

**SDM COLLEGE OF ENGINEERING AND TECHNOLOGY**

**Dhavalagiri, Dharwad-580002, Karnataka State, India.**

**Email: [principal@sdmcet.ac.in](mailto:principal@sdmcet.ac.in), [sdmcet.iqac@gmail.com](mailto:sdmcet.iqac@gmail.com)**

# **Internal Quality Assurance Cell**

**[ Department of Chemical Engineering ]**

## **REPORT**

### **On**

# **The Annual Quality Assurance Report**

## **AQAR**

### **[ 2022-23 ]**

**1<sup>st</sup> July 2022 to 30<sup>th</sup> June 2023**

**Date of Publication: 1<sup>st</sup> July 2023**



**Prepared and Maintained**

**By**

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**&**

**Dr. Lokeshwari N-Chemical Engineering**

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## PART - A

### DATA OF THE INSTITUTION

#### 1. **Name of the Institution:** **SDM College of Engineering and Technology.**

- Name of the Head of the institution: **Dr. K. Gopinath**
- Designation: **Principal**
- Does the institution function from own campus? **Yes**
- Phone no./Alternate phone no.: **0836-2464638**
- Mobile no.: **9538677470**
- Registered Email: **principal@sdmcet.ac.in**
- Alternate Email: [kgopinath@gmail.com](mailto:kgopinath@gmail.com)
- Address : **Dhavalagiri, Kalghatgi Road**
- City/Town : **Dharwad**
- State/UT : **Karnataka State**
- Pin Code : **580002**

#### 2. **Institutional status:**

- Autonomous Status (*provide the date of Conformant of Autonomous Status*): **DD-MM-YYYY**
- Type of Institution: Co-education/Men/Women? : **Co-education**
- Location: Rural/Semi-urban/Urban: **Urban**
- Financial Status: Grants-in aid/ UGC 2f and 12 (B)/ Self-financing? : **Self financing**
- Name of the IQAC Coordinator/Director: **Dr. Umakant P. Kulkarni**
- Phone no. /Alternate phone no.: **9448915301**
- Mobile: **9448915301**
- IQAC e-mail address : **sdmcet.iqac@gmail.com**
- Alternate Email address : **sdmcet.iqac@sdmcet.ac.in**

#### 3. **Website address:** <https://sdmcet.ac.in>

- Web-link of the AQAR: (Previous Academic Year): **NA** Prepared first time (2022-23)

#### 4. **Whether Academic Calendar** prepared during the year? : **Yes**

if yes, whether it is uploaded in the Institutional website: **Yes**

Weblink: <https://sdmcet.ac.in>

### 5. Accreditation Details:

**NBA** : All UG Programs (except Chemical Engineering) are accredited under Tier-1.

**NAAC**: Applied on 24th March 2023 (1<sup>st</sup> Time)

Cycle	Grade	CGPA	Year of Accreditation	Validity Period
1 <sup>st</sup>	-	-	-	from: to:

### 6. Date of Establishment of IQAC:DD/MM/YYYY

### 7. Internal Quality Assurance System.

Quality initiatives by IQAC during the year for promoting quality culture		
Title of the quality initiative by IQAC	Date & duration	Number of participants/beneficiaries
<b>Internal Audit</b> Teaching & Learning Process/ Administrative & other aspects		
<b>External Audit</b> - Teaching & Learning Process/ Administrative & other aspects		
<b>Other Quality Audit</b> - Performance Based Self-Appraisal- <b>PBSA</b>		
<b>Students Feedback</b>		
<b>Accreditation</b> -NBA/NAAC/etc...		
<b>Participation in NIRF</b>		
<b>Regular Meeting of IQAC</b>		

*Note: Some Quality Assurance initiatives of the institution are:  
(Indicative list)*

- Regular meeting of Internal Quality Assurance Cell (IQAC); timely submission of Annual Quality Assurance Report (AQAR) to NAAC; *Feedback from all stakeholders collected, analyzed and used for improvements*
- Academic Administrative Audit (AAA) conducted and its follow up action
- Participation in NIRF
- ISO Certification
- NBA etc.
- Any other Quality Audit

### 8. Provide the list of Special Status conferred by Central/ State Government-

UGC/CSIR/DST/DBT/ICMR/TEQIP/World Bank/CPE of UGC etc.

Institution/ Department/Faculty	Scheme	Funding agency	Year of award with duration	Amount
Nil				

9. **Whether composition of IQAC** is as per latest NAAC guidelines? **Yes**

Weblink for latest notification of formation of IQAC: <https://sdmcet.ac.in/iqac/>

10. **No. of IQAC meetings held during the year:** XX

- The minutes of IQAC meeting and compliance to the decisions have been uploaded on the institutional website? **Yes**
- Weblink for latest minutes of meetings and action taken report: <https://sdmcet.ac.in/iqac/>

11. **Whether IQAC received funding** from any of the funding agency to support its activities during the year? **No**

If yes, mention the amount:

Year:

12. **Significant contributions** made by IQAC during the current year. (maximum five bullets)

1	<b>Internal &amp; External Audit</b> Teaching & Learning Process/ Administrative & other aspects
2	<b>Other Quality Audit</b> - Performance Based Self-Appraisal- <b>PBSA</b>
3	<b>Students Feedback</b>
4	<b>Accreditation</b> -NBA/NAAC/etc...
5	<b>Participation in NIRF</b>

13. **Plan of action chalked out by the IQAC** in the beginning of the Academic year towards Quality Enhancement and the outcome achieved by the end of the Academic year

Plan of Action	Achievements/Outcomes

14. **Whether the AQAR was placed before statutory body?** **Yes** (Institutional Performance in its own Format)

Name of the Statutory body: Academic and Governing Council

Date of meeting(s):

- GC: DD-MM-YY
- AC: DD-MM-YY

15. Whether **NAAC/or any other accredited body(s) visited IQAC** or interacted with it to assess the functioning? **Yes (NBA)** Date: DD-MM-YYYY

16. Whether **institutional data submitted to AISHE:** **Yes**

Year: YYYY

Date of Submission: DD-MM-YYYY

17. Does the Institution have **Management Information System?** **Yes**

Brief description and a list of modules currently operational.

**Module-1: XXXX**

**Module-2: XXXX**

**Module-3: XXXX**

**Module-4: XXXX**

**Module-5: XXXX**

## PART-B

### CRITERION I - CURRICULAR ASPECTS

#### 1.1 Curriculum Design and Development

##### 1.1.1 Programmes for which syllabus revision was carried out during the Academic year.

Name of programme	Programme Code	Dates of revision
Chemical Engineering	CH	8 <sup>th</sup> August 2022

##### 1.1.2 Programmes/ courses focused on employability/ entrepreneurship/ skill development during the Academic year.

Programme with Code	Date of Introduction	Course with Code	Date of Introduction
CH	8 <sup>th</sup> August 2022	21UAEE330 AEC	

#### 1.2 Academic Flexibility

##### 1.2.1 New programmes/courses introduced during the Academic year

Programme/Course	Date of introduction

##### 1.2.2 Programmes in which Choice Based Credit System (CBCS)/Elective Course System implemented at the College level during the Academic year.

Name of Programmes adopting CBCS	UG	PG	Date of implementation of CBCS / Elective Course System	UG	PG
Already adopted (mention the year)					

#### 1.3 Curriculum Enrichment

##### 1.3.1 Value-added courses imparting transferable and life skills offered during the year

Value added courses	Date of introduction	Number of students enrolled
Soft skill in 5 <sup>th</sup> and 6 <sup>th</sup> Semester	8 <sup>th</sup> August 2022	26

##### 1.3.2 Field Projects / Internships under taken during the year

Project/Programme Title	No. of students enrolled for Field Projects / Internships
<b>Internships</b>	<b>37</b>

#### 1.4 Feedback System

##### 1.4.1 Whether structured feedback received from all the stakeholders.

1) Students	2) Teachers	3) Employers	4) Alumni	5) Parents
Yes/No	Yes/No	Yes/No	Yes/No	Yes/No

##### 1.4.2 How the feedback obtained is being analyzed and utilized for overall development of the institution? (Maximum 500 words)

## CRITERION II -TEACHING-LEARNING AND EVALUATION

### 2.1 Student Enrolment and Profile

#### 2.1.1 Demand Ratio during the year

Name of the Programme	Number of seats available	Number of applications received	Students Enrolled
<b>CH</b>	<b>32</b>	<b>-</b>	<b>27</b>

### 2.2 Catering to Student Diversity

#### 2.2.1. Student - Full time teacher ratio (current year data)

Year	Number of students enrolled in the institution (UG)	Number of students enrolled in the institution (PG)	Number of full time teachers available in the institution teaching only UG courses	Number of full time teachers available in the institution teaching only PG courses	Number of teachers teaching both UG and PG courses
2022	109		7		

### 2.3 Teaching - Learning Process

#### 2.3.1 Percentage of teachers using ICT for effective teaching with Learning Management Systems (LMS), E-learning resources etc. (current year data)

Number of teachers on roll	Number of teachers using ICT ( <i>LMS, e-Resources</i> )	ICT tools and resources available	Number of ICT enabled classrooms	Number of smart classrooms	E-resources and techniques used

#### 2.3.2 Students mentoring system available in the institution? Give details. (maximum 500 words)

Number of students enrolled in the institution	Number of fulltime teachers	Mentor: Mentee Ratio
<b>109</b>	<b>7</b>	<b>1:15</b>

### 2.4 Teacher Profile and Quality

#### 2.4.1 Number of full-time teachers appointed during the year: **No**

No. of sanctioned positions	No. of filled positions	Vacant positions	Positions filled during the current year	No. of faculty with Ph.D.

#### 2.4.2 Honors and recognitions received by teachers: **No**

*(Received awards, recognition, fellowships at State, National, International level from Government, recognized bodies during the year)*

Year of award	Name of full-time teachers receiving awards from state level, national level, international level	Designation	Name of the award, fellowship, received from Government or recognized bodies

### 2.5 Evaluation Process and Reforms



2.5.1 Number of days from the date of semester-end/ year- end examination till the declaration of results during the year

Programme Name	Programme Code	Semester/ year	Last date of the last semester-end/ year-end examination	Date of declaration of results of semester-end/ year- end examination

2.5.2 Average percentage of Student complaints/grievances about evaluation against total number appeared in the examinations during the year

**\*Do not include re-evaluation/ re-totalling**

Number of complaints or grievances about evaluation	Total number of students appeared in the examination	Percentage

## **2.6 Student Performance and Learning Outcomes**

2.6.1 Program outcomes, program specific outcomes and course outcomes for all programs offered by the institution are stated and displayed in website of the institution (to provide the weblink)

2.6.2 Pass percentage of students

Program Code	Program name	Number of students appeared in the final year examination	Number of students passed in final Semester /year examination	Pass Percentage
CH	Chemical	32	32	100

## **2.7 Student Satisfaction Survey**

2.7.1 Student Satisfaction Survey (SSS) on overall institutional performance (Institution may design the questionnaire) (results and details be provided as weblink)

## CRITERION III – RESEARCH, INNOVATIONS AND EXTENSION

### 3.1 Promotion of Research and Facilities

3.1.1 The institution provides seed money to its teachers for research,

Yes..... No. .... if yes give details

Name of the teacher getting seed money	The amount of seed money	Year of receiving grant	Duration of the grant
PI: Dr. Rashmi S.H Co-PI: Dr. Shivanand Y. A	1.5 Lakh	Jan 2023	2 Years

3.1.2 Teachers awarded National/International fellowship for advanced studies/ research during the year

	Name of the teacher awarded the fellowship	Name of the Award	Date of Award	Awarding Agency
National				
International				

### 3.2 Resource Mobilization for Research

3.2.1 Research funds sanctioned and received from various agencies, industry and other organizations

Nature of the Project	Duration	Name of the funding Agency	Total grant sanctioned	Amount received during the year
Major projects				
Minor Projects				
Interdisciplinary Projects				
Industry sponsored Projects				
Projects sponsored by the University/ College				
Students Research Projects (other than compulsory by the College)	1 year	KSCST-2 /VTU-2	KSCST-17000.00 VTU-10000.00	27000.00
International Projects				
Any other(Specify)				
Total				

3.2.2 Number of ongoing research projects per teacher funded by government and non-government agencies during the years

**04 ongoing**

### 3.3 Innovation Ecosystem

3.3.1 Workshops/Seminars Conducted on Intellectual Property Rights (IPR) and Industry-Academia Innovative practices during the year

Title of Workshop/Seminar	Name of the Dept.	Date(s)
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3.3.2 Awards for Innovation won by Institution/Teachers/Research scholars/Students during the year						
Title of the innovation	Name of the Awardee	Awarding Agency	Date of Award	Category		
3.3.3 No. of Incubation centre created, start-ups incubated on campus during the year						
Incubation Centre	Name	Sponsored by				
Name of the Start-up	Nature of Start-up	Date of commencement				
<b>3.4 Research Publications and Awards: No</b>						
3.4.1 Ph. Ds awarded during the year						
Name of the Department		No. of Ph. Ds Awarded				
3.4.2 Research Publications in the Journals notified on UGC website during the year						
	Department	No. of Publication	Average Impact Factor, if any			
National						
International						
3.4.3 Books and Chapters in edited Volumes / Books published, and papers in National/International Conference Proceedings per Teacher during the year						
Department		No. of publication in 2022-23				
Chemical		Book Chapter: 01 Refereed Journal: 01 Non-Refereed Journal: 01 Conference Publications: 03				
3.4.4 Patents published/awarded during the year: No						
Patent Details		Patent status <b>Published/ Filed</b>	Patent Number	Date of Award		
3.4.5 Bibliometrics of the publications during the last Academic year based on average citation index in Scopus/ Web of Science or Pub Med/ Indian Citation Index						
Title of the paper	Name of the author	Title of the journal	Year of publication	Citation Index	Institutional affiliation as mentioned in the publication	Number of citations excluding self citations
Studies on removal of RBB and Safranin-O dyes from aqueous solution using concentrated acid treated red mud (CATRM) as adsorbent	Lokeshwari N Keshava Joshi	REVIEWS OF ADHESION AND ADHESIVES	Sept 2022	0	Department of Chemical Engineering, SDM College of	0

						Engineering and Technology (V.T.U., Belagavi), Dharwad-580 002, Karnataka, India
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### 3.4.6 h-index of the Institutional Publications during the year. (based on Scopus/ Web of science)

Title of the paper	Name of the author	Title of the journal	Year of publication	h-index	Number of citations excluding self citations	Institutional affiliation as mentioned in the publication
Studies on removal of RBB and Safranin-O dyes from aqueous solution using concentrated acid treated red mud (CATRM) as adsorbent	Lokeshwari N Keshava Joshi	REVIEW S OF ADHESION AND ADHESIVES	Sept 2022	3		Department of Chemical Engineering, SDM College of Engineering and Technology (V.T.U., Belagavi), Dharwad-580 002, Karnataka, India

### 3.4.7 Faculty participation in Seminars/Conferences and Symposia during the year :

No. of Faculty	International level	National level	State level	Local level
Attended Seminars/ Workshops	International Conferences :03	One-week FDPs: 03	-	Workshop: 01
Presented papers	Yes: 03	-	-	-
Resource Persons	Dr. Keshava Joshi Dr. Lokeshwari N Dr. Rashmi S.H.	-	-	-

## 3.5 Consultancy

### 3.5.1 Revenue generated from Consultancy during the year: No

Name of the Consultant(s) department	Name of Consultancy project	Consulting/Sponsoring Agency	Revenue generated (amount in rupees)

### 3.5.2 Revenue generated from Corporate Training by the institution during the year: No

Name of the Consultant(s) & Department	Title of the Programme	Agency seeking training	Revenue generated (amount in rupees)	Number of trainees

## 3.6 Extension Activities

### 3.6.1 Number of extension and outreach programmes conducted in collaboration with industry, community and Non-Government Organizations through NSS/NCC/Red cross/Youth Red Cross (YRC) etc., during the year

Title of the Activities	organizing unit/ agency/ collaborating agency	Number of teachers co-ordinated in such activities	Number of students participated in such activities
Solid waste management at	Chemical Engineering	01	22

Yerikoppa Village			
Cleaning the surroundings at Nuggikeri Temple	Chemical Engineering	01	20

3.6.2 Awards and recognition received for extension activities from Government and other recognized bodies during the year

Name of the Activity	Award/recognition	Awarding bodies	No. of Students benefited

3.6.3 Students participating in extension activities with Government Organizations, Non-Government Organizations and programmes such as Swachh Bharat, Aids Awareness, Gender Issue, etc. during the year

Name of the scheme	Organizing unit/ agency/ collaborating agency	Name of the activity	Number of teachers <b>co-ordinated</b> such activities	Number of students participated in such activities
Beat the plastic pollution on account of world environment day	KSPCB Dharwad and SDMCET	Awareness program with walkathon and cyclothon from SDMCET through Tolnakka and KCD college and Back to SDMCET	02	200

**3.7 Collaborations**

3.7.1 Number of Collaborative activities for research, faculty exchange, student exchange during the year

Nature of Activity	Participant	Source of financial support	Duration

3.7.2 Linkages with institutions/industries for internship, on-the-job training, project work, sharing of research facilities etc. during the year

Nature of linkage	Title of the linkage	Name of the partnering institution/ industry /research lab with contact details	Duration <b>(From-To)</b>	participant

3.7.3 MoUs signed with institutions of national, international importance, other institutions, industries, corporate houses etc. during the year

Organization	Date of MoU signed	Purpose and Activities	Number of <b>students/teachers participated under MoUs</b>

## CRITERION IV - INFRASTRUCTURE AND LEARNING RESOURCES

### 4.1 Physical Facilities

4.1.1 Budget allocation, excluding salary for infrastructure augmentation during the year

Budget allocated for infrastructure augmentation	Budget utilized for infrastructure development
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Chemical allotted 3.45 Lakh	Budget Utilized: 25000.00
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4.1.2 Details of augmentation in infrastructure facilities during the year

Facilities	Existing	Newly added
Campus area		
Class rooms		
Laboratories		
Seminar Halls		
Classrooms with LCD facilities		
Classrooms with Wi-Fi/ LAN		
Seminar halls with ICT facilities		
Video Centre		
No. of important equipments purchased ( $\geq$ 1-0 lakh) during the current year.		
Value of the equipment purchased during the year (Rs. in Lakhs)		AAS purchased for 16.5 Lakh under VGST
Others		

### 4.2 Library as a Learning Resource

4.2.1 Library is automated {Integrated Library Management System (ILMS)}

Name of the ILMS software	Nature of automation (fully or partially)	Version	Year of automation

4.2.1 Library Services:

	Existing		Newly added		Total	
	No.	Value	No.	Value	No.	Value
Text Books						
Reference Books						
e-Books						
Journals						
e-Journals						
Digital Database						
CD & Video						
Library automation						
Weeding (Hard & Soft)						
Others (specify)						

4.2.2 E-content developed by teachers such as: e-PG-Pathshala, CEC (under e-PG-Pathshala CEC (Under Graduate) SWAYAM other MOOCs platform NPTEL/NMEICT/any other Government initiatives & institutional (Learning Management System (LMS) etc

Name of the	Name of the module	Platform on which	Date of launching e - content

teacher		module is developed	

**4.3 IT Infrastructure**

4.3.1 Technology Upgradation (overall)

	Total Computer s	Computer Labs	Internet	Browsing Centres	Computer Centres	Office	Departments	Available bandwidth (MGBPS)	Others
Existing									
Added									
Total									

4.3.2 Bandwidth available of internet connection in the Institution (Leased line)

..... MBPS /GBPS

4.3.3 Facility for e-content

Name of the e-content development facility	Provide the link of the videos and media centre and recording facility

**4.4 Maintenance of Campus Infrastructure**

4.4.1 Expenditure incurred on maintenance of physical facilities and academic support facilities, excluding salary component, during the year

Assigned budget on academic facilities	Expenditure incurred on maintenance of academic facilities	Assigned budget on physical facilities	Expenditure incurred on maintenance of physical facilities

4.4.2 Procedures and policies for maintaining and utilizing physical, academic and support facilities - laboratory, library, sports complex, computers, classrooms etc. (maximum 500 words) (information to be available in institutional Website)

## CRITERION V - STUDENT SUPPORT AND PROGRESSION

### 5.1 Student Support

#### 5.1.1 Scholarships and Financial Support

	Name /Title of the scheme	Number of students	Amount in Rupees
Financial support from institution			
Financial support from other sources			
a) National			
b) International			

#### 5.1.2 Number of capability enhancement and development schemes such as soft skill development, Remedial coaching, Language lab, Bridge courses, Yoga, Meditation, Personal Counselling and Mentoring etc., Nil

Name of the capability enhancement scheme	Date of implementation	Number of students enrolled	Agencies involved

#### 5.1.3 Students benefited by guidance for competitive examinations and career counselling offered by the institution during the year: Nil

Year	Name of the scheme	Number of benefited students by Guidance for Competitive examination	Number of benefited students by Career Counselling activities	Number of students who have passed in the competitive exam	Number of students placed

#### 5.1.4 Institutional mechanism for transparency, timely redressal of student grievances, Prevention of sexual harassment and ragging cases during the year

Total grievances received	No. of grievances redressed	Average number of days for grievance redressal

### 5.2 Student Progression

#### 5.2.1 Details of campus placement during the year 12 placed out of 32 students

On campus		Off Campus	
Name of Organizations Visited	Number of Students Participated	Number of Students Placed	Number of Students Placed

#### 5.2.2 Student progression to higher education in percentage during the year

Year	Number of students enrolling into higher education	Programme graduated from	Department graduated from	Name of institution joined	Name of Programme admitted to

#### 5.2.3 Students qualifying in state/ national/ international level examinations during the year (eg:



NET/SET/SLET/GATE/GMAT/CAT/GRE/TOFEL/Civil Services/State Government Services)

Items	No. of Students <b>selected/qualifying</b>	<b>Registration number/roll number for the exam</b>
NET		
SET		
SLET		
GATE		
GMAT		
CAT		
GRE		
TOFEL		
Civil Services		
State Government Services		
Any Other		

5.2.4 Sports and cultural activities / competitions organised at the institution level during the year

Activity	Level	Participants

### **5.3 Student Participation and Activities**

5.3.1 Number of awards/medals for outstanding performance in sports/cultural activities at national/international level (award for a team event should be counted as one)

Year	Name of the award/medal	National/International	Sports	Cultural	Student ID number	Name of the student

5.3.2 Activity of Student Council & representation of students on academic & administrative bodies/committees of the institution (maximum 500 words)

### **5.4 Alumni Engagement**

5.4.1 Whether the institution has registered Alumni Association? Yes/No, if yes give details (maximum 500 words):

5.4.2 No. of registered Alumni:

5.4.3 Alumni contribution during the year (in Rupees) :

5.4.4 Meetings/activities organized by Alumni Association :

## CRITERION VI –GOVERNANCE, LEADERSHIP AND MANAGEMENT

### 6.1 Institutional Vision and Leadership

6.1.1 Mention two practices of decentralization and participative management during the last year (maximum 500 words)

6.1.2 Does the institution have a Management Information System (MIS)?

Yes/No/Partial:

### 6.2 Strategy Development and Deployment

6.2.1 Quality improvement strategies adopted by the institution for each of the following (with in 100 words each):

- ❖ Curriculum Development
- ❖ Teaching and Learning
- ❖ Examination and Evaluation
- ❖ Research and Development
- ❖ Library, ICT and Physical Infrastructure / Instrumentation
- ❖ Human Resource Management
- ❖ Industry Interaction / Collaboration
- ❖ Admission of Students

6.2.2 : Implementation of e-governance in areas of operations:

- ❖ Planning and Development
- ❖ Administration
- ❖ Finance and Accounts
- ❖ Student Admission and Support
- ❖ Examination

### 6.3 Faculty Empowerment Strategies

6.3.1 Teachers provided with financial support to attend conferences / workshops and towards membership fee of professional bodies during the year : Nil

Year	Name of teacher	Name of conference/ workshop attended for which financial support provided	Name of the professional body for which membership fee is provided	Amount of support

6.3.2 Number of professional development / administrative training programmes organized by the Colleges for teaching and non teaching staff during the year

Year	Title of the professional development programme organised for teaching staff	Title of the administrative training programme organised for non-teaching staff	Dates (from-to)	No. of participants (Teaching staff)	No. of participants (Non-teaching staff)

6.3.3 No. of teachers attending professional development programmes, viz., Orientation Programme, Refresher Course, Short Term Course, Faculty Development Programmes during the year

Title of the professional development programme	Number of teachers who attended	Date and Duration (from – to)

Six Days Faculty Development Programme (FDP) on Current Trends in Nanomaterials and Its Applications organized by the Department of Chemical Engineering, School of Bioengineering, College of Engineering and Technology.	<b>03</b> Dr. Keshava Joshi Dr. Lokeshwari N Dr. Rashmi S. H.	22nd to 27th August 2022 <b>6 Days</b>
Faculty development program on Recent Advancements in Sustainable Energy Storage & Conversion organized by the Department of Mechanical Engineering, G. Pulla Reddy Engineering College (Autonomous). Kurnool. Andhra Pradesh.	<b>03</b> Dr. Keshava Joshi Dr. Lokeshwari N Dr. Rashmi S. H.	23 <sup>rd</sup> Jan to 27 <sup>th</sup> Jan 2023 <b>5 Days</b>
One-week self-sponsored online short-term course on Advances in Energy and Environment for Sustainable Development, jointly organized by the Department of Chemical Engineering and the Center for Energy and Environment at the Dr. B.R. Ambedkar National Institute of Technology, Jalandhar	<b>03</b> Dr. Keshava Joshi Dr. Lokeshwari N Dr. Rashmi S. H.	1 <sup>st</sup> -5 <sup>th</sup> June 2023 <b>5 Days</b>

6.3.4 Faculty and Staff recruitment (no. for permanent recruitment): Nil

Teaching		Non-teaching	
Permanent	Fulltime	Permanent	Fulltime

6.3.5 Welfare schemes for

Teaching	
Non teaching	
Students	

### 6.4 Financial Management and Resource Mobilization

6.4.1 Institution conducts internal and external financial audits regularly (with in 100 words each)

6.4.2 Funds / Grants received from management, non-government bodies, individuals, philanthropies during the year(not covered in Criterion III)

Name of the non government funding agencies/ individuals	Funds/ Grants received in Rs.	Purpose

6.4.2 Total corpus fund generated

### 6.5 Internal Quality Assurance System for 2022-23 audit has to be done yet

6.5.1 Whether Academic and Administrative Audit (AAA) has been done?

Audit Type	External		Internal	
	Yes/No	Agency	Yes/No	Authority
Academic				
Administrative				

6.5.2 Activities and support from the Parent – Teacher Association (at least three): Nil

6.5.3 Development programmes for support staff (at least three): Nil

6.5.4 Post Accreditation initiative(s) (mention at least three)

### 6.5.5

- a. Submission of Data for AISHE portal : (Yes /No)  
b. Participation in NIRF : (Yes /No)

c. ISO Certification : (Yes /No)

d. NBA or any other quality audit : (Yes /No)

6.5.6 Number of Quality Initiatives undertaken during the year

Year	Name of quality initiative by IQAC	Date of conducting activity	Duration (from-----to-----)	Number of participants

## CRITERION VII - INSTITUTIONAL VALUES AND BEST PRACTICES

### 7.1 - Institutional Values and Social Responsibilities

7.1.1 Gender Equity (Number of gender equity promotion programmes organized by the institution during the year)

Title of the programme	Period (from-to)	Participants	
		Female	Male

7.1.2 Environmental Consciousness and Sustainability/Alternate Energy initiatives such as:  
Percentage of power requirement of the College met by the renewable energy sources

7.1.3 Differently abled (Divyangjan) friendliness

Items Facilities	Yes/No	No. of Beneficiaries
Physical facilities		
Provision for lift		
Ramp/ Rails		
Braille Software/facilities		
Rest Rooms		
Scribes for examination		
Special skill development for differently abled students		
Any other similar facility		

7.1.4 Inclusion and Situatedness

Enlist most important initiatives taken to address locational advantages and disadvantages during the year

Year	Number of initiatives to address locational advantages and disadvantages	Number of initiatives taken to engage with and contribute to local community	Date and duration of the initiative	Name of the initiative	Issues addressed	Number of participating students and staff

7.1.5 Human Values and Professional Ethics

Code of conduct (handbooks) for various stakeholders

Title	Date of Publication	Follow up (maximum 100 words each)

7.1.6 Activities conducted for promotion of universal Values and Ethics

Activity	Duration (from-----to-----)	Number of participants

7.1.7 Initiatives taken by the institution to make the campus eco-friendly (at least five)

### 7.2 Best Practices

Describe at least two institutional best practices

Upload details of two best practices successfully implemented by the institution as per NAAC format in your institution website, provide the link

### 7.3 Institutional Distinctiveness

Provide the details of the performance of the institution in one area distinctive to its vision, priority and thrust  
Provide the weblink of the institution in not more than 500 words

## SUMMARY OF NOTEWORTHY OUTCOMES

**Year 2022-23**

[July to June]

### Department of Chemical Engineering

Sl. No	Outcome	Baseline 2022 Jan-Dec	Current 2022-23 Jan-June 2022 July22- June23
1	Indexed Journal Publications	3	<b>2+1</b>
2	Other – Paper/article Publications	-	<b>0+1</b>
3	Book Publications		-
4	Book Chapter Publications	3	<b>3+1</b>
5	IPR Publications		-
6	IPR Granted		-
7	No. of Funded Projects sanctioned	-	<b>0+1</b>
8	Total Funds Received.	-	<b>1.5 L</b>
9	Total Projects- Ongoing	3	<b>4</b>
10	% Of Placement	<b>92</b>	<b>37</b>
11	No. of Offers	<b>33</b>	<b>12</b>
12	Highest Package L/A	<b>6.5</b>	<b>7.0</b>
13	Lowest Package L/A	<b>2.0</b>	<b>2.0</b>
14	% - of Students Graduated	<b>100</b>	<b>100</b>
15	No. of startups	-	-
16	Consultancy  Total Number: IRG generated:	-	-
17	No. of Conferences Conducted	-	-
18	No. of Workshops/ Seminar/ conducted	-	-
19	No. of Workshops/ Seminar/ conferences attended  (Faculty + Students= Total)	<b>19 F+43S</b>	<b>12F+27S= 39</b>

20	No. of awards / recognitions received (Faculty + Students + dept/Institution= Total)	<b>2F+33F</b>	<b>0F+19S=19</b>
21	No. of New Infrastructure / Programs/space/laboratories created		-
22	No. of networking/society connect programs conducted.		-
23	No. of learning materials created and published		-
24	No. of new process/procedures added.		-
25	No. of products/ Applications created		-
26	Budget Sanctioned In Lakhs of rupees	<b>4.90</b>	<b>3.45 L</b>
27	Total Expenditure In Lakhs of rupees	<b>3.38</b>	<b>25000.00</b>
28	Any other note-worthy events/activities	-	<b>Manthan Prize the only one engineering college in Karnataka received by SDMCET</b>

**Note:** Details of all these claims mentioned in the above table is to be given in the next section of this report under the title “**strategic plan implementation report**” along with evidences.

## Best Practice- 1

Title:

Author(s):

Scope:

Objectives:

- 1.
- 2.
- 3.

29

Methodology / Procedure:

Outcomes:

- 1.
- 2.
- 3.

Cost:

Conclusion / Impact Analysis:

References if any:

- 1.
- 2.



## Best Practice- 2

Title:

Author(s):

Scope:

Objectives:

- 1.
- 2.
- 3.

30

Methodology / Procedure:

Outcomes:

- 1.
- 2.

Cost:

Conclusion / Impact Analysis:

References if any:

- 1.
- 2.

## FUTURE PLANS OF ACTION FOR NEXT ACADEMIC YEAR: 2023-24

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1. Center of Excellence in Environmental studies
2. MoU with academic institutions and Industry

*Name & Signature of the Coordinator-IQAC*

*Name & Signature of the Chairperson/Head*

*Date: 01-07-2023*

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**SDM College of Engineering and Technology, Dhavalagiri, Dharwad-580002**

**Department of Chemical Engineering**

# **STRATEGIC PLAN IMPLEMENTATION REPORT**



**Report for the Year 2022-23**

**August 1<sup>st</sup> 2022-31<sup>st</sup> July 2023**

**Date :30-08-2023**

**Yearly Implementation**

**Reference: 5 Year Plan 2022-2026**

**INTRODUCTION:**

The purpose of this document is to record the **yearly** progress of the Department based on their stated strategic plan for the year **-2022-23** (starting from 1<sup>st</sup> August 2022- 31<sup>st</sup> July 2023). In charge person indicted against each perspective/ Key areas have participated in the audit process and the records maintained by them are seen thoroughly by the audit team.

**AUDIT TEAM:**

1. **Chairman:**Principal, SDMCET, Dharwad
2. **Members:**
  - a) Dean Academic Program
  - b) Dean R & D
  - c) IQAC Coordinator— Member Secretary

**INSTITUTIONAL VISION AND MISSION:**

**VISION:**

To develop **competent** professionals with **human values**.

**MISSION:**

- M1.** To have **contextually relevant** Curricula.
- M2.** To promote **effective Teaching Learning** Practices supported by **Modern Educational Tools and Techniques**.
- M3.** To enhance **Research Culture**.
- M4.** To involve the **Industrial Expertise** for connecting Classroom contents to real-life situations.
- M5.** To inculcate **Ethics and soft-skills** leading to overall personality development.

**ADDITIONAL FOCUS:**

F1: Curriculum relevance- **M1**

F2: Academic/ Exam results- **M1, M2, M4**

F3: Research papers, Sponsored Projects, Root cause analysis for rejected papers and filling gap.-**M3**

F4: Value additions: Teaching, Soft skills, Use of ICT / Presentation, Discussion Groups  
(Communication skills)- **M2 & M5**

F5: Community oriented services- **M3 & M5**

F6: Placement.

F7: Accreditation and Ranking: NBA, NAAC and NIRF -**M1 to M5 & Establishment of strong IQAC  
to support quality checks and Institutional repository.**

F8: National Educational Policy- NEP-2020 – **M1 to M5.( Experiential Learning)**

**CONTACT DETAILS:**

1. Dr. Shivanand Y.A, Chemical Engineering, SDM College of Engineering and Technology,  
Dharwad-580002.

Email: [shivuadaganti@gmail.com](mailto:shivuadaganti@gmail.com)

Mobile: 94488789996

2. Dr. Keshava Joshi/Dr. Lokeshwari N, Department of Chemical Engineering, SDM College of  
Engineering and Technology, Dharwad-580002.

Email: [joshikeshava@gmail.com](mailto:joshikeshava@gmail.com)/[lokeshwarinavalgund@gmail.com](mailto:lokeshwarinavalgund@gmail.com)

Mobile: 9980998266/9663398152

Focus [1]	Perspective/ Key Areas [2]	Year 2022-23			
		PLANNING [3]	Observations / Remarks by Auditors		
			Outcomes achieved [4]	Reasons for any deviation [5]	Further action plan, if applicable [6]
<b>F1 / M1</b>  <b>Curriculum Relevance</b>	Re-establishing the relevance of critical thinking in Course outcomes and raising learning levels focusing on Experiential learning of NEP-2020.	<b>Activity-1: BOS meet</b> <b>Outcome/Target:</b> <Quantifiable outcomes/targets> 1. Reframing of COs 2. NEP implementation as multidisciplinary activities <b>In-charge Faculty:</b> Dr. Keshava Joshi Prof. H.S. Ashoka	1. BOS meet was conducted on 8 <sup>th</sup> Aug 2022.  2. <b>BOS report</b> submitted to Dean Academic and maintained at department and highlighted the changes in BOS report  3. Open electives and reframing of COs: Syllabus Copy for Implementation	No deviations	No
	Re-establishing the relevance of Program Articulation Matrix-PAM	<b>Activity-1: BOS meet</b> <b>Outcome/Target:</b> <Quantifiable outcomes/targets> 1. Implementation of mapping of CO-PO for the modified COs <b>In-charge Faculty:</b> Dr. Keshava Joshi Prof. H.S. Ashoka	1. CO-PO mapping and was discussed in BOS and highlighted in <b>BOS report</b>  2. Syllabus copy for the implementation of Modified CO-PO mapping	No deviations	No
	Conducting internal and External Audits	<b>Activity-1: Internal Audit</b> <b>Outcome/Target:</b> <Quantifiable outcomes/targets>	1. Both Internal and External Audit are completed  2. Internal Audit:	No deviations	No

		<b>1. Verifying the last year outcomes and progress</b> <b>In-charge Faculty:</b> Dr. Shivanand Y.A Dr. Keshava Joshi	3. External Audit:		
	<b>Others-</b> if any				

<b>Year 2022-23</b>					
Focus [1]	Perspective/ Key Areas [2]	PLANNING [3]	<b>Observations / Remarks by Auditors</b>		
			<b>Outcomes achieved</b> [4]	<b>Reasons for any deviation</b> [5]	<b>Further action plan, if applicable</b> [6]
<b>F2</b>  <b>M1, M2, M4</b>  <b>Exam Results</b>	<b>Bridge Courses</b>  For all and specific to  <b>Slow learners &amp; Learning</b>	<b>Activity-1: Slow learners classes for below the set target</b>  <b>Outcome/Target:</b> <b>&lt;Quantifiable outcomes/targets&gt;</b>  <b>1. The classes conducted report and the change in observation</b>	1. The classes were conducted for slow learners in Subjects like FM, CPC, TD, MT-I, MT-II, CED-I, CED-II, CPI, CRE-II, PDC. 2. The report and the changes observed are maintained with respective course instructors in the register. 3. The same is verified by Department IQAC	No Deviations	No

	<b>Extensions</b>	<p style="text-align: center;"><b>improved</b></p> <p><b>In-charge Faculty:</b> Dr. Lokeshwari N/ Dr. Rashmi S H</p>			
	<b>Tutorials for complex courses</b>	<p><b>Activity-1: Class Time table will be implemented with tutorial class for problemetic subjects in coming Even semetsre</b></p> <p><b>Outcome/Target:</b> &lt;Quantifiable outcomes/targets&gt;</p> <ol style="list-style-type: none"> <li><b>1. Time table framed</b></li> <li><b>2. Classes conducted report</b></li> </ol> <p><b>In-charge Faculty:</b> Dr. Lokeshwari N/ Dr. Rashmi S H</p>	<ol style="list-style-type: none"> <li>1. The tutorial classes were conducted for subjects designed in the curriculum for tutorial classes.</li> <li>2. Time table is implemented and classes conducted.</li> <li>3. Course instructor register is maintained for the same.</li> <li>4. Its verified by Department IQAC</li> </ol>	No deviations	No
	<b>Strengthening Experimental Learning</b>	<p><b>Activity-1: Lab course will be enhanced</b></p>	<ol style="list-style-type: none"> <li>1. Atomic absortion spectrophotometer is purschased under the VGST project.</li> </ol>	Other Equipment setups are	



	<p><b>component</b></p>	<p><b>Outcome/Target:</b></p> <p>&lt;Quantifiable outcomes/targets&gt;</p> <ol style="list-style-type: none"> <li>1. Two experiments included in the curriculum</li> <li>2. Conducted report of the experiment</li> </ol> <p><b>In-charge Faculty:</b></p> <p>Dr. Lokeshwari N/ Dr. Rashmi S H</p>	<ol style="list-style-type: none"> <li>2. Planned to include in the curriculum for the conduction of the experiment.</li> </ol>	<p>procured, but not the new one to add in the curriculum.</p>	
	<p><b>Industry Connectivity for Class room</b></p>	<p><b>Activity-1: Conduct of Industrial expert talk and Industrial visits</b></p> <p><b>Outcome/Target:</b></p> <p>&lt;Quantifiable outcomes/targets&gt;</p> <ol style="list-style-type: none"> <li>1. No of talks proposed:04</li> <li>2. No of industrial visits:</li> <li>3. Report of the talk conducted</li> </ol>	<p><b>Industrial visits : 03</b></p> <ol style="list-style-type: none"> <li>1. Aditya Birla, Karwar on 8/10/22</li> <li>2. Epsilon carbon, Torangal on 3/11/22</li> <li>3. Sugar Industry, Jamakandi on 21/2/23</li> </ol> <p>All the reports are maintained in the department.</p> <p>Feedback collected and analysed</p> <p><b>Expert talk: 02</b></p> <ol style="list-style-type: none"> <li>1. Talk on Making a Global Career in Chemical Engineering” by Ms. Anusha Bhat, Research Scholar, Erasmus Mundus Joint Master’s Degree, Aalto University, Espoo, Finland on 18/5/23</li> </ol>	<p>No deviations</p>	

		<b>and its feed back</b> <b>In-charge Faculty:</b> Prof. S.S. Inamdar	All the reports are maintained in the department. Feedback collected and analysed		
	<b>Others-</b> if any				

<b>Year 2022-23</b>					
<b>Focus</b> [1]	<b>Perspective/ Key Areas</b> [2]	<b>PLANNING</b> [3]	<b>Observations / Remarks by Auditors</b>		
			<b>Outcomes achieved</b> [4]	<b>Reasons for any deviation</b> [5]	<b>Further action plan, if applicable</b> [6]
<b>F3</b> <b>M3</b> <b>Research</b>	Quality assessment of all research proposals	<b>Activity-1: Research Faculty committee will be formed to check the quality of the submissions</b>  <b>Outcome/Target:</b> <b>&lt;Quantifiable outcomes/targets&gt;</b>  <b>1. Submission research proposals: 02</b>	Committee is formed and Dr. Keshava Joshi is member	No deviations	

		<b>In-charge Faculty:</b> Prof. H.S. Ashoka/ Prof. Kiran rathod		
<b>IPR:</b> Copyrights and Patents		<b>Activity-1: Research Faculty committee will be formed to check copyright, patent, paper submissions</b>	1. Paper publications: 02 (1: Q3 Scopus and 1: Non UGC)	No deviations
<b>Paper Publications</b>	<b>Outcome/Target:</b>  <Quantifiable outcomes/targets>	2. Book Chapter: 01 (Wiley Publication)	3. Project proposals submitted: 03	
<b>Funded Projects</b>	1. <b>No of paper submission: 04</b> 2. <b>No. of funded project submission:02</b> <b>In-charge Faculty:</b> Prof. H.S. Ashoka/ Prof. Kiran rathod	VGST: 02 (30 Lakh+20 Lakh) SERB (CRG): 01 of cost 36 Lakh	4. Project shortlisted by VGST: 01	
<b>Others-</b> if any			5. Sanctioned Project: 01 (Seed Money from SDMCET)	
			1. Conferences attended: 03 International Conference	
			2. FDP/Trainings/workshop attended: 09 FDPs + 6 Workshops	
			3. Students funded projects: 03 (KSCST:02+IICChE:01)	
			4. Students prizes for paper presentation: 7 Teams	
			5. <b>Student best business plan by Manthan: 01</b>	

		<b>Year 2022-23</b>			
<b>Focus</b>	<b>Perspective/ Key Areas</b>	<b>PLANNING</b>	<b>Observations / Remarks by Auditors</b>		
			<b>Outcomes achieved</b> [4]	<b>Reasons for any deviation</b> [5]	<b>Further action plan, if applicable</b> [6]
<b>F4</b> <b>M2 &amp; M5</b>  <b>Value additions</b>	<b>Learning for Placement</b>	<b>Activity-1: Training activities</b>  <b>Outcome/Target:</b> <Quantifiable outcomes/targets> <b>1. Trainings proposed: 04</b> <b>In-charge Faculty:</b> Dr. Keshava Joshi/ Prof. Kiran Rathod	1. No of trainings conducted: <b>04</b>  2. The list and details in the form of booklet are maintained in the department  3. Verified by Department IQAC	No deviations	
	<b>Soft Skills</b>	<b>Activity-1: Included in curriculum for 1 credit course</b>  <b>Outcome/Target:</b> <Quantifiable	1. Training for soft skill was conducted by college and test was conducted to evaluate for the 1 credit on 16 <sup>th</sup> -18 <sup>th</sup> Dec 2022 and also on May 2023.	No deviations	

		<p><b>outcomes/targets&gt;</b></p> <ol style="list-style-type: none"> <li>1. Training will be conducted</li> <li>2. Test will be conducted</li> </ol> <p><b>In-charge Faculty:</b></p> <p>Dr. Keshava Joshi/ Prof. Kiran Rathod</p>			
	<b>Discussion Group</b>	<p><b>Activity-1: Training on Group discussion</b></p> <p><b>Outcome/Target:</b></p> <p>&lt;Quantifiable outcomes/targets&gt;</p> <ol style="list-style-type: none"> <li>1. GD will be arranged by alumni</li> </ol> <p><b>In-charge Faculty:</b></p> <p>Dr. Keshava Joshi/ Prof. Kiran Rathod</p>	<ol style="list-style-type: none"> <li>1. GD was conducted for the pre final year students through soft skill training conducted from 16<sup>th</sup> -18<sup>th</sup> Dec 2022</li> </ol>	No deviations	
	<b>English Communication Skills</b>	<p><b>Activity-1: Training on English communication</b></p> <p><b>Outcome/Target:</b></p> <p>&lt;Quantifiable outcomes/targets&gt;</p> <ol style="list-style-type: none"> <li>1. One training will</li> </ol>	<ol style="list-style-type: none"> <li>1. English communication was covered in soft skill training conducted by the college from 16<sup>th</sup> -18<sup>th</sup> Dec 2022</li> </ol>	No deviations	

		<p><b>be arranged by English Professor through department</b></p> <p><b>In-charge Faculty:</b></p> <p>Dr. Keshava Joshi/ Prof. Kiran Rathod</p>			
	<p><b>Use of ICT</b></p> <p>Information Communication Technology</p>	<p><b>Activity-1: NPTEL Courses</b></p> <p><b>Outcome/Target:</b></p> <p>&lt;Quantifiable outcomes/targets&gt;</p> <p><b>In-charge Faculty:</b></p> <p>Dr. Keshava Joshi/ Prof. Kiran Rathod</p>	<p>1. Students NPTEL Course completed:</p>		
	<b>Others-</b> if any				

<b>Focus</b>	<b>Year 2022-23</b>
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	Perspective/ Key Areas	PLANNING	Observations / Remarks by Auditors		
			Outcomes achieved [4]	Reasons for any deviation [5]	Further action plan, if applicable [6]
<b>F5</b>  <b>Community Oriented Services</b>	Awareness Program	<b>Activity-1: Visit to Village and schools</b>  <b>Outcome/Target:</b> <Quantifiable outcomes/targets>  1. One visit will be conducted to bring awareness  <b>In-charge Faculty:</b> Prof. Kiran Rathod	1. Visited Yerikoppa village, and engaged classes for 8 <sup>th</sup> , 9 <sup>th</sup> , and 10 <sup>th</sup> standard students and educated on mathematics short tricks, basic English grammar and how to manage solid waste in village and also provided the information on scholarship opportunity after 10 <sup>th</sup> standard on 18/11/22  2. Cleaning the Nuggeri Temple under Swachh Bharat Mission (SBM), Swachh Bharat Abhiyan on 2-05-2023		
	Learning Programs through workshops	<b>Activity-1:</b>  <b>Outcome/Target:</b> <Quantifiable outcomes/targets>  <b>In-charge Faculty:</b> Prof. Kiran Rathod	-		
	Technology Transfer	<b>Activity-1:</b>	-		

	<b>Programs</b>	<b>Outcome/Target:</b> <Quantifiable outcomes/targets>  <b>In-charge Faculty:</b> Prof. Kiran Rathod			
	<b>Others-</b> if any				
	<b>Year 2022-23</b>				
<b>Focus</b>	<b>Perspective/ Key Areas</b>	<b>PLANNING</b>	<b>Observations / Remarks by Auditors</b>		
			<b>Outcomes achieved</b> [4]	<b>Reasons for any deviation</b> [5]	<b>Further action plan, if applicable</b> [6]
<b>F6 Placement</b>	<b>No. of Offers</b>	20	12		
	<b>No. of students getting Placed</b>	15	12		
	<b>Pay packages being</b>	4 Lakh	4 Lakh		



	<b>offered</b>				
	<b>MoUs</b>	01	01		
	<b>Internship</b>	32	37		
	<b>Others- if any</b>				

Focus	Year 2022-23				
	Perspective	Perspective/ Key Areas	Observations / Remarks by Auditors		
			Outcomes achieved [4]	Reasons for any deviation [5]	Further action plan, if applicable [6]
<b>F7</b>  <b>Accreditation and Ranking</b>	<b>NBA</b>  <b>Faculty I/C:</b>  <b>NBA Coordinator</b>	<b>Activity-1: NBA preparedness</b>  <b>Outcome/Target:</b> <Quantifiable outcomes/targets> <b>1. Document and data verification for submission</b>  <b>In-charge Faculty:</b> Dr. Keshava Joshi/ Dr. Lokeshwari N	-		
	<b>NAAC</b> <b>Faculty I/C:</b>  <b>NAAC Coordinator</b>	<b>Activity-1: NAAC preparedness</b>  <b>Outcome/Target:</b> <Quantifiable	Submitted all the data for NAAC		

		<b>outcomes/targets&gt;</b> <b>1. Document and Data collection for submission</b> <b>In-charge Faculty:</b> Dr. Rashmi S H			
	<b>NIRF</b> ranking.  <b>Faculty I/C:</b> <b>Coordinator</b>	<b>Activity-1:</b> <b>Outcome/Target:</b> <Quantifiable outcomes/targets> <b>1. Documents and data collection for submission</b> <b>In-charge Faculty:</b> Prof. Inamdar	-		
	<b>Others-</b> if any				

<b>Year 2022-23</b>					
<b>Focus</b>	<b>Perspective</b>	<b>Perspective/ Key Areas</b>	<b>Observations / Remarks by Auditors</b>		
			<b>Outcomes achieved</b> [4]	<b>Reasons for any deviation</b> [5]	<b>Further action plan, if applicable</b> [6]
<b>Others</b>		< Activity/ Outcomes/Targets and Faculty I/C to be mentioned here >			
		< Activity/ Outcomes/Targets and Faculty I/C to be mentioned here >			

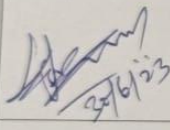
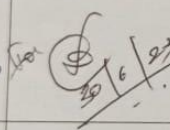
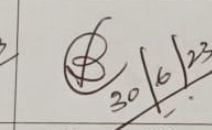
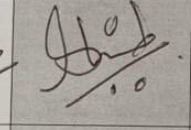
**Remarks**-by the auditing team.

The progress report mentioned above is presented by the concerned department team, verified for its correctness by the auditing team and approved by the concerned authorities mentioned below.

Name and Signature with Date of the concerned authority								
<b>X</b> Quarter								
	DUGC Member Secretary	IQAC Coordinator	Faculty I/C of Strategic Plan	<b>Head of the Department</b>	Member-3 Audit Team	Member-2 Audit Team	Member-1 Audit Team	<b>PRINCIPAL</b>

**Remarks**-by the auditing team.

The progress report mentioned above is presented by the concerned department team, verified for its correctness by the auditing team and approved by the concerned authorities mentioned below.

Name and Signature with Date of the concerned authority								
X Quarter	 29/6/23	 29/6/23	 30/6/23	 10				
	DUGC Member Secretary	IQAC Coordinator	Faculty I/C of Strategic Plan	Head of the Department	Member-3 Audit Team	Member-2 Audit Team	Member-1 Audit Team	<b>PRINCIPAL</b>

**SDM College of Engineering & Technology, Dharwad – 580002**  
**Department of Chemical Engineering**  
**Minutes of 16<sup>th</sup> BOS meeting (2022-23) held on 8<sup>th</sup> August 2022**

**Program: UG Chemical Engineering**

Meeting of Board of Studies of Chemical Engineering was held on 8<sup>th</sup> August 2022 from 10.00 A.M. to 2.00 P. M. in the Dept. of Chemical Engineering to discuss and finalize scheme & syllabus of B.E. Chemical Engineering Program for the academic year 2022-23.

**Agenda**

1. Complete Scheme and Syllabus revision for III and IV Semester according to 160 credits scheme of NEP 2021.
2. Syllabus revision / updation up to 10% change in the current curriculum for V, VI, VII and VIII Semester according to 175 credits of 18 Scheme.
3. Revised CO –PO mapping

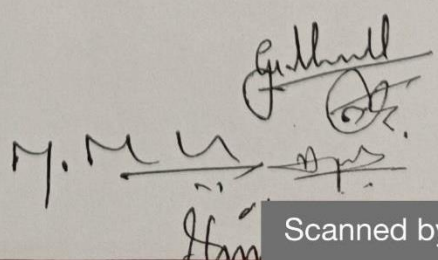
Chairman of the B.O.S. – UG-Chemical, Dr. Shivanand Y.A. welcomed all the BOS members and briefed the committee about the changes to be made in UG scheme and curriculum to align with AICTE, VTU, Belagavi and SDMCET guidelines.

Chairman introduced all the external members to the Dean Academic. Dean Academic briefly explained about the scheme and structure of the academic year 2022-23.

Then, Chairman briefed about the pre BOS meet held on 3<sup>rd</sup> August 2022. Each agenda of the 16<sup>th</sup> BOS meet was discussed deliberately by all BOS members.

**Agenda 1: Complete Scheme and Syllabus revision for III and IV Semester according to 160 credits scheme of NEP 2021. The following suggestions were made by the members**

- AEE can be offered at Institutional Level –Suggested by Dr.G.M. Madhu
- Title of the AEE course was reframed as (Principles in Chemical Engineering-I)- Suggested by Dr. G.P. Desai
- CO2 to be modified in process calculation - Suggested by Dr.G.M. Madhu
- In Process calculation, the cubic equations can be deleted as it is a repetition in thermodynamics- Suggested by Dr.G.M. Madhu


  
 G.M. Madhu
   
 G.P. Desai



- Contents of CO5 can be modified as material balance reaction already includes combustion topic in process calculations- Suggested by Dr.G.M. Madhu
- CAD software can be used to teach chemical engineering drawing- Suggested by Dr. Muddu Madakyaru
- Book authored by D.Q Kern can be included in Process Heat Transfer Suggested by Dr. Muddu Madakyaru

The scheme and syllabus of the 2<sup>nd</sup> and 3<sup>rd</sup> Year was approved by the BOS members

**Agenda 2: Syllabus revision / updation up to 10% change in the current curriculum for V, VI, VII and VIII Semester according to 175 credits of 18 Scheme. The following suggestions were made by the members**

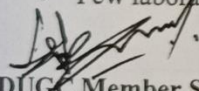
The scheme and syllabus of 3<sup>rd</sup> and 4<sup>th</sup> Year was approved by BOS members.

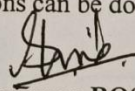
**Agenda 3: Revised CO-PO mapping**

CO-PO mapping was approved.

**General comments were opined by external members on the above-mentioned agendas held on 8<sup>th</sup> August 2022**

- GATE courses to be given more emphasis under NEP 2020
- Some of the core courses Tutorials classes can be included with L-T-P- 2-2-0
- Atleast two courses per semester to have tutorial classes.
- Syllabus content of Mathematics course can be branch specific.
- All four years can be included with Internship course as specified by VTU
- Elective courses in the higher semester can be grouped as stream specific.
- JMP software can be procured at Institutional level common for all branches.
- Few laboratories experimental calculations can be done using excel sheet.

  
DUGC Member Secretary  
Members

  
Chairman BOS

External

1. 

2. 

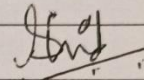
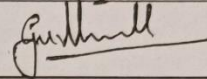

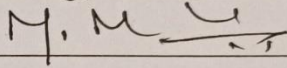
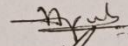
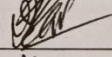
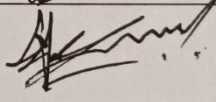

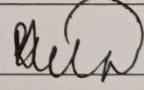


3. 

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5. 

Chairman, Dr. Shivanand Y.A thanked all the members for their valuable inputs and suitable corrections in scheme and curriculum. The approved scheme and syllabus are attached here with.

Following members were present in the meeting.

Sl. No.	Particulars	Name of Experts	Signature of the Members
1	Chairman	Dr. Shivanand Y. A	
2	VTU Nominee	Dr. G.M. Madhu	
3	Subject Experts	Dr. G. P. Desai	
		Dr. Muddu Madakyaru	
4	Industry / Corporate sector representative	Mr. Vinay Konaje	
	Alumnus	Mr. Vivek Patil	
5	Faculty members	1) Prof. S.S. Inamdar	
		2) Prof. H.S. Ashoka	
		3) Dr. Lokeshwari N	
		4) Dr. Rashmi S.H.	
		5) Prof. Kiran Kumar Rathod	
8	Member Secretary	Dr. Keshava Joshi	

Place: Dharwad

Date: 8<sup>th</sup> August 2022



### Curriculum updated in 2022-23

The following are updated and incorporated in the syllabus of 2022-23

- Implementation of 21 scheme for the 2<sup>nd</sup> year.
- Introduction of Ability Enhancement course, Universal human values, CIPE
- New subject COs are framed and mapped with POs.
- COs of Pollution control Engineering in 4<sup>th</sup> semester have been modified.
- Case studies as separate unit in Pollution control Engineering has been removed and clubbed in the other units.
- Fluid Mechanics from 4<sup>th</sup> semester has been shifted to 3<sup>rd</sup> semester.
- Heat Transfer and Environmental Engineering Labs from 5<sup>th</sup> semester have been shifted to 4<sup>th</sup> semester.
- Few experiments are added to the Environmental Engineering Lab and accordingly the COs are modified

### Curriculum updated in 2021-22

The following are updated and incorporated in the syllabus of 2021-22

- Implementation of 175 credits for the 4<sup>th</sup> year
- Open elective was introduced in 4<sup>th</sup> year for 7<sup>th</sup> and 8<sup>th</sup> semester (Biochemical Engg., Instrumental analysis and Nanotechnology. Solid waste management, Green Technology, Environmental Impact assessment)
- Introduction of Internship course in 7<sup>th</sup> semester.
- New subject COs and POs are framed and mapped.

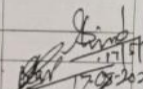
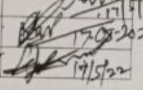
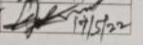
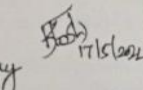


Department of Chemical Engineering-SDMCET

ACADEMIC AUDIT REPORT for 2020-21- Internal

Audit Team Details

Date of Audit: 17/05/22

Name of the Department: Chemical Engineering				Name of the institution: SDMCET, Dharwad			
Sl. No	Name	Affiliation	Designation	Mobile No	Email Id	Role in Audit Team	Signature with date
1	Shivanand A	SDMCET- Dwd	HED	7853163888	shivanandaganti@gmail.com	Chairman	 17/05/22
2	S.S. Mendhe	SDMCET, Dharwad	Asst. Prof.	7481705272	navi.chem@rediffmail.com	IQAC-Dept	 17/05/22
3	Ashoka H.S	SDMCET, Dharwad	Asst. Prof.	9008452780	ashoka.h.s@sdmcet.ac.in	DUGC-member Secretary	 17/05/22
	A. Kishanrao Jaski	SDMCET	Asst. Prof.	9920998266	jaski.ashokrao@gmail.com	BOS Member Secretary	 17/05/22

18

Sl. No	Audit Parameters	Observations and Suggestions
1.	Implementation of strategic plan for this academic year w.r.t Vision and Mission defined. [ Based on 5 year plan approved by AC/GC]	<p>The proposed strategic plan has been implemented for the academic year 2020-21. Vision and Mission of the program. All the details of the conduct of even implementation are verified through documents provided at department through following missions of the program.</p> <p><b>M1- Curricula in tune with Industry-</b> Electives like, Petroleum, Polymers, Drug and Pharm Engineering, Air and water engineering are offered for students. Industry internship is mandatory course introduced in new curricula.</p> <p><b>M2- Research up-gradation-</b> Funded project of 60 Lakh (Ongoing), 02 Int. Journal Papers Published, 04 Conference papers.</p> <p><b>M3-Industry connectivity-</b> MoU with Nichrome, Visiting faculty- Lectures, Industry Interaction:02. The DUGC and BOS proceedings are verified along with syllabus copy.</p>
2.	Curriculum revision/status to meet current industry/market needs. [ Based on the mission-M1- To Have contextually relevant Curricula]	<ul style="list-style-type: none"> <li>The following points mentioned are revised in the current year syllabus in 2020-21 to meet the current industry and market needs.</li> <li>✓ The model curriculum of AICTE for 175 credits is introduced to 7<sup>th</sup> and 8<sup>th</sup> Semester.</li> <li>✓ New electives like Drug and Pharma, Food Engineering, Nuclear Engineering are introduced to meet the need of industry and market.</li> <li>✓ Few new electives like Green technology, air pollution control engineering and advance waste water treatment are introduced which is the need of the today market to keep the surrounding environment clean.</li> <li>✓ Curriculum has introduced more project credits to have much involvement of students in understanding the basics and work in team with project and financial management.</li> <li>✓ Internship is made mandatory course</li> </ul>
3.	Implementation of OBE principles:	<ul style="list-style-type: none"> <li>• In 2020-21, the OBE system is practised with implementation of action plans of 2019-20</li> <li>• IQAC proceedings of 2020-21 are verified with action plan.</li> </ul>

66

		<ul style="list-style-type: none"> <li>All the course files of the course teacher are verified and signed by IQ coordinator.</li> <li>The target of the attainment is increased from 50 to in the range of 55 to 60 different courses.</li> <li>Multilevel mapping is modified for few courses to justify the mapping</li> <li>Batch attainment has been improving consistently.</li> <li>Increase in number of placements and performance of students with good percentage, good success index and API index have shown the reflection attaining the program outcomes.</li> </ul>
4.	Quality of Course plan, Question papers in terms of its compliance to Course outcomes. - Individual	<ul style="list-style-type: none"> <li>The lesson plan of all the subjects is being prepared by all the course instructor and based on the previous attainment, action plans are mentioned.</li> <li>All the question papers both internal and external are in compliance of the COs.</li> <li>IQAC and BOE proceedings are verified for the QP quality and blooms taxonomy and in terms of its compliance to COs.</li> </ul>
5.	Results and Outcome attainment including action plan. - Individual / common [ Its effective implementation]	<p><b>The performance through the results, attainment and its implementation are observed.</b></p> <ul style="list-style-type: none"> <li>Department has computed the pass percentage of every semester in 2020-21 and observed that the performance is improved from the last year.</li> <li>The success index with and without backlogs is 1 and 0.315 respectively.</li> <li>The API index of 2020-21 is 8.18</li> <li>Individual course files of 2020-21 are verified with proper contents and attainment with action plan.</li> <li>The batch attainment of 2020-21 is completed.</li> </ul>
6.	Best Practices.	<p><b>Best practices at the department</b></p> <ul style="list-style-type: none"> <li>Alumni and industry person interaction</li> <li>Career guidance's for higher studies/Internships</li> <li>Community services</li> <li>Industrial visits</li> <li>Students sponsored projects</li> </ul>

		<p><b>Proof of conduct and documents are verified</b></p> <ul style="list-style-type: none"> <li>Alumni Interactions-01</li> <li>Career guidance-01</li> <li>Community services-00</li> <li>Industrial visits-00</li> <li>KSCST, IICHE, VTU student funded project-04</li> </ul> <p>It has been observed that, the budget sanctioned has been utilized in procuring new technological growth and its utilization. The documents are verified for the same.</p>
7.	Quality of Computing Infrastructure and other equipment in the laboratory to fulfil the needs of technological growth and trends and its utilization.	
8.	Research, Consultancy and IPR	<p><b>Proposed in 2020-21 strategic plan</b></p> <ul style="list-style-type: none"> <li>Funded project-01</li> <li>Research scholar-01</li> <li>Publication-04</li> <li>Doctorates: 70%</li> </ul> <p><b>Proof of conduct and documents are verified</b></p> <ul style="list-style-type: none"> <li>No of ongoing projects: 03 (VOST sanctioned letters observed)</li> <li>Research scholar details:04 ongoing PhDs. (Registration details of VTU)</li> <li>Publications:02 (First page of paper published)</li> <li>Consultancy is initiated in the department by visiting the different nearby industries. The testing is being carried out by the department.</li> <li>Suggested to visit all industry and make an attempt in having consultancy work being carried out.</li> <li>No any IPR program conducted. Suggested to attend any IPR related activities.</li> <li>No of faculty funded projects submitted: 04</li> </ul>

9.	Industry Connectivity MOUs	<p><b>Proposed in 2020-21 strategic plan</b></p> <ul style="list-style-type: none"> <li>Guest lecturers: 04</li> <li>Industry projects:02</li> <li>Internships:10</li> <li>Industry visits:03</li> <li>Industrial Training:04</li> <li>Adjunct faculty:01</li> </ul> <p><b>Proof of conduct and documents are verified</b></p> <ul style="list-style-type: none"> <li>Number of Guest lecturers conducted: 01</li> <li>Student funded Industry based project by KSCST, IICHE, VTU: 04</li> <li>Number of Industry internships: 19</li> <li>Number of Industrial visits: 00</li> <li>Number of Industrial visits for placement:00</li> <li>No of placements in 2020-21: 13/19</li> <li>Number of Industrial Training conducted: 00</li> <li>MoU with Nichrome industry for five years</li> <li>Training with Nichrome Industry: 00</li> </ul>
10.	Others	<ul style="list-style-type: none"> <li>Faculty and students have participated in various programs during the Covid 19 period and won the awards.</li> <li>Students have under gone NPTEL courses</li> <li>IICHE Students chapter is applied under Bangalore Regional Chapter in 2019-20 and is approved</li> <li>Four project proposals have been submitted by the department for different agencies like DST, ATAL-FDP and VGST.</li> <li>Faculty have participated in International and National conferences and presented the papers and also participated in different courses.</li> </ul>

### ACADEMIC AUDIT REPORT- External

Name of the Department : <u>Chemical Engineering</u>	Date of Audit: <u>21.7.2022</u>
	Name of the Institution <u>SDMCET, Davanagere</u>

#### AUDIT TEAM DETAILS

Sl. No	Name	Affiliation	Designation	Mobile No.	Email Id	Role in Audit Team	Signature with date
1	<u>Dr. C.M. Kalleshappa</u>	<u>BIET</u>	<u>Prof &amp; Head</u>	<u>9449202199</u>	<u>Chari Kallesh@gmail.com</u>	<u>Chairperson -Internal</u>	<u>[Signature]</u> <u>21.7.2022</u>
2							
3							
4							

**Overall Observation/Remarks:**

Faculty are highly qualified. Faculty research and publications are satisfactory. Student pass percentage and placement is good. Implementation of strategic plan is satisfactory. Needs improvement in industrial interactions and publications.

[Signature]

21.7.2022.

Dr C M Kalleshappa  
Prof & Head, Dept of chemical Engg  
BIET, Davanagere 4



No	Audit Parameter	Observations and Suggestions
1	<b>Strategic Plan:</b> How well the strategic plan or its equivalent any other development plan is executed with clear observable outcomes / evidences?	Development plan is executed with clear outcomes.
2	<b>Mission-1:</b> What level of contextual relevance is brought in the curriculum?	Contextual relevance is brought in the curriculum, however, some relevant electives can be introduced.
	<b>Mission-2:</b> What level of preparedness and implementation is seen in making teaching learning process effective on OBE principles?	Teaching learning process implementation preparedness is satisfactory.
	<b>Mission-3:</b> What levels of establishment of research infrastructure,	Research infrastructure is satisfactory, publications needs to be improved.

	processes and research outcomes are seen?	
5	<b>Mission-4:</b> What level of preparedness and implementation is seen in connecting Industry with class room?	Because of prevailing Covid pandemic there is less connectivity with industry. However, with improving Covid situation this can be improved.
6	<b>Mission-5:</b> What level of preparedness and implementation is seen in developing students' personality focusing on ethics and soft skills?	Soft Skill courses are introduced in the curriculum. However, more soft skill programs may be introduced.
	<b>Other noteworthy achievements?</b> If any.. Faculty members/ Staff/Students	<ul style="list-style-type: none"> <li>① Sufficient funded projects in the departments.</li> <li>② Faculty have attended FDPs and STPPs</li> <li>③ Student project funding and professional body membership and activity is good.</li> <li>④ Good number of students have</li> </ul>

taken up NPTEL courses. Page 3 of 5

## 8 Suggestions

Student pass percentage is Excellent. Student placement is good. Department has secured grants for carrying out research work. Faculty members are highly qualified and competent. Publications are satisfactory. Strategic plan implementation is satisfactory. OBE system is practiced well. IQAC is well coordinating the academic issues.

Suggestions.

Industrial visits needs to be improved. Students must be encouraged to take up more number of industrial visits. MOUs and industrial interactions to be boosted further.

Signature



Auditor-1

Dr. C. M. Kalleshappa

21.7.2022

Prof &amp; Head, BIET, Davangere.

Auditor-2

Auditor-3

Auditor-4

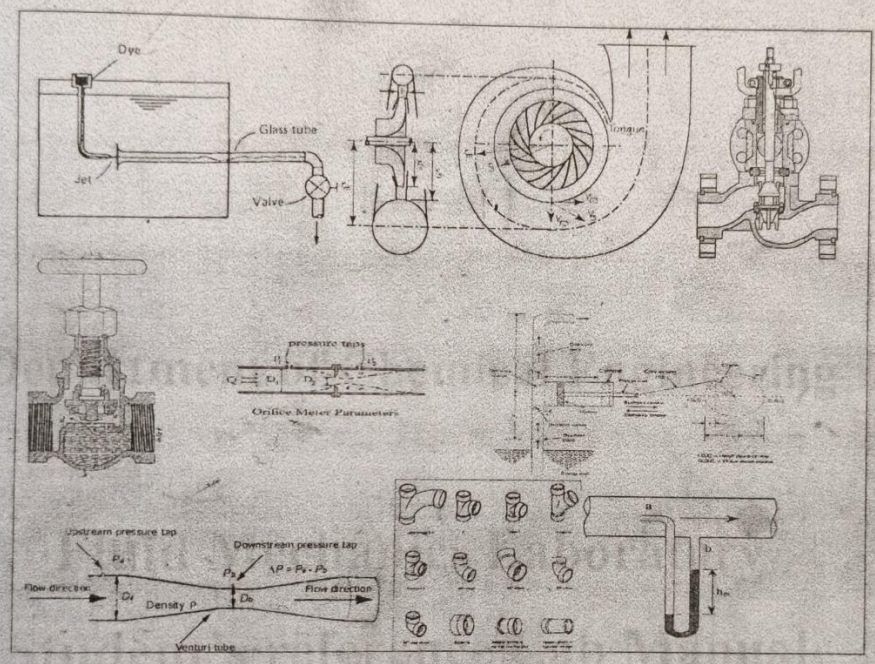






DEPARTMENT OF CHEMICAL ENGINEERING

FLUID MECHANICS LABORATORY MANUAL



Name of the Student : .....

Semester : .....

Roll No/USN NO : .....

Dr. LOKESHWARI N  
Course Instructors

SRI. MAHESH. S  
Lab Instructor

SDM COLLEGE OF ENGINEERING AND TECHNOLOGY, DHARWAD- 580002  
2022-23



### Index

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4.	Centrifugal Pump	15-17
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10.	Bernoulli's Apparatus	38-40

STUDENTS' COURSE RECORDS: Continuous Internal Evaluation							
NAME	Continuous Internal Evaluation (CIE)						
	IA-I	IA-II	IA-III	CTA/TA	TE	GRADE	SIGN
406 SHWETA NITKA							
407 NIKAN KALISH							
411 KESHAV A RAJADIVE							
44 KAVITA SANGOL							
400 SINGHA RAJESH							

Position earned & Demand

1. Review and synthesis & logical application
2. Heat integration synthesis & design
3. Process integration synthesis & design
4. Design of unit & process
5. Design of plant for process

STUDENTS' COURSE RE										
Sl. No.	1	2	3	4	5	6	7	8	9	10
28	1	2	3	4	5	6	7	8	9	10
29	1	2	3	4	5	6	7	8	9	10
30	1	2	3	4	5	6	7	8	9	10
31	1	2	3	4	5	6	7	8	9	10

SDM COLLEGE OF ENGINEERING & TECHNOLOGY, DHARWAD  
Department of Chemical Engineering  
Academic Year: 2022-23

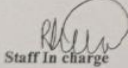

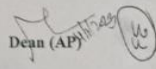
**TIME TABLE (ODD SEMESTER)**

Class: III Sem      Lab Batches: B1(2SD21CH001 to 2SD21CH013) B2 (2SD21CH014 to 2SD21CH026)      Class Room:16

Days	8-00am to 9-00am	9-00am to 10-00 am	10-00am to 10-30am	10-30am to 11-30 am	11-30am to 12-30 pm	12-30pm to 1-30 pm	1-30 pm to 2-30 pm	2-30 pm to 3-30 pm	3-30pm to 4-30 pm
Monday		CPC (T)	TEA BREAK	PT	EM- III	AEC	LUNCH BREAK		
Tuesday		PT		EM- III	UHV-I			FM / PT Lab	
Wednesday	CPC	EM- III		CED				FM / PT Lab	
Thursday	CPC	UHV-I		FM	PT			CED	
Friday		FM		EM- III	CIPE				
Saturday	FM(T)	AEC		FM(T)	CPC (T)				

NOTE: This time table will be in force from **04-01-2023**

Course Code	Course Title	Credits	Course Instructor
21UMAC300	Engineering Mathematics-III	3	Dr. D. P. Basti
21UCHC300	Process Calculations	3	Prof. Ashoka H. S
21UCHC301	Fluid Mechanics	3	Dr. Lokeshwari N.
21UCHC302	Particulate Technology	3	Dr. Rashmi S. H
21UCHC303	Chemical Engineering Drawing	3	Dr. Shivanand Y.A
21UAEE330	Ability Enhancement Course (Principles in Chemical Engg-I)	2	Prof. S. S. Inamdar/ Prof. Kirankumar Rathod
21UHUC300	Universal Human Values -I	2	Dr. Rashmi S. H
21UHL304	Fluid Mechanics Laboratory	1.5	Dr. Lokeshwari N
21UHL305	Particulate Technology Laboratory	1.5	Dr. Rashmi S. H/ Dr. Keshava Joshi
21UHUA300	The Constitution of India and Professional Ethics	Audit	
<b>Total Credits offered</b>		<b>22</b>	

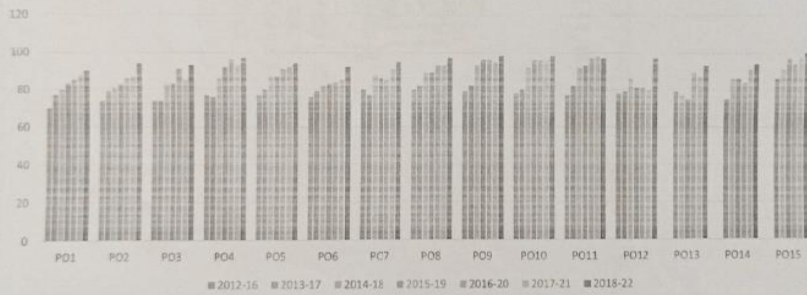
 Staff In charge     
  HOD     
  Dean (AP)

**Department of Chemical Engineering  
Progress in PO/PSO attainment**

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PO13	PO14	PO15
2012-16	70	74	74	77	77	76	80	80	79	78	77	78			
2013-17	77	79	74	76	80	79	77	82	82	80	82	79	79	75	
2014-18	80	81	83	86	87	82	88	89	93	92	92	86	77	86	
2015-19	83	83	83	92	87	83	86	89	96	96	93	81	75	86	
2016-20	85	86	91	96	91	84	85	93	96	96	97	81	89	84	
2017-21	88	87	85	93	92	85	91	93	95	96	98	80	87	91	
2018-22	90	94	93	97	94	92	95	97	98	98	97	97	93	94	100

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PO/PSO Attainment



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**INDUSTRIAL VISIT TO SHREE RENUKA  
SUGARS Ltd.(31/03/2022)**



**DEPARTMENT OF CHEMICAL ENGINEERING  
S.D.M. COLLEGE OF ENGINEERING & TECHNOLOGY,  
DHARWAD-580002  
2021-2022**



Department of Chemical Engineering  
SDMCET-Dharwad  
Report on

*Industrial Visit*

To  
Aditya Birla Chemicals (INDIA) Ltd.  
Binaga Karwar

By  
Department of Chemical Engineering SDMCET, Dharwad  
On Date: 08<sup>th</sup> October, 2022

No of Students: VII semester, 32 students  
Faculty Visited: Prof. Kirankumar Rathod

Faculty Coordinator	Kirankumar Rathod	
HOD	Shivanand V.A	

(Academic Year : 2022-23)





Department of Chemical Engineering  
SDMCET-Dharwad  
Report on

*Industrial Visit*

To  
EPSILON CARBON TORANGALLU  
BELLARY

By  
Department of Chemical Engineering SDMCET, Dharwad  
On Date: 3<sup>rd</sup> Nov 2022

No of students: 24  
Faculty Visited: Dr. Keshava Joshi  
(Academic Year: 2022-23)

Faculty Coordinator	Dr. Keshava Joshi	
HOD	Dr. Shivanand Y. A.	

## Faculty Research Publication

Sl. No	Name of faculty	Title of Paper	Name of the Journal	Volume, Issue, Page No.
<b>2022-23</b>				
1.	Prof. Kiran Rathod Keshava Joshi	Simultaneous Removal of COD and Nitrate from Municipal Wastewater: Enhancing Treatment Efficiency with a Spouted Bed Reactor Utilizing Granular Activated Carbon as Biofilm Support Medium.	International Journal of Innovative Research in Technology	June 2023 Volume 10 Issue 1 ISSN: 2349-6002
2.	Lokeshwari N Keshava Joshi	Studies on removal of RBB and Safranin-O dyes from aqueous solution using concentrated acid treated red mud (CATRM) as adsorbent	Review of Adhesion and Adhesives	10(4), 2022. Q3 and Scopus Sept. 2022

## Department of Chemical Engineering Faculty Conference Presentations

Sl. No	Name of the Faculty	Details of the Conference Papers	Date and Place	No of Days
<b>2022-23</b>				
1	Dr. Keshava Joshi	International Conference on Nanoscience and Nanotechnology (ICONN 2023)" on the topic entitled Synthesizing ZnO Nanoparticle and its Application in Photo Catalytic Degradation of Organic Dye" from 27-29 <sup>th</sup> March 2023 by SRM Institute of Science and Technology, Kattankulathur, Tamil Nadu.	27 <sup>th</sup> -29 <sup>th</sup> March 2023 SRM, Tamil Nadu	3
2	Dr. Lokeshwari N	International Conference on Nanoscience and Nanotechnology (ICONN 2023)" on the topic entitled "Green Synthesis of Magnetite Nanoparticles with Different Plant Extract and their Environmental Applications" from 27-29 <sup>th</sup> March 2023 by SRM Institute of Science and Technology, Kattankulathur, Tamil Nadu.	27 <sup>th</sup> -29 <sup>th</sup> March 2023 SRM, Tamil Nadu	3
3	Dr. Rashmi S.H.	International Conference on Nanoscience and Nanotechnology (ICONN 2023)" on the topic entitled Extraction of Cellulose Nanocrystals from Corncob and Synthesis of Biopolymer Composites, its Characterization and Applications" from 27-29 <sup>th</sup> March 2023 by SRM Institute of Science and Technology, Kattankulathur, Tamil Nadu.	27 <sup>th</sup> -29 <sup>th</sup> March 2023 SRM, Tamil Nadu	3



# Studies on removal of RBB and Safranin-O dyes from aqueous solution using concentrated acid treated red mud (CATRM) as adsorbent

Lokeshwari Navalgund<sup>1</sup>\*, Keshava Joshi<sup>1</sup>, Umesh Desharnavar<sup>2</sup>, Vinayaka B. Shet<sup>3</sup>, Sampath Emani<sup>4</sup>, Gurunadh Velidi<sup>5</sup>

<sup>1</sup>Department of Chemical Engineering, SDM College of Engineering and Technology (V.T.U., Belagavi), Dharwad-580 002, Karnataka, India

<sup>2</sup>Department of Chemical Engineering, KLE DR. M. S. Sheshgiri College of Engineering and Technology, Belgaum, Karnataka, (KLEDRMSSCET) India

<sup>3</sup>Department of Biotechnology Engineering, NMAM Institute of Technology (V.T.U., Belagavi), Nitte-574110, Karnataka, India

<sup>4</sup>Individual Collaborator, India

<sup>5</sup>Department of Aerospace Engineering, University of Petroleum and Energy Studies, India

**Abstract** Application of the by-product or industrial waste from one industry to treat wastewater of other manufacturing unit would solve the environmental problems and also helps in disposal of both solid and water waste. Red mud (RM) a by-product or waste from the alumina manufacture unit causes severe threat to the environment. The current investigation emphasis on the utilization of an adsorbent which is concentrated acid-treated red mud (CATRM) for reduction of reactive dyes Remazol Brilliant Blue dye (RBB) and Safranin-O, from aqueous solution. The result of different parameters like pH, contact time or equilibrium, initial dye concentration, and dosage of adsorbent were calculated. Freundlich isotherm model fitted well than the Langmuir model to represent the equilibrium data for CATRM adsorption system. A thermodynamic study showed  $\Delta H$  of 38 and 41 kJ/mol for Safranin-O and RBB respectively for adsorption on CATRM and is an endothermic reaction. The adsorption kinetic studies represented by pseudo first-order kinetic model with the  $R^2$  value of 0.968 and 0.975 for safranin-O and RBB respectively fitted the best. Validity of kinetic model recommends that controlling step is the pore diffusion in the mass transfer process. Adsorption process using red mud serves the dual purpose of using the solid waste to remove the liquid waste. The results obtained have proved that acid treated red mud is more efficient in removal of dyes.

**Keywords** Adsorption, Isotherms, Kinetics, Red mud, Thermodynamic studies, XRD;

\*Corresponding author: email: lokeshwarinavalgund@gmail.com

DOI: 10.47750/RAA/10.4.03



## Advanced Nanomaterials and Nanocomposites for Bioelectrochemical Systems

Micro and Nano Technologies

2023, Pages 377-392

### Chapter 17 - Future development, prospects, and challenges in application of nanomaterials and nanocomposites

Vinayaka B. Shet<sup>a</sup>, Keshava Joshi<sup>b</sup>, Lokeshwari Navalgund<sup>b</sup>

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#### Abstract

Microbial fuel cells (MFC) are gaining importance due to their sustainable approaches. Recently, development in nanotechnology domain has escalated the scope for research in MFCs. MFC requires potential improvement in enhancing the conductivity, efficiency, corrosion resistance, acid resistance, and attachment of microorganism to anode. In order to improve the features of MFC, amalgamation of nanotechnology is essential. Use of nanomaterials and nanocomposites are explored in developing electrodes and membranes for achieving improved performance of MFC. Porous electrodes are developed to provide an increased surface area and adhesion of higher microbial load. Surface modifications of electrodes to improve conductivity and accommodate microorganisms are in the nascent stage of development. Carbon-, metal-, and polymer-based nanomaterials and nanocomposites are adapted to develop anode. The electric circuits used in connecting offer minimum resistance. However, the challenges posed by nanomaterials and nanocomposite provide many opportunities for further research and development as well as exploring various research in the large-scale setup.

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#### Keywords

Environmental bioengineering; Energy engineering; Electrochemical energy engineering; Materials processing; Nanotechnology

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**7<sup>th</sup> International Conference on Nanoscience and Nanotechnology (ICONN-2023)**  
(Virtual Conference) March 27 - 29, 2023

*Certificate of Participation*

This is to certify that Mr. / Ms. / Dr. **Rashmi S H** has participated and presented a paper entitled **Extraction of cellulose nanocrystals from corncob and synthesis of biopolymer composites, its characterization and applications** in the 7<sup>th</sup> International Conference on Nanoscience and Nanotechnology (ICONN-2023) organized by Department of Physics and Nanotechnology, SRM IST, India during March 27- 29, 2023, in association with Shizuoka University, Japan; National Yang Ming Chiao Tung University, Taiwan; GNS Science, New Zealand; University of Rome Tor Vergata, Italy; Asian Consortium on Computational Materials Science (ACCMS), Japan; Indian Ceramic Society; Indian Physics Association (IPA); Solar Energy Society of India (SESI); Innovation, Science & Technology Foundation - Tirupathi (ISTF-T) and co-sponsored by Defence Research and Development Organization (DRDO), India; Council of Scientific & Industrial Research (CSIR), India; The Indian Science Congress Association (ISCA) and Springer Nature.

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(Virtual Conference) March 27 - 29, 2023

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This is to certify that Mr. / Ms. / Dr. **Lokeshwari Navalgund** has participated and presented a paper entitled **Green synthesis of magnetite nanoparticles with different plant extract and their environmental applications** in the 7<sup>th</sup> International Conference on Nanoscience and Nanotechnology (ICONN-2023) organized by Department of Physics and Nanotechnology, SRM IST, India during March 27- 29, 2023, in association with Shizuoka University, Japan; National Yang Ming Chiao Tung University, Taiwan; GNS Science, New Zealand; University of Rome Tor Vergata, Italy; Asian Consortium on Computational Materials Science (ACCMS), Japan; Indian Ceramic Society; Indian Physics Association (IPA); Solar Energy Society of India (SESI); Innovation, Science & Technology Foundation - Tirupathi (ISTF-T) and co-sponsored by Defence Research and Development Organization (DRDO), India; Council of Scientific & Industrial Research (CSIR), India; The Indian Science Congress Association (ISCA) and Springer Nature.

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*Certificate of Participation*

This is to certify that Mr./Ms./Dr. **Keshava Joshi** has participated and presented a paper entitled **Green approach for synthesizing ZnO nanoparticle and its application in photo catalytic degradation of organic dye** in the 7<sup>th</sup> International Conference on Nanoscience and Nanotechnology (ICONN-2023) organized by Department of Physics and Nanotechnology, SRM IST, India during March 27-29, 2023, in association with Shizuoka University, Japan; National Yang Ming Chiao Tung University, Taiwan; GNS Science, New Zealand; University of Rome Tor Vergata, Italy; Asian Consortium on Computational Materials Science (ACCMS), Japan; Indian Ceramic Society; Indian Physics Association (IPA); Solar Energy Society of India (SESI); Innovation, Science & Technology Foundation - Tirupathi (ISTF-T) and co-sponsored by Defence Research and Development Organization (DRDO), India; Council of Scientific & Industrial Research (CSIR), India; The Indian Science Congress Association (ISCA) and Springer Nature.

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Date: 9 JAN 2022

SEED MONEY GRANT

To inform you that the Management has sanctioned Seed grant of Rs.1,50,000/- (One Lakh  
Thousand Rupees) to Dr. Rashmi S H (Principal Investigator - PI) and Dr. Shivanand Y A  
"Preparation and Characterization of Chitosan-Based Nanocomposites for Food  
Preserving Applications". The amount shall be disbursed in two installments during the entire  
duration of TWO years. The grant must be exclusively utilized for the said project and the  
recipients must adhere to the following:

- i. PI is responsible for the administration of granted funds and he/she must be ascertaining that over-expenditures do not occur.
- ii. Deliverables in terms of publications, patents and external funded projects committed at the time of project presentation is a must.
- iii. The project work shall be carried out without any detriment to the regular academic work.
- iv. Regular progress review meeting shall be conducted, and report needs to be submitted to the expert committee periodically.
- v. SDME Society Rules and regulations
- vi. Seed Money Policy of SDMCET

Wishing you all the best.

With Regards  
Rashmi S H  
PRINCIPAL

Copy to: i) HOD Civil, ii) Department R&D notice board, iii) EST, iv) Accounts Section

**Department of Chemical Engineering****Funded Project Proposal submitted by the department**

<b>Sl. No</b>	<b>Name of the Faculty</b>	<b>Title of the Project</b>	<b>Date of submission</b>	<b>Type and amount (Rs)</b>	<b>Name of the Agency</b>
1.	Dr. Keshava Joshi Dr. Lokeshwari N	Spatial distribution of health risk zones and water quality index with respect to nitrate and fluoride in ground and surface water at Hubli-Dharwad Region	16-05-2023	VRN/000466/22-23 K-Fist-L2 30 Lakh	VGST
2.	Dr. Keshava Joshi Dr. Lokeshwari N	Investigation of AI and ML applications for effective water quality treatment and monitoring in typical biological waste water treatment plants	14-03-2023	Reference No. 182023009380 CRG 36 Lakh	SERB
3.	Dr. Rashmi S.H-PI Dr. Keshava Joshi- Co-PI	Effect of metal/metal oxide nano particles on structural, mechanical and antimicrobial activity of biodegradable polymer films for smart food packaging	14-03-2023	VRN/000615/22-23 K-Fist L1 20 Lakh	VGST-K

**Department of Chemical Engineering**  
**Details of Faculty participation**

Sl. No	Name of the Faculty	Details of the FDP/Training/STTP/Invited	Date and Place	No of Days
<b>2022-23</b>				
1.	Dr. Keshava Joshi Dr. Lokeshwari N Dr. Rashmi S. H.	One-week self-sponsored online short-term course on Advances in Energy and Environment for Sustainable Development, jointly organized by the Department of Chemical Engineering and the Center for Energy and Environment at the Dr. B.R. Ambedkar National Institute of Technology, Jalandhar	1 <sup>st</sup> -5 <sup>th</sup> June 2023 NIT, Jalandhar	5
2.	Dr. Keshava Joshi Dr. Lokeshwari N Prof. S.S. Inamdar Prof. H.S. Ashoka Dr. Rashmi. S.H	One Day workshop on IPR, Patents and Prior arts held at SDM College of Engineering and Technology, Dharwad.	29 <sup>th</sup> May 2023 SDMCET-Dharwad	1
3.	Dr. Shivanand Y.A.	Invited as Panel Judge to evaluate the Institutional Poster Presentations for National Science Day Celebration at SDM University.	3-02-2023 SDM University	1
4.	Dr. Keshava Joshi, Dr. Lokeshwari N Prof. Kiran Rathod	As a career advancement scheme, a team of visited the Gurudeva PU College at Dharwad. The presentation was done for the PU II students on Making career in Chemical Engineering. The idea was to enhance the students and bring awareness in the field of chemical engineering.	23-01-23 Dharwad	1
5.	Dr. Keshava Joshi Dr. Lokeshwari N Dr. Rashmi S.H.	Recent Advancements in Sustainable Energy Storage & Conversion organized by the Department of Mechanical Engineering, G. Pulla Reddy Engineering College (Autonomous). Kurnool. Andhra pradesh.	23 <sup>rd</sup> Jan to 27 <sup>th</sup> Jan 2023 Andhra pradesh	5
6.	Prof. Kiran Kumar Rathod	One day workshop on the role of higher education institution in rural development organized by Unnat Bharat Abhian (RCI), in KUD, Dharwad.	26-12-2022 KUD, Dharwad	1
7.	Prof. Kiran Kumar Rathod	Talk on Chemical safety in production industry at IEI Local Center Dharwad.	27-12-2022 Dharwad	1
8.	Dr. Keshava Joshi Dr. Lokeshwari N Dr. Rashmi S.H.	Six Days Faculty Development Programme (FDP) on Current Trends in Nanomaterials and Its Applications organized by the Department of Chemical Engineering, School of Bioengineering, College of Engineering and Technology.	22 <sup>nd</sup> to 27 <sup>th</sup> August 2022 SRM Institute of Science and Technology Kattankulathur Tamil Nadu, India.	6

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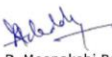



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**CERTIFICATE**  
OF PARTICIPATION

This certificate is presented to  
*Lokeshwari Navalgund*

For his/her participation in the 5-Day Online National Level Faculty Development Program on  
**Recent Advancements in Sustainable Energy Storage & Conversion**  
organized by the Department of Mechanical Engineering held from  
23rd to 27th January 2023

 Dr. R. Meenakshi Reddy Convenor	 Dr. Y. V. Mohana Reddy Patron & HOD, ME	 Dr. B. Sreenivasa Reddy Chief Patron & Principal
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**Dr B R Ambedkar National Institute of Technology,**  
**Jalandhar-144027, Punjab (India)**

**Self-Sponsored Online Short-Term Course on**  
**"Advances in Energy and Environment for Sustainable Development"**  
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**Certificate**

This is to certify that **Dr LOKESHWARI NAVALGUND** from **SDM College of Engineering and Technology, Dharwad** has participated in the one week self-sponsored online short-term course on **"Advances in Energy and Environment for Sustainable Development"** jointly organized by Department of Chemical Engineering and Center for Energy & Environment, Dr B R Ambedkar National Institute of Technology, Jalandhar during June 1-5, 2023.

 (Dr. Neetu Divya) Coordinator	 Dr Anurag Kumar Tiwari Coordinator	 (Dr. N. K. Srivastava) Coordinator
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**FACULTY DEVELOPMENT PROGRAMME**  
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**CURRENT TRENDS IN NANOMATERIALS AND ITS APPLICATIONS**  
(Blended Mode)  
**CTNA - 2022**  
22 - 27 August, 2022  
Organized by  
Department of Chemical Engineering  
College of Engineering and Technology  
SRM Institute of Science and Technology  
Kattankulathur - 603 203, Tamil Nadu, India

**PARTICIPATION CERTIFICATE**

This is certified that **Dr. Lokeshwari Navalgund, Assistant Professor**  
of **SDM College of Engineering and Technology, Dharwad** participated in the Six  
Days Faculty Development Programme on Current Trends in Nanomaterials and its Applications (CTNA 2022)  
held during **22 – 27 August, 2022**.



 <b>Dr. E. KAVITHA</b> Assistant Professor Chemical Engineering, SRMIST Co- Convener, CTNA – 2022	 <b>Dr. D. NANDITHA</b> Assistant Professor Chemical Engineering, SRMIST Co- Convener, CTNA – 2022	 <b>Dr. K. SURESH</b> Head of the Department Chemical Engineering, SRMIST Convener, CTNA – 2022	 <b>Dr. M. VAIRAMANI</b> Chairperson School of Bioengineering SRMIST
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


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**Dr B R Ambedkar National Institute of Technology,**  
**Jalandhar-144027, Punjab (India)**  
**Self-Sponsored Online Short-Term Course on**  
**"Advances in Energy and Environment for Sustainable Development"**  
**(AEESD 2023)**

**Certificate**

This is to certify that **Dr RASHMI S H** from **SDM College of Engineering and Technology, Dharwad**, has participated in the one week self-sponsored online short-term course on **"Advances in Energy and Environment for Sustainable Development"** jointly organized by Department of Chemical Engineering and Center for Energy & Environment, Dr B R Ambedkar National Institute of Technology, Jalandhar during June 1-5, 2023.

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SRM Institute of Science and Technology  
Kattankulathur - 603 203, Tamil Nadu, India

**PARTICIPATION CERTIFICATE**

This is certified that **Dr. Keshava Joshi, Assistant Professor**  
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held during 22 - 27 August, 2022.

 <b>Dr. E. KAVITHA</b> Assistant Professor Chemical Engineering, SRMIST Co- Convener, CTNA - 2022	 <b>Dr. D. NANDITHA</b> Assistant Professor Chemical Engineering, SRMIST Co- Convener, CTNA - 2022	 <b>Dr. K. SURESH</b> Head of the Department Chemical Engineering, SRMIST Convener, CTNA - 2022	 <b>Dr. M. VAIRAMANI</b> Chairperson School of Bioengineering SRMIST
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 <b>(Dr. Neetu Divya)</b> Coordinator	 <b>Dr Anurag Kumar Tiwari</b> Coordinator	 <b>(Dr. N. K. Srivastava)</b> Coordinator
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## Department of Chemical Engineering-SDMCET

### Student's participation and awards in 2022-23

Sl. No.	Name of the student	Title of the Event/Title of the Paper	Date of the Event	Name of the College/Organization	Awards Won/ Participated
1.	Mr. Appasab K Waghmore, Ms. Priyanka Patil, Ms. Bavu Ghatakamble & Ms. Anusha Raichur	45th Series of Student Project Programme (SPP), KSCST Project title: Preparation & Characterization of Activated Carbon from Corncob & Coconut shell for cation adsorption	12-13 <sup>th</sup> August, 2022	VTU Belagavi	Participated
2.	Sagir K. Khan, Shahanik M. Baligar, Prekasha Bafna, Ayesha Nadaf	45th Series of Student Project Programme (SPP), KSCST Project title: Design and fabrication of a system to capture aerial CO <sub>2</sub>	12-13 <sup>th</sup> August, 2022	VTU Belagavi	Participated
3.	Sagir K. Khan, Shahanik M. Baligar, Prekasha Bafna, Ayesha Nadaf	Manthan 2022 Business Plan Award DESIGN AND FABRICATION OF A SYSTEM TO CAPTURE AMBIENT CO <sub>2</sub>	Sept 2022	Manthan Bangalore	The team has bagged the 5 <sup>th</sup> prize among the top 6 teams selected in the final jury. The prize includes a cash prize of 2 Lakh. Also its the only one and first engineering college in Karnataka to gain this prize in 2022.
4.	Shreya A Naik, Annapoorneshwari Suresh, Smriti Kulkarni & Medha S Otageri	Poster presentation event at the National Science day 2023 for Synthesis of Bio-ethanol from Textile Refuse" held at SDM University	28 <sup>th</sup> Feb 2023	SDM University, Dharwad	4 <sup>th</sup> Place Award of 7500 Cash prize.
5.	Shreya A Naik, Annapoorneshwari Suresh, Smriti Kulkarni & Medha S Otageri	9 <sup>th</sup> National Conference for "Sustainable Trends in Energy and Environmental Resources (STEER-2023)" held at ACE – IICHe SSN student Chapter, Department of Chemical Engineering, SSN College of Engineering, Chennai	16 <sup>th</sup> -17 <sup>th</sup> March 2023	SSN College of Engineering, Chennai	First Prize
6.	Akash Gawade	Paper presentation	26 <sup>th</sup> -27 <sup>th</sup> May 2023	National Level Technical Symposium Insignia 23 held at SDMCET-Dharwad.	Second Prize
7.	Annapoorneshwari Suresh &	Amalgam	26 <sup>th</sup> -27 <sup>th</sup> May 2023	National Level Technical	First Prize

	Medha S.O			Symposium "Insignia 23" held at SDMCET, Dharwad.	
8.	Sonali P.H & Sakshi R.B	Amalgam	26 <sup>th</sup> -27 <sup>th</sup> May 2023	National Level Technical Symposium "Insignia 23" held at SDMCET, Dharwad.	Second Prize
9.	Devinand Prabhu & Yashas James	Chem expedition	26 <sup>th</sup> -27 <sup>th</sup> May 2023	National Level Technical Symposium "Insignia 23" held at SDMCET, Dharwad.	First Prize
10.	Amruta Deshpande & Anishka Ghodke	Chem expedition	26 <sup>th</sup> -27 <sup>th</sup> May 2023	National Level Technical Symposium "Insignia 23" held at SDMCET, Dharwad.	Second Prize



**Department of Chemical Engineering**  
**Industry Internships for 2022-23**

Sl. No.	Name of the Student	Name of the Company	From date	To date	Duration (days)
1.	NARASANAGOUDA PATIL	Vigneshwar Polymers Ltd, Dharwad	22.08.2022	22.09.2022	32 days
2.	BHAGYASHREE KORI	Pepsi Varun Beverages Ltd, Dharwad	10.08.2022	10.09.2022	32 days
3.	PRIYANKA	Vigneshwar Polymers Ltd, Dharwad	22.08.2022	22.09.2022	32 days
4.	MANJUNATH NARAGUND	Vigneshwar Polymers Ltd, Dharwad	22.08.2022	22.09.2022	32 days
5.	NAMEERA SHAIKH	Kirit Home Industries	03.03.2022	02.04.2022	31 days
6.	SHRIPRIYA AGNOHOTRI	Kirit Home Industries	03.03.2022	02.04.2022	31 days
7.	VAIBHAVI TOTAD	Kirit Home Industries	03.03.2022	02.04.2022	31 days
8.	ABHISHEK BADIGER	Dharwad, Haveri, Gadag and Uttarakannada Districts Co-Operative Milk Union Ltd., Dharwad	17.08.2022	01.09.2022	16 days
9.	ABHISHEK BADIGER	Nichrome Testing Lab. & Research Pvt, Ltd, Dharwad	30.08.2021	30.09.2021	31 days
10.	AKASH B	Dharwad, Haveri, Gadag and Uttarakannada Districts Co-Operative Milk Union Ltd., Dharwad	17.08.2022	15.09.2022	30 days
11.	AKASH GAWADE	Aditya Birla Hindalco Industries Ltd, Belagavi	10.08.2022	09.09.2022	31 days
12.	AMRUTA DESHPANDE	Pepsi Varun Beverages Ltd, Dharwad	10.08.2022	10.09.2022	32 days
13.	ANISHKA GHODKE	Pepsi Varun Beverages Ltd, Dharwad	10.08.2022	10.09.2022	32 days
14.	ANKITA KULKARNI	Dharwad, Haveri, Gadag and Uttarakannada Districts Co-Operative Milk Union Ltd., Dharwad	01.09.2021	30.09.2021	30 days
15.	DEVINAND PRABHU	Mangalore Refinery and Petrochemicals Ltd, Mangalore	01.08.2022	18.08.2022	18 days
16.	GANESH KESAPNATTI	Shree Renuka Sugar Ltd., Munoli	04.09.2021	04.10.2021	31 days
17.	GANESH KESAPNATTI	Mangalore Refinery and Petrochemicals Ltd, Mangalore	01.08.2022	18.08.2022	18 days
18.	JAYESH BHOMKAR	Nichrome Testing Lab. & Research Pvt, Ltd, Dharwad	30.08.2021	30.09.2021	31 days
19.	JAYESH BHOMKAR	Dharwad, Haveri, Gadag and Uttarakannada Districts Co-Operative Milk Union Ltd., Dharwad	17.08.2022	01.09.2022	16 days
20.	KALYANKUMAR SUNDAKAR	Vishwaraj Sugar Industry Pvt, Ltd, Bellad-Bagewadi	28.07.2022	28.08.2022	31 days
21.	LALESAB MAHISHAWADAGI	Vigneshwar Polymers Ltd, Dharwad	22.08.2022	22.09.2022	32 days

22.	NAYANA B DODDWAD	Dharwad, Haveri, Gadag and Uttarakannada Districts Co-Operative Milk Union Ltd., Dharwad	01.09.2021	30.09.2021	30 days
23.	NIKITA SAWANT	Omkrown Pharmachem Pvt. Ltd, Belagavi	01.09.2021	30.09.2021	30 days
24.	POOJA JAKKANAWAR	Omkrown Pharmachem Pvt. Ltd, Belagavi	01.09.2021	30.09.2021	30 days
25.	PRAVEEN B TUPPAD	Vigneshwar Polymers Ltd, Dharwad	22.08.2022	22.09.2022	32 days
26.	SANATH SHETTY	BASF India Ltd., Mangalore	01.08.2022	31.08.2022	31 days
27.	SAYEDA KHADRI	Dharwad, Haveri, Gadag and Uttarakannada Districts Co-Operative Milk Union Ltd., Dharwad	01.09.2021	30.09.2021	30 days
28.	SHAMBHAVI VYAS	Nestle India Ltd, Nanjangud Factory, Mysore District	08.08.2022	08.09.2022	30 days
29.	SHIV SHASHANK SHETTY	Mangalore Refinery and Petrochemicals Ltd, Mangalore	01.08.2022	18.08.2022	18 days
30.	SHIV SHASHANK SHETTY	Dharwad, Haveri, Gadag and Uttarakannada Districts Co-Operative Milk Union Ltd., Dharwad	12.09.2022	26.09.2022	15 days
31.	SHIVAKUMAR BHAJANTRI	Dharwad, Haveri, Gadag and Uttarakannada Districts Co-Operative Milk Union Ltd., Dharwad	24.08.2022	23.09.2022	30 days
32.	SHRINIDHI G K	Shree Renuka Sugar Ltd., Munoli	04.09.2021	04.10.2021	31 days
33.	SHRINIDHI G K	Mangalore Refinery and Petrochemicals Ltd, Mangalore	01.08.2022	18.08.2022	18 days
34.	SWATI PATIL	Dharwad, Haveri, Gadag and Uttarakannada Districts Co-Operative Milk Union Ltd., Dharwad	01.09.2021	30.09.2021	30 days
35.	VAISHNAVI A	Bhuruka Gases Ltd, Bangalore	01.08.2022	30.08.2022	30 days
36.	YASHAS JAMES P A	Mangalore Refinery and Petrochemicals Ltd, Mangalore	06.09.2021	24.09.2021	19 days
37.	YASHAS JAMES P A	BASF India Ltd., Mangalore	01.08.2022	31.08.2022	31 days

## Department of Chemical Engineering-SDMCET

### Training Organized

Sl. No.	Name of the Training	No of Participants	Date and Venue Resource person	Academic Year
1.	Aptitude Training	485	17 <sup>th</sup> , 18 <sup>th</sup> and 19 <sup>th</sup> June 2022	2022-23
2.	Aptitude Training	319	24 <sup>th</sup> , 25 <sup>th</sup> and 26 <sup>th</sup> sept 2022	2022-23
3.	Aptitude Training	752	16 <sup>th</sup> and 17 <sup>th</sup> Dec 2022	2022-23
4.	Water and Microbiology Analysis". The program was conducted at Nichrome Industries Pvt. Ltd., in the area of Microbiology and water analysis for 3 <sup>rd</sup> Semester	24	10th -11th Feb 2023 Dr. Krishna Kulkarni, Prof. Ambarish Sindagi and Mr. Udhoji.K.F were resource persons along with Lab Technicians	2022-23
5.	Process Modeling and Control" in P-CAD lab, SDMCET for VII semester Chemical Engineering Students.	32	25th – 26th December 2022 Dr. Meenatchi Sundaram, Technical Consultant and mentor from Advanced Control Equipment's. Sangli	2022-23
6.	Waste Water Analysis and Training in Atomic Absorption Spectrophotometer for the analysis of Trace Elements" at Nichrome Testing Laboratory and Research (P) LTD., Dharwad for the V Semester students	24	2nd -3rd Dec 2022 from 9.30 AM to 5.30 PM.	2022-23



### Seminars and workshops organized

Sl. No.	Name of the Seminar	No of Participants	Date and Venue	Academic Year
1.	World Environment Day 2023 with the theme Beat the plastic pollution	200	5th June 2023	2022-23
2.	Mass Mobilization on Mission Life Protecting & safe guarding our Environment  Sr. Jagadeesh I.H., Environmental Officer KSPCB-Dharwad.  Smt. Lalita Dodwad  Assistant Scientific officer KSPCB-Dharwad.	80	16th May 2023	2022-23

### Department of Chemical Engineering Alumni/Industrial person Interaction

Sl. No	Name of the Alumni/ Industrial Person Details of Work place Title of Talk	No of Participants	Date of event	Academic Year
1.	Webinar on "Making a Global Career in Chemical Engineering" by Ms. Anusha Bhat, Research Scholar, Erasmus Mundus Joint Master's Degree, Aalto University, Espoo, Finland	30	18-05-2023	2022-23