will ensure endorsement of a learning strategy that assures improved employability as demanded by changing nature of jobs. OBE framework will help to define educational outcomes with precision and clarity and curriculum design, delivery and assessment will be linked to these outcomes.

CSJM University will adopt OBE framework to effectively map assessment techniques with programme outcomes in order to ensure accurate and reliable measurement of student attainment of these outcomes. Teaching and assessment system at CSJMU will rest on 'outcome based education' philosophy so as to regulate the progression of the learner in various academic programmes and to ensure development of graduate attributes required for becoming effective global citizens. Course Outcomes (CO) will be defined for all courses and Program Outcomes (PO)/Program Specific Outcomes (PSO) will be laid down for all programs in the University.

Program Educational Objectives (PEO): These are generic statements that describe the career and professional accomplishments that the program is preparing the graduates to achieve.

Course Outcome (CO): Course outcomes are the statements that define the skills and competencies that student should demonstrate after the completion of a course.

Programme Specific Outcomes (PSO): Program Specific Outcomes are statements that describe what the graduates of a specific program should be able to do. The PSO's will be written by the department which is offering the programme.

Programme Outcomes: Program outcomes are defined as the objectives to be achieved at the end of any specialization or discipline and reflect the skills, knowledge and abilities to be acquired by students.

The process of attainment of COs, POs and PSOs shall start from writing appropriate COs for each course in each semester of the program depending on the duration of the programme. Then, a mapping between COs and POs shall be done in the scale of 1 to 3, 1 denoting the least (low), 2 denoting moderate (medium) and 3 denoting substantial (high) correlation. A matrix will be prepared in this regard for every course in the program.

CO attainment Computation: The Following templates outline the procedure to be used to implement the mapping of CO with PO and PSO

EXAMPLE 1

CO – PO/ PSO Mapping

STEP-1 : For every subject 4-7 course outcomes (CO) are defined and mapped to Program outcomes (PO) on a scale of 0 to 3. Highest correlation is 3. For example,

Program :	B.Tech	Branch :	ECE	Specilization :									
Session :	2021-2022	Sem :	V										
Course Code :	ECE-S302	Course Code :	ECE-S302										
Faculty Name :		Dept :	ECE										
PO Mapping Correlation →	Blank = No Correlation		1 = Low	2 = Moderate	3 = High								
Course Outcomes	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PSO-1	PSO-2	PSO-3

1	CSJMA21001390133	ABHISAR SINGH RAGHUVANSHI	32	80	46	76.6666667
2	CSJMA21001390134	ADARSH SAHU	30	75	53	88.33333333
3	CSJMA21001390135	AMAN TYAGI	33	82.5	36	60
4	CSJMA21001390136	ANKUR SINGH	38	95	55	91.6666667
5	CSJMA21001390137	ANSHIKA SHARMA	38	95	48	80
6	CSJMA21001390138	ASHWANI CHAUHAN	35	87.5	50	83.33333333
7	CSJMA21001390139	ATUL KUMAR GUPTA	0	0	0	0
33	CSJMA21001390165	NISHANT GUPTA	27	67.5	42	70

Computation of Course Outcome :

	Int.	Ext
Total Students	33	33
Target Marks	40	60
No of Students securing Target Marks	31	32
Percent of Students securing Target Marks	93.9	97.0
Attainment Level	3	3

Weightage	CO-Attainment	
1	Direct	Direct (Internal) 3
0	Indirect	Direct (External) 3
0.2	Direct (Internal)	Indirect
0.8	Direct (External)	CO-Attainment Value 3.00
Green Cells - Input Value		

Step 3 : CO attainment value will be calculated on the basis of mapping and assessment.

Institute Name: School of Basic Sciences, UIET											
Program :	B.Tech			Branch :	CSE-AI			Specilization :			
Session :	2021-22			Sem :	I						
Course Code :	CHM-101			Course Name :	Basic Chemistry						
Faculty Name :	Dr. P.S. Niranjana			Dept :	Chemistry						
PO Mapping Correlation →	Blank = No Correlation			1 = Low		2 = Moderate			3 = High		
PO Attainment											

PO-Attainment of Course Code =>		P O-1	P O-2	P O-3	P O-4	P O-5	P O-6	P O-7	P O-8	PO -9	PO -10	P O-11	P O-12	PS O-1	PS O-2
CO-PO Mapping Value (Average)		2.6	3	3	3	3	2.75	3		3				2.75	
CO-Attainment Value	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00		3.00				3.00	

Step 4 : Program attainment will be calculated on the basis of Course attainment.

Institute Name

PO - Attainment : B Tech - ME Year 2020-21

S. No	All courses of the program, from I year to final year. For a batch / studied by the student			PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO10	PO11	PO12
	Subject Code	Subject Name	CO Attainment Value	Put same value of CO-attainment in all the CO-PO mapped cells - for each course.											
				Engineering knowledge	Problem Analysis	Design/development of solutions	Conduct investigations of complex problems	Modern tool usage	The Engineer and Society	Environment and sustainability	Ethics	Individual and team work	Communications	Project management and finance	Life Long Learning
1	KAS 101T / 201T	Engg Physics	2.00	2.00	2.00				2.00						2.00
2	KAS 151P / 251P	Engg Physics Lab	2.00	2.00	2.00						2.00	2.00			2.00
3	KAS 102T / 202T	Engg Chemistry	3.00	3.00	3.00	3.00			3.00	3.00					
19	KNC 101	Soft Skill-I	2.00			2.00	2.00		2.00		2.00	2.00	2.00	2.00	2.00
20	KNC 201	Soft Skill-II	2.00		2.00	2.00	2.00		2.00	2.00	2.00	2.00	2.00		2.00
PO Attainment			Value (3)	2.06	2.06	2.08	2.00	2.00	2.11	2.33	2.00	2.00	2.00	2.00	2.00
			Per cent	68.66	68.66	69.22	66.67	66.67	70.44	77.78	66.67	66.67	66.67	66.67	66.67

EXAMPLE 2

Department of Education

Program : M.Ed. **Branch :** NA **Specilization :** NA
Session : 2021-22 **Sem :** FIRST
Course Code : MED 101 **Course Code :** MED 101
Faculty Name : Dr. Tanuja Bhatt & Dr. Gopal Singh **Dept :** EDUCATION

PO Mapping Correlation → Blank = No Correlation 1 = Low 2 = Moderate 3 = High

Course Outcomes		PO-1	PO-2	PO-3	PO-4	PO-5	PO-6							
Statement of Course Outcome	COx	Develop reflective and analytical skills and understanding of critical and vital issues in education. Emphasize critical perspectives and understanding about specialized area of education like inclusion and diversity, special education, value, and peace, human												
		Build research attitude skills and capabilities to visualize, conduct and present research.												
		Will be able to understand educational problems and issues related to educationally excluded/disadvantaged groups.												
		Will be able to develop on understanding of classroom as social group and group process.												
		Will be able to learn identification of academic, social, emotional and vocational problems of students.												
The prospective teacher educator will be able to develop critical thinking skills.	CO-1	3	3	3	3	3	3							
The prospective teacher educator will be able to recognize, express and analyze arguments in philosophical texts.	CO-2	3	3	3	3	3	3							
The prospective teacher educator will be able to understand the concept of western philosophy.	CO-3	3	3	3	3	3	3							
The prospective teacher educator will be able to write philosophical essays that have coherent theses and reasonable supporting arguments.	CO-4	3	3	3	3	3	3							
Subject_Code_CO_Mapping	Average	3	3	3	3	3	3							

College Name

**Program, Branch, Specilization, Odd / Even Sem, Session, Section / Group
Computation of Course Outcomes (COs)**

Subject Code : _____ Program : _____ Specilization : _____
Subject Name : _____ Branch : _____ Session : _____

S. No.	University Roll No	Student Name	Data of Direct (Internal) Assessment		Data of Direct (External) Assessment		Remarks, if any
			MM =	25	MM =	75	
			Marks Obt.	Per cent	Marks Obt.	Per cent	
1	1945806	ABHA DUBEY	17	68	44	58.6666667	
2	1945810	ABHISHEK KUMAR	17	68	35	46.6666667	
3	1945823	ABHISHEK PAL	20	80	47	62.6666667	
4	1945834	ABHISHEK SINGH	18	72	42	56	
5	1945847	ADARSH MISHRA	21	84	49	65.3333333	
6	1945852	AJEET SINGH	16	64	38	50.6666667	
7	1945868	AJEET SINGH	15	60	38	50.6666667	
8	1945875	AKASH MATHUR	15	60	43	57.3333333	
9	1945881	AMITA SINGH	17	68	31	41.3333333	
10	1945899	ANAND KUMAR YADAV	16	64	37	49.3333333	
11	1945909	ANJALI SHARMA	19	76	44	58.6666667	
12	1945913	ANUJ KUMAR PAL	19	76	45	60	
13	1945921	ARVIND GAUTAM	18	72	35	46.6666667	
14	1945932	HISH KUMAR VISHWAKAR	17	68	39	52	
15	1945945	ASHOK KUMAR PUSHKAR	16	64	43	57.3333333	
16	1945950	ATUL KUMAR	18	72	44	58.6666667	
17	1945966	BALWANT KUSHWAHA	15	60	47	62.6666667	
18	1945978	BHEEM SEN	13	52	47	62.6666667	
19	1945984	DEEKSHA SACHAN	18	72	47	62.6666667	
20	1945997	DEEPTI KUMARI	19	76	46	61.3333333	
21	1946004	EKATA DEVI	15	60	34	45.3333333	
22	1946015	HARIMOHAN	14	56	34	45.3333333	
23	1946027	KALPANA TIRPATHI	14	56	35	46.6666667	
24	1946036	KM DIVYANSHI KASHYAP	15	60	43	57.3333333	
25	1946043	KM PRAGATI KOSHTA	21	84	52	69.3333333	
26	1946058	KM PARUL	21	84	40	53.3333333	
27	1946062	MANISH KUMAR YADAV	16	64	42	56	
28	1946070	MANOHAR LAL	15	60	53	70.6666667	
29	1946089	MUKESH KUMAR	13	52	32	42.6666667	
30	1946091	NIVEDITA KUSHWAHA	18	72	55	73.3333333	
31	1946101	PANKAJ KUMAR	19	76	39	52	
32	1946117	PRABHAKAR RAJPUT	19	76	44	58.6666667	
33	1956125	PRABHAT KUMAR	21	84	59	78.6666667	
34	1956139	PREM SHANKAR	17	68	38	50.6666667	
35	1956141	PRERNA SEN	20	80	58	77.3333333	
36	1956156	PRINSHI VERMA	0	0	0	0	
37	1956160	PRIYA SHARMA	20	80	50	66.6666667	
38	1956173	RASHMI DIWAKAR	20	80	42	56	
39	1956187	ROHIT KUMAR	15	60	45	60	
40	1956194	SATYENDRA SINGH	0	0	0	0	
41	1956207	SHIVAM MISHRA	19	76	39	52	
42	1956211	SHIVANGI GANGWAR	15	60	34	45.3333333	
43	1956224	SITANSHU TRIPATHI	19	76	56	74.6666667	
44	1956230	SMRATI SACHAN	0	0	0	0	
45	1956248	SUBHAM PANDEY	17	68	41	54.6666667	
46	1956253	SUMIT KUMAR	17	68	35	46.6666667	
47	1956269	UMESH BAHADUR YADAV	17	68	39	52	
48	1956276	VANDANA SAHU	20	80	40	53.3333333	
49	1956282	VISHWAS TIWARI	19	76	48	64	

Institute Name

Program :	M.Ed.	Branch : NA	Specilization : NA
Session :	2021-22	Sem : 1	
Course Code :	MED101	Course Code : MED101	
Faculty Name :	Dr. Tanuja Bhatt & Dr. Gopal Singh	Dept : EDUCATION	

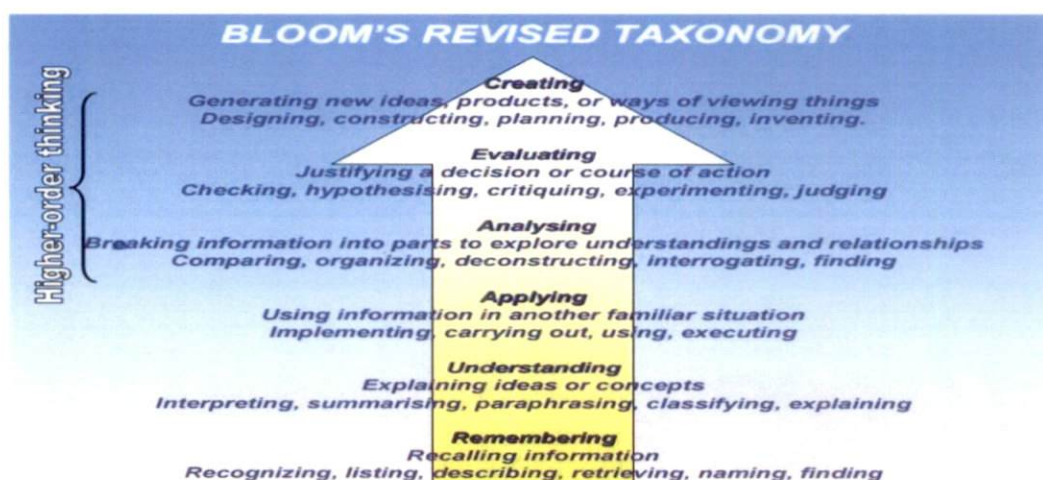
PO Mapping Correlation → Blank = No Correlation 1 = Low 2 = Moderate 3 = High

PO Attainment

PO-Attainment of Course Code =>		PO-1	PO-2	PO-3	PO-4	PO-5	PO-6							
CO-PO Mapping Value (Average)		3	3	3	3	3	3							
CO-Attainment Value	3.00	3	3	3	3	3	3							

Teaching and assessment system to promote OBE at CSJMU

Learning and assessment system that is outcome oriented can promote skill development among learners. In order to ensure desired learning outcomes, the university has devised a system of learning and assessment based on Bloom's taxonomy (created in 1956 under the leadership of educational psychologist Dr Benjamin Bloom) that drives learning of higher order skills besides remembering and comprehension of ideas and thereby builds proficiency of the student in a given field. This policy enhances critical thinking, creativity and problem-solving skills much required by any professional. It is expected that this system will link the teaching – learning process with PSO, PO and CO on one hand and with assessment system on the other hand and will prepare students for innovation and creativity.



Retrieved from: <http://www.kurwongbss.qld.edu.au/thinking/Bloom/blooms.htm>

The cognitive process dimensions- categories					
Lower Order of Thinking (LOT)			Higher Order of Thinking (HOT)		
Remember	Understand	Apply	Analyze	Evaluate	Create
Recognizing (identifying)	Interpreting	Executing	Differentiating	Checking (coordinating, detecting, testing, monitoring) Critiquing (judging)	Planning
Recalling (retrieving)	Illustrating	Implementing	Organizing		Generating
	Classifying		Attributing		Producing (constructing)
	Summarizing				
	Inferring (concluding)				
	Comparing				
Explaining					

Action Verbs for Course Outcomes

Sample Action verbs:

The cognitive process dimensions- categories					
Lower Order of Thinking (LOT)			Higher Order of Thinking (HOT)		
Remember	Understand	Apply	Analyse	Evaluate	Create
Define	Explain	Solve	Analyse	Reframe	Design
Describe	Describe	Apply	Compare	Criticize	Create
List State	Interpret	Illustrate	Classify	Judge	Plan
Match	Summarise	Calculate	Distinguish	Recommend	Formulate
Tabulate	Compare	Sketch	Explain	Grade	Invent
Record	Discuss	Prepare	Differentiate	Measure	Develop
Label	Estimate	Chart	Appraise	Test	Organize
	Express	Choose	Conclude	Evaluate	Produce

Aligning Assessment policy with educational outcomes

The University is committed to having an Assessment policy that is in alignment with stated outcomes of education. Attainment of the COs can be measured directly and indirectly. Direct attainment displays the student's knowledge and skills from their performance. It can be determined from the performance of the students in all the relevant assessment instruments like internal assessments, assignments, quiz and final examinations. These methods provide a sampling of what students know and/or can do and provide strong evidence of student learning.

Indirect methods such as Course End Surveys ask the students to reflect on their learning. They access opinions or thoughts about the graduate's knowledge or skills. Indirect measures can provide information about graduate's perception of their learning and how this learning is valued by different stakeholders.

Assessment Pattern: Assessment shall be Direct and Indirect Assessment

Direct assessment will be done in two parts:

1. Continuous Internal Assessment (25 marks or as defined by the University)
2. End- Semester Assessment (75 marks or as defined by the University)

Assessment Methods and Attainment Tools

Assessment method	Assessment components	Assessment Tool	Frequency per Semester
Direct Method (80% weightage)	Internal Assessment (25% weightage)	Internal Tests (Full Syllabus) and Home-Assignments	Twice
	External Assessment (75% weightage)	University Examination	Once
Indirect Method (20% weightage)		Course Exit Survey	Once

- **Continuous Internal Assessment:** There shall be a continuous system of examinations and assessments placing less burden on end semester/ annual examinations. Continuous Internal assessment shall be based on Assignments and quizzes, presentations, mid-term tests, classroom behaviour and attendance. The Course Teacher should monitor the

progression of the Students and meeting shall be conducted with students after Mid Semester 1 and after Mid Sem 2 to discuss about the support needed by the student who has not attained the minimum passing level.

- **End- Semester Assessment:** The questions in semester-end examinations are tested pertaining to all COs, in varying Blooms Taxonomy Levels. Based on the Bloom's Taxonomy, the question paper shall assess the following aspects of learning: 1) Remember & Understanding, 2) Applying, 3) Analyzing and 4) Evaluating & Creating depending upon the need of course outcomes (COs).

Bloom's Taxonomy Level (BTL)

BTL	Remember	Understand	Apply	Analyze	Evaluate	Create
Difficulty Level	L1	L2	L3	L4	L5	L6

The following guidelines shall be adhered to during end semester examination:

1. Every question paper will provide for multiple levels of learning to be tested.
2. Each question shall be designed in such a way that it assesses the concerned CO completely.
3. Questions shall be framed to assess every course outcome for the given course. At least one question assessing every CO shall be ensured.
4. The Question paper shall have three sections- **Section A, Section B and Section C**. The examiner shall set questions specific to respective sections. Section wise details are as under mentioned:
 - (i) Section A shall consist of short answer type questions (approx.100 words). This section shall essentially assess COs related to lower order thinking skills (Remembering & Understanding). It shall contain at least one question from each unit. Each question shall have equal weightage.
 - (ii) Section B shall comprise Long answer type questions (approx. 400- 500 words) with internal choice. For a given unit, two questions (internal choice) should assess the same level of learning. This section shall specify the higher order thinking skills (Analyzing, Applying, Evaluating or creating) to be assessed and mapped with the course outcomes stated. It shall contain at least one question from first 50 percent of the syllabus. Each question shall have equal weightage.

- (iii) Section C shall also comprise Long answer type questions (approx. 400- 500 words). This section shall specify the higher order thinking skills (Analyzing, Applying, Evaluating or creating) to be assessed and mapped with the course outcomes stated. It shall contain at least one question from remaining 50 percent of the syllabus. Each question shall have equal weightage.

Indicative Structure of Question paper

SECTION -A

Marks:

S. No.	Q. No.	Short answer type question (approx. 100words)	Marks	Mapped CO	Category LOT
1.	A			CO1	Remembering & Understanding (L1, L2)
	B			CO2	"
	C			CO3	"
	D			CO4	"
	E			CO5	"
SECTION -B					
		Unit 1 Long answer type question (approx. 400- 500 words)	Marks	CO mapped/	Specify Category HOT
2	2.A				(Analyzing, Applying, Evaluating or creating) (L3/ L4/ L5/ L6)
		OR			
	2.B				
		UNIT 2 Long answer type question (approx. 400- 500 words)			
3	3.A				(Analyzing, Applying, Evaluating or creating) (L3/ L4/ L5/ L6)
		OR			
	3.B				
SECTION C					
		UNIT 3 Long answer type question (approx. 400- 500 words)			
4	4.A				(Analyzing, Applying, Evaluating or creating) (L3/ L4/ L5/ L6)
		OR			
	4.B				
		UNIT 4 Long answer type question (approx. 400- 500 words)			
5	5.A				(Analyzing, Applying, Evaluating or creating) (L3/ L4/ L5/ L6)
		OR			
	5.B				

Indirect assessment

- **Programme – Exit survey:** This survey shall be taken from the final year students at the completion of their academic programme, it stands as the comprehensive feedback for the PO/PSO assessment

CO Attainment calculation criteria

Attainment Levels

Level	Direct Assessment	Direct Assessment	Indirect Assessment
	(Internal Evaluation) Target Marks = 60%	(External Evaluation) Target Marks = 50%	
1 (Low)	Less than 50% student secure 60% or more marks	Less than 50% student secure 50% or more marks	Less than 50% students attained the course outcome (3 or more)
2 (Medium)	50-60% student secure 60% or more marks	50-60% student secure 50% or more marks	50 to 60% students attained the course outcome (3 or more)
3 (High)	More than 60% student secure 60% or more marks	More than 60% student secure 50% or more marks	More than 60% students attained the course outcome (3 or more)

Measuring Student Competency

Base Score for Student Category

- 80% and above - Advanced Learner
- 40% to 80% - Average Learner
- <40%- Slow Learner

Strategies for Slow, Average and Advanced Learners

1. Slow and advanced learners shall be identified on the basis of their performance in Mid- the semester examination in the current semester and Semester- end Examination of previous semester.
2. Tutorial/ Remedial classes of one hour everyday shall be arranged for the slow learners and the same is part of the regular time- table itself. Tutorials shall not only be meant for the slow learners but any student who has missed the class or needs further clarification on the topic can attend the class.
3. The fast/ advanced learners may be appointed as student mentors and groups are created for upliftment of slow learners under the leadership of the mentors.

4. Presentations on introductory topics by slow learners and advanced topics by advanced learners helps to pool knowledge in a holistic manner in a given area.
5. Quiz and written assignments shall be graded so as to give feedback regarding performance.
6. Identification of area of interest in a particular course may be done to know strengths and weaknesses of students corresponding to different topics.
7. Writing skills may be enhanced through submission of research based-term papers on various contemporary issues related to a particular course.

Review of the OBE System

The Department shall review the implemented OBE system and due attention shall be paid to incorporate changes that are needed in the changed scenario.




REGISTRAR
C.S.J.M. UNIVERSITY
KANPUR