### MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR

(A Govt. Aided UGC Autonomous & NAAC Accredited Institute Affiliated to RGPV, Bhopal)

# **Department of Chemical Engineering Minutes of BOS Meeting**

Date: 22/12/2021

The BOS Meeting was held on 22 December 2021 through online on Google Meet at 3:00 PM Onwards. During the meeting following were present

#### **External Members:-**

- 1. Dr. Ashok Sharma, Professor, Department of Chemical Engg, UEC, Ujjain (Expert nominated by the Vice Chancellor, RGPV)
- 2. Dr. Manish Vashishtha, Associate Professor, Department of Chemical Engg, MNIT Jaipur (Subjects Expert from outside RGPV nominated by Academic Council)
- 3. Ms. Priyanka Jain, Production Engineer, Mathura Refinery, Mathura (U.P) (Meritorious Alumna)

#### **Internal Members:-**

- 1. Prof. Swati Gupta, Assistant Professor& Co-ordinator, Dept. of Chemical Engg., MITS
- 2. Prof. Anish P. Jacob, Assistant Professor, Dept. of Chemical Engg., MITS
- 3. Dr. Shourabh Singh Raghuwanshi, Assistant Professor, Dept. of Chemical Engg., MITS
- 4. Dr. Suneeta Kumari, Assistant Professor, Dept. of Chemical Engg., MITS
- 5. Dr. R.K.Dubey, Assistant Professor, Dept. of Chemical Engg., MITS

#### The following points were discussed and resolved:

The minutes of previous meeting Board of studies (BoS) held on 8<sup>th</sup> June 2021 (Through Google meet) were confirmed, followed by the item wise discussion as follows:-

	To propose the scheme structure of VIII Semester with the provision of Two Departmental
Item	Electives and one Open Category (OC)Course, to be offered in online mode with credit transfer for
	the batch admitted in 2018-19.
CM 1	The Scheme structure of VIII Semester with the provision of Two Departmental Electives and one
CIVIT	Open Category (OC) Course <b>to be offered in online mode</b> with credit transfer for the batch admitted
	in 2018-19 has been proposed.
	https://drive.google.com/file/d/15Kjkwd0owSEAG2BN0LexA2bNIssr4aOG/view?usp=sharing
	To propose the list of courses which the students can opt from SWAYAM/NPTEL/ other MOOC
	Platforms/ Institution (MITS) MOOC, to be offered in online mode under Departmental Elective
	(DE) category, for credit transfer in the VIII Semester under the flexible curriculum (Batch
	admitted in 2018-19)
Item	The list of DE -V & DE-VI courses which the students can opt from SWAYAM/NPTEL/ other
CM 2	MOOC Platforms/ Institution (MITS) MOOC, to be offered in online mode under Departmental
	Elective (DE) category, for credit transfer in the VIII Semester under the flexible curriculum
	(Batch admitted in 2018-19) were discussed and finalized.

	As per the following detail:-			
	DE-V		DE-VI	
	1. (	Optimization in Chemical	1. Physico-chemical processes for	
	E	Engg.(170851)	wastewater treatment (170854)	
	] 2. V	Waste to Energy Conversion (170852)	2. Chemical Process Utilities	
	3. E	Biomass Conversion and	(170855)	
	E	Biorefinery(170853)		
			can opt from SWAYAM/NPTEL/MOOC Pla	-
			/NPTEL/MITS MOOCs/ other MOOC Plat	/
			t transfer in the VIII Semester under the f	lexible
	curricului	m (Batch admitted in 2018-19)		
	M 3 Open Category (OC) Courses, for credit transfer in the VIII Semester under the flo			
Item				
CM 3				
		m (Batch admitted in 2018-19) has be	en discussed and finalised ,As per the foll	lowing
	detail:-			
	OC-IV			
	1. Environmental Quality Monitoring & Analysis 900623			
	I I	Electrochemical Technology in Pollution	•	
		<u> </u>	Course along with the Course Outcomes for	· aradit
Item		n the VIII Semester under the flexible cu		Crean
CM 4	ualistel II	if the viri semester under the hexible cu	inculum (Daten admitted in 2010-19)	

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To propose the list of "Additional Courses" which can be opted for getting an

- (i) Honours (for students of the host department)
- (ii) Minor Specialization (for students of other departments)

[These will be offered through SWAYAM/NPTEL/MOOC based Platforms for the **VI semester** (for the batch admitted in 2019-20) and for **VIII semester students** (for the batch admitted in 2018-19)]

The List of "Additional Courses" which can be opted for getting an

- (i) Honours (for students of the host department)
- (ii) Minor Specialization (for students of other departments)

[These will be offered through SWAYAM/NPTEL/MOOC based Platforms for the **VI semester** (for the batch admitted in 2019-20) and for **VIII semester students** (for the batch admitted in 2018-19)]

The courses available on SWAYAM/NPTEL/MOOC based Platforms for the VI semester and for VIII Semester for Honours & Minor specialization were discussed & recommended are as follows

### Item CM 5

S.No.	Purpose	Name of Course
1	For Honours (VIII Semester)	Computer Aided Applied Single Objective Optimization
		Polymer Reaction Engineering
		Advanced Thermodynamics and Molecular Simulations
2.	For Minor	Transport Processes I: Heat and Mass Transfer
	Specialization	Chemical Engineering Thermodynamics
	(Others Department) (VIII Semester)	Chemical Process Instrumentation
3.	For Honours	Environmental Quality Monitoring & Analysis
	(VI Semester)	Electrochemical Technology in Pollution Control
		Soft Nano Technology
		Renewable Energy Engineering: Solar, Wind and Biomass Energy Systems
4.	For Minor	Process Control - Design, Analysis and Assessment
	Specialization	Membrane Technology
	(Others Department) (VI Semester)	Basic Principles and Calculations in Chemical Engineering

To review and finalize the syllabi for all **Departmental Core (DC) Courses** of **VI Semester (for batches admitted in 2019-20)** under the flexible curriculum along with their COs

### Item CM 6

The Departmental Core (DC) Courses of VI Semester (for batches admitted in 2019-20) under the flexible curriculum along with their COs has been reviewed and finalized.

https://drive.google.com/file/d/1J91m1DJKTbXYezv3bgt2XyeislTIrKFd/view?usp=sharing

	To review and finalize the courses & syllabi to be offered (for batches admitted in 2019-20 )under Departmental Elective (DE) Courses in the VI Semester		
	The courses & syllabi to be offered (for batches admitted in 2019-20) under Departmental Elective (DE) Courses in the VI Semester were reviewed and finalized. As per the following detail:-		
Item	DE Courses		
CM 7	170611 Process Equipment Design		
	170612 Fluidization Engineering		
	170613 Multi-Component Distillation		
	170614 Polymer Technology		
	170615 Heterogeneous Reaction Systems		
	https://drive.google.com/file/d/1SE3Jvs77Tkpq9hyW8QQWTuxQFsXkKYO2/view?usp=sharing		
	To propose the list of courses from SWAYAM/NPTEL/MOOC Platforms to be offered (for batches)		
	admitted in 2019-20) in online mode under Departmental Elective (DE) Courses with credit		
	transfer, in the VI Semester		
	The list of courses from SWAYAM/NPTEL/MOOC Platforms to be offered (for batches admitted		
T.	in 2019-20) in online mode under Departmental Elective (DE) Courses with credit transfer, in the		
Item	VI Semester were proposed. As per the following detail:-		
<b>CM 8</b>			
	DE Course (Online Mode)		
	Physical and Electrochemical Characterizations in Chemical Engineering		
	2. Membrane Technology		
	3. Multiphase Flow		
	To review and finalize the courses & syllabi to be offered (for batches admitted in 2019-20) under		
	the Open Category (OC) Courses(in traditional mode) for VI semester students of other		
	departments along with their Cos		
	The courses & syllabi to be offered (for batches admitted in 2019-20) under the Open Category		
Item	(OC) Courses (in traditional mode) for VI semester students of other departments along with their		
CM 9	Cos were reviewed and finalized. As per the following detail:-		
	OC Courses		
	1. Fuels & Combustion		
	https://drive.google.com/file/d/1ZJ3dIlaVtsQmZx5F-		
	8TXTOngPpV548pA/view?usp=sharing		
	To review and finalize the Experiment list/ Lab manual for Laboratory Courses to be offered in VI semester (for batches admitted in 2019-20)		
Item	semester (for batches admitted in 2019-20)		
CM	The Experiment list/ Lab manual for Laboratory Courses to be offered in VI semester (for batches		
10	admitted in 2019-20) has been reviewed and finalised.		
	https://drive.google.com/file/d/17UhH5z63ypCqlk mG3-EiYntvIgGVFlN/view?usp=sharing		
Item	To review and finalize the scheme and syllabi of <b>B. Tech. IV Semester (for batches admitted in</b>		
CM	2020-21) under the flexible curriculum along with their COs		
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11	
	The scheme and syllabi of B. Tech. IV Semester (for batches admitted in 2020-21) under the
	flexible curriculum along with their COs were reviewed and finalized.  https://drive.google.com/file/d/1tNbgoG9 Ou3beK4-TPUv2BwvTTXQRPTN/view?usp=sharing
	https://drive.googie.com/me/d/itivogoog_ousber4-if-0v2bwv11AQRF11v/view:usp—sharing
	To review and finalize the Experiment list/ Lab manual for Laboratory Courses to be offered in
Item	IV(for batch admitted in 2020-21)
CM	The Experiment list/ Lab manual for Laboratory Courses to be offered in IV(for batch admitted in
12	2020-21) has been reviewed and finalized.  https://drive.google.com/file/d/1NQjdz5ErSYufGGzm5-fXh-jDp HWii3w/view?usp=sharing
	inteps.// unive.googie.com/me/ u/ integazsers randozins fixin jpp intensw/ view . usp-sharing
	To review and finalize the suggestive list of projects which can be assigned under the 'Skill based
	mini-project' category in various laboratory courses to be offered in Jan - June 2022 semester during
Item	IV Semester (for the batch admitted in 2020-21).
CM	The suggestive list of projects which can be assigned under the 'Skill based mini-project' category in
13	various laboratory courses to be offered in Jan - June 2022 semester during IV Semester (for the
	batch admitted in 2020-21). Were reviewed and finalized.
	https://drive.google.com/file/d/10aD_yWfhwoDDNyqStSflFO6V8uK33i7O/view?usp=sharing
Item	To ratify the Scheme & Syllabi, list of experiments and skill based mini projects of First semester of the newly started B. Tech. programmes in the emerging areas (AI & ML, AI & DS,
CM	CSD) (started from 2021-22 Session) {Applicable for the concerned departments}
14	This item is NOT APPLICABLE in Chemical Engineering Department
Item	To ratify the Scheme & Syllabi, list of experiments and skill based mini projects of First Semester B. Tech. programmes [admitted batch 2021-22 Session] (if any)
CM	This item is NOT APPLICABLE in Chemical Engineering Department
15	
Item	To prepare and recommend the Scheme & Syllabi (along with the Course Outcomes) of II
CM	semester of the newly started B. Tech. programmes in the emerging areas (AI & ML, AI & DS, CSD) (started from 2021-22 Session) {Applicable for the concerned departments}
16	This item is NOT APPLICABLE in Chemical Engineering Department
<u> </u>	To prepare and recommend the list of experiments and skill based mini projects of II semester of
Item CM	the newly started B. Tech. programmes in the emerging areas (AI & ML, AI & DS, CSD) (started from 2021-22 Session) {Applicable for the concerned departments}
17	This item is NOT APPLICABLE in Chemical Engineering Department
	To review and finalize the Scheme & Syllabi (along with the Course Outcomes) of II semester B.
Itam	Tech. programmes (batch admitted 2021-22 Session)
Item CM	The Scheme & Syllabi (along with the Course Outcomes) of II semester B. Tech. programmes
18	(batch admitted 2021-22 Session) were reviewed and finalized.
	https://drive.google.com/file/d/1eOfnNK6jXYhBzmwMcPuNxwr1ZCK9ouSl/view?usp=sharing

Item CM 19	To review and finalize the list of experiments and skill based mini projects of II semester B. Tech. programmes (batch admitted 2021-22 Session)			
	The list of experiments and skill based mini projects of II semester B. Tech. programmes (batch admitted 2021-22 Session) has been reviewed and finalized. <a href="https://drive.google.com/file/d/18eVgB3DWXOr0eadJHkyN1bRIwxjp-EIg/view?usp=sharing">https://drive.google.com/file/d/18eVgB3DWXOr0eadJHkyN1bRIwxjp-EIg/view?usp=sharing</a>			
Item CM 20	To propose the course "Economics Entrepreneurship & Management" and its syllabi along with the Course Outcomes (COs) for the V Semester B.Tech. (Batch admitted 2020-21 onwards). {to be proposed and recommended by Management Department} This item is NOT APPLICABLE in Chemical Engineering Department			
Item CM 21	To revise and recommend the course "Energy, Environment, Ecology & Society" and its syllabi along with the Course Outcomes (COs) for the III Semester B.Tech. (Batch admitted 2021-22 onwards).  {inclusion of contents related to "Sustainability" is to be done}  {to be proposed and recommended by the Civil Engineering Department}  This item is NOT APPLICABLE in Chemical Engineering Department			
Item CM 22	To propose a new course: Universal Human Values & Professional Ethics (HVPE)& its syllabic along with the Course Outcomes (COs), as Mandatory Course (MC) for the batch admitted in 2020-21 onwards  {A portion on 'gender sensitization' also to be included in the syllabus of this course}  {to be proposed and recommended by Humanities Department}  This item is NOT APPLICABLE in Chemical Engineering Department			
Item CM 23	To review the CO attainments, to identify gaps and to suggest corrective measures for the improvement in the CO attainment levels for (i) I year April—September 2021 Semester (ii) January-June 2021 Session for II to IV year students  The CO attainments, to identify gaps and to suggest corrective measures for the improvement in the CO attainment levels for (i) I year April—September 2021 Semester (ii) January-June 2021 Session for II to IV year students were reviewed.  https://drive.google.com/file/d/1JMMxizdl0JFSH-4ilx99U5gDTayJOCRC/view?usp=sharing https://drive.google.com/file/d/1K-f-Y8pvNuXE5tLlgPkPyNKa8AqLGHc7/view?usp=sharing  Total No. of courses  Total number of COs  Number of COs not attained			
	18	107	11	10.3 %
Item CM 24	{Stakeholder feedback details/data of the stak	analysis must also co	onded through GOOGI	report (ATR) and the LE form (such as Name, ng with the feedback for

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	The curricula feedback from various stakeholders, its analysis and impact has been done and reviewed.
	https://drive.google.com/file/d/1krhlMdK3p0xG0XZXkddT1Dr5cQUo-0O6/view?usp=sharing
	To review Course Outcomes (COs) feedback of various courses, its analysis and impact
Item CM 25	The Course Outcomes (COs) feedback of various courses, its analysis and impact were reviewed. <a href="https://drive.google.com/file/d/1akTwoMsvk6dB59ZatcJXVAGM-w6HZj9R/view?usp=sharing">https://drive.google.com/file/d/1akTwoMsvk6dB59ZatcJXVAGM-w6HZj9R/view?usp=sharing</a>

The meeting ended with the vote of thanks to all the members

#### **Suggestion & Comment**

- 1. Process Equipment design must be teach as mandatory course to students.
- 2. The experts appreciated the proposed scheme and were satisfied with the list of Electives, Open courses and the Core courses included in the curriculum.

Prof. Swati Gupta (Assistant Prof. & Coordinator)