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

Department of Mathematics

STRATEGIC PLAN IMPLEMENTATION REPORT



Audit Report of Strategic Plan for the Year 2022 July 2022 to to June 2023

INTRODUCTION:

The purpose of this document is to record the progress of the Department based on their stated strategic plan for the year 2022--2023 (starting from July 2022 and ending by 30st June 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:

 ${\it Chairman: Principal, SDMCET, Dharwad}$

Members: Dean Academic Program Dean R & D 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. Jenifer J.Karnel, AssociateProfessor and Head, Department of Mathematics, SDM College of Engineering and Technology, Dharwad-580002.

Email: hodmaths @ sdmcet.ac.in Mobile:8884419523

2. DR. Jenifer J.Karnel, Faculty I/C- Strategic Plan, Department of Mathematics, SDM College of Engineering and Technology, Dharwad-580002.

Email: hodmaths @ sdmcet.ac.in

Mobile:8884419523

		Year 2022					
Focus	Perspective/ Key Areas [2]	PLANNING	Observations / Remarks by Auditors				
[1]		[3]	Outcomes achieved [4]	Reasons for any deviation [5]	Further action plan, if applicable [6]	•	
F1 / M1 Curriculum Relevance	Re-establishing the relevance of critical thinking in Course outcomes and raising learning levels focusing on Experiential learning of NEP-2020.	 Activity 1: Framing syllabus Outcome/Target: Preparation of full syllabus with COs and POs mapping. Branch specific Syllabus to be framed as per requirement of department. Final syllabus as per NEP 2020 to meet OBE. Budget: 00.10 Lakhs Deliverables: Documents of BOS conducted. In-charge Faculty: Dr.Jenifer J.Karnel Mobile:8884419523 Email:hodmaths@sdmcet.ac.in 	documented. (I 3. The highlights	in a prescribed Pre-BOS) of the BOS were no of syllabus focus. O were reframed is. s of the syllabus put bus of (II year syllating Mathematics -I(2) ing Mathematics-IV (athematics (Open I modified in modified in modified in modified in	using on experimental learning as per the changes made tup in BoS abus) 21UMAC100), (21UMAC200), (21UMAC400), Elective)(18UMOE675). Engineering Mathematics-	ning e in	

(4) 21UMBA301-Mathematics (Bridge course) for III semester &
21UMBA401- Mathematics (Bridge course) for IV semester, lateral
entry, was framed. (Bridge course Syllabus)
(5) Branch specific as per department requirement syllabus was framed
for
(i) Engineering mathematics-III (21UCSM300)
(ii) Engineering mathematics-IV (21UCSM400)
(iii) Engineering mathematics-III (21UECM300)
(iv) Engineering mathematics-IV (21UECM400)
(v) Engineering mathematics-III (21UISM300)
(vi) Engineering mathematics-IV (21UISM400).
(6) No changes were made in the I semester PG syllabus
(i) Applied Mathematics-22PDEC100 (M.Tech in Digital
Electronic)
(ii) Applied Mathematics-22PEPC100 (M.Tech in Electrical
Power system)
(iii) Computational Methods in Engineering-22PEAC100
(M.Tech in Engineering Analysis and Design).
(7) 5% change in Mathematics 22PCSC100-(M.Tech in computer science and engineering).

		(0) P 1 'C 1 1 1 C 1
		(8) Branch specific as per department requirement syllabus was framed
		for (i) Applied Mathematics- 22PCDC100- (M.Tech in Computer
		Aided Design of structures). (ii) Advanced Mathematics -22PITC100 - (M.Tech in Information Technology. (PG Syllabus)
		As per the direction of Vice-Chancellor of VTU, scheme and syllabus were introduced stream wise for first year. (<u>Document</u>).
		Pre-BoS was held on 30-5-2023
		It was decided to
		i)Not to changes in I year syllabus.
		ii)II year syllabus to changed to the tune of 10% and have common syllabus.
		(iii) No change in lateral entry mathematics syllabus.
		(iv) No changes in I sem PG syllabus, except for 5% change in Mathematics 22PCSC100-(M.Tech in computer science and engineering)
Re-establishing the relevance of Program Articulation Matrix-PAM	 Activity 1: Reviewing current PAM with respect to meeting POs through theory / labs to identify the gaps. Establishing the PAM to overcome the gaps. Outcome/Target:Bridging the gaps to meet OBE. 	 Mathematics laboratory was introduced as per the new scheme of VTU Four faculty attended three days workshop on Python to acquire knowledge about the lab components to teach Engineering Mathematics using Python. (Document) Lab manual is under preparation. (Draft is referred).(Document) Mathematics lab is conducted on regular bases. (Document) Students write the problem executed in the lab in Journal (Document).
	Budget: 00.10 Lakhs.	

Deliverables: 1.Documents on minutes of meeting held. In-charge Faculty: Dr. Basavaraj Hoogar Mobile: 8951582908 Email: basavarajsh.12@gmail.com	
	Page 6 of 17

Activity 1: Two internal IOAC/DUGC team formation(Document) **Outcome/Target:** Maintain quality of Internal/External question paper. Budget: 00.05 Lakhs. **Activity 1:** (2021-22) Scrutinized I.A question paper. **Deliverables:** Documents on minutes of meeting at Scrutinized I.A question papers and SEE/STC question papers department level and BOE held for SEE. (Document) Department Internal audit (Document) conducted by Prof. Asma Tategar, **In-charge Faculty:** Department of Chemistry, SDMCET, Dharwad. Dr. Varsha D.Joshi Mobile: 8147886040 (2022-23) Scrutinized I.A question paper. Email: varshajoshi@gmail.com **Conducting** Scrutinized I.A question papers and SEE/STC question papers internal and (Document). **External Audits** Department Internal audit (Document) conducted by Prof.Asma Tategar, Department of Chemistry, SDMCET, Dharwad on 28-2-2023. (Document) **Activity 2:** External academician identified for audit. **Activity 2:** External audit (Document) conducted on (29-7-2022) by external **Outcome/Target:** academicians Dr.P.G.Patil, Chairman, Karnatak University, Dharwad. Maintain quality of Internal/External question paper. **Budget: 00.05 Lakhs Deliverables:** Documents of feedback by external auditor **In-charge Faculty:** Dr. Varsha D.Joshi Mobile: 8147886040 Others- if any

		Year 2022				
Focus	Perspective/ Key Areas [2]		Observations / Remarks by Auditors			
[1]		PLANNING	Outcomes	Reasons for any	Further action plan, if	
[*]		[3]	achieved	deviation	applicable	
			[4]	[5]	[6]	
	Bridge Course for Lateral entry students	Activity: Bridge course for lateral entry students.(II year) Outcome/Target: Strong in basics to handle engineering mathematics and its application from second year onwards. Budget: 00.01 Lakhs Deliverables: 1 Attendence of students. 2. Question papers of I.A's conducted. 3. Assignments 4. Result of I.A conducted. In-charge Faculty: Prof.Preeti Jinagouda Mobile: 9036242778 Email:preetijinagouda@gmail.com	Lateral entry classes completed for the year 2021-22 in the month of (Document). 2022-23 Lateral entry classes for the year 2022-23 are are complete odd semester.(Document). Lateral entry classes for IV semester are in progress.(Document)			
F2 M1,M2,M4 Exam Results	Slow learners	Activity: Remedial classes for slow learners. Outcome/Target: Students are identified based on their I.A scores(preferably <8).Help them build confidence in understanding the concept. Budget: 00.01 Lakhs Deliverables: 1. Attendance of students. 2. Topics covered 3. Monitoring the level of understanding. In-charge Faculty: Prof.P.S.Badiger Mobile: 9741143057 Email:prakashbadiger601@gmail.com	Remedial classes (2021-22) were conducted for slow (students scoring <8 marks in their internal) and for students who have not understood the concept in regular classes (Document). 2022-23 Remedial classes for the odd semester for the year (20 were conducted for slow learners (students scoring <8 their internal) and for students who have not understoconcept in regular classes. (Document). Remedial classes for even semester classes are in programment.			
	Tutorials for complex courses Activity: 2 tutorials per unit Outcome/Target: To understand the topic in-depth. Budget: 00.01 Lakhs Deliverables: 1. Attendence of students. 2. Asssignment In-charge Faculty: Prof.P.S.Badiger Mobile: 9741143057 Email:prakashbadiger601@gmail.com		2021-22 Two tutorials/unit were conducted for UG (Document). 2022-23 Two tutorials/unit are being conducted for UG (Documents).			

Strengthening Experiential Learning component:	Activity-: CTA from Mathematics lab component Target/ Outcomes: Concepts in Mathematics are understood through mathematics lab.Students are evaluated on the basis of the concept learnt in mathematics lab Budget: 00.01 Deliverables: 1. Lab journel maintained 2. Attendence of students. 3. Marks obtained in the lab test which is conducted at the end of semester. In-charge Faculty: Dr. Basavaraj Hoogar Mobile: 8951582908 Email: basavarajsh.12@gmail.com	 Mathematics lab using Python started for I semester from 28-12-2023.(Document). Mathematical Problems executed in the lab are maintained by students in their Lab Journal.(Document) Semester end tes was conducted, marks of which will be considered for CTA . (Rubric Document).
Creation of learning	Activity-1: 5-6 Video's on topics covered during semester. Target/ Outcomes: Students can refer to the topics to understand better. Budget: 00.01 Lakhs Deliverables: Links of video created. In-charge Faculty: Prof.Shrikanth Kanguri. Mobile:9686799402 Email:shreekant.kanguri@gmail.com	Activity-1: 2022-23 Study vedios uploaded on you tube for the current academic.(Document with links). Study material shared to students through Google classroom (Documents)
materials	Activity-2: Lab manual Target/ Outcomes: Students can refer to the manual to work /visualize on the concepts of mathematics Budget: 00.01 Lakhs Deliverables: Copy of the manual In-charge Faculty: Prof.Shrikanth Kanguri. Mobile:9686799402 Email:shreekant.kanguri@gmail.com	Activity-2: Under preparation. Presently referring manual prepared by VTU (Lab Manual -1, Lab Manual -2)

	& Dr. Basavaraj Hoogar Mobile: 8951582908 Email: basavarajsh.12@gmail.com	
Awareness of Technology trends	Activity-1: Interaction with industry expert Target/ Outcomes: To understand and apply/relate to their course content. Budget: 00.02 Lakhs Deliverables: Documentation of the program planned. In-charge Faculty: Dr.Jenifer J.Karnel Mobile:8884419523 Email:hodmaths@sdmcet.ac.in	Not yet started
Online Course/ mode of learning and their connectivity with curriculum	Activity-1: Registering for online courses and getting certified through exam. Target/ Outcomes: Update with new emerging areas, and introduce them to students. Budget: 00.01 Lakhs Deliverables: Certificate of completion of course In-charge Faculty: Dr.Jenifer J.Karnel Mobile:8884419523 Email:hodmaths@sdmcet.ac.in	
Community Oriented Services	Activity-1: Coaching in mathematics to students of low financial background in neighbouring vicinity schools. Target/ Outcomes: Students get free coaching, and also get introduced to higher learning. Budget: 00.05 Lakhs	Identified two schools. Yet to begin

Deliverables: 1.Documents maintained regarding tie-up with any school/NGO. 2. Records of students attending the classes. In-charge Faculty: Prof.Preeti Jinagouda Mobile: 9036242778 Email:preetijinagouda@gmail.com	
---	--

		Year 2022			
Focus	Perspective/ Key Areas [2]		Observati	ons / Remarks by A	Auditors
[1]		PLANNING [3]	Outcomes achieved [4]	Reasons for any deviation [5]	Further action plan, if applicable [6]
F3 M3 Research	Quality assessment of all research proposals	Target/ Outcomes: 1. With experience high quality papers are reviewed. 2. Be updated with any emerging fields. Budget:00.10 Lakhs Deliverables: 1. Document of communication. 2. List of papers. In-charge Faculty: Dr.D.P.Basti Email:dpbasti2016gmail.com Mobile: 9900364739 Activity-1: Research work patent Outcome/Target: High quality research work getting patented.	Not yet initiated the act topic.		

	Budget :00.25 Lakhs	
	Deliverables:	
	1.Documents on communication with agency.	
	2. Patented document.	
	In-charge Faculty:	
	Dr.Shailaja S.Shirkol Mobile: 9482560244	
	Email:shailajashirkol@gmail.com	
	Activity-1: Publication of 4-5 research papers.	
	Outcome/Target:	
	Improvement in research Publications	
Paper	Increase in number of publications	6 faculty have published 12 research papers (<u>Document</u>)
Publications	Budget :00.25 Lakhs	, , , , , , , , , , , , , , , , , , ,
	Deliverables:	
	List of research papers with corresponding Links . In-charge Faculty:	
	Dr.D.P.Basti Email:dpbasti2016gmail.com Mobile: 9900364739	

Funded Projects	Activity-1: Formation of core team to assess quality and review. Identification of emerging and interdisciplinary areas of research Outcome/Target: Improving success rate of research proposal acceptance. Secure external funding. Budget:00.25 Lakhs Deliverables: 1.Documents on communication with funding agency. 2.Report on various stages of the ongoing project In-charge Faculty: Dr. Shailaja S. Shirkol Mobile: 9482560244 Email: shailajashirkol@gmail.com	 Submitted a project proposal "The theoretical study of problems in squeeze film behavior under lubrication conditions" to VGST, Principal Investigator: Dr.D.P.Basti.(not accepted) CO- Principal Investigator: Dr.Shailaja.(Not accepted) Submitted a project proposal "Mathematical Modelling of Squeeze film Behavior under Lubrication conditions" to SERB, Principal Investigator: Dr.D.P.Basti.(Not accepted) Received a seed money of Rs.1,10000/- towards the project Titled "Experimental and computational studies of organic/polymeric derivatives in corrosion inhibition of Mild steel"(On-going) Principal Investigator: Dr.A.A.Kittur CO- Principal Investigator i)Dr.Shailaja (Dept of Mathematics)
Knowledge Sharing.	Activity-1: To attend international conference. Target/ Outcomes: To uplift the quality of research work through interaction. Budget:00.25 Lakhs Deliverables: 1. List of papers. 2. Report on conference attended. In-charge Faculty: Dr. Shailaja S. Shirkol Mobile: 9482560244 Email:shailajashirkol@gmail.com	Three faculties attended international conference and presented 5 research papers.(Document)

				Year 2022		
		Observations / Remarks by Auditors				
Focus	Perspective/ Key Areas	PLANNING	Ou tco me s ach iev ed [4]	Reasons for any deviation [5]	Further action plan, if applicable [6]	
	Learning for Placement					
	Soft Skills Discussion Group					
	English Communication Skills					
F4 M2 & M5 Value additions	Use of ICT Information Communication Technology	Activity: Use of online platforms like Zoom, Google meet for online classes Using the google classroom service for the collection of assignments from students and to distribute the class notes wherever applicable. Use of audio video tools for the conduction of online classes as applicable. Effective use of Management Information System for the attendance and academic progress records of the students Outcome/Target: Enhancement of domain knowledge. Additional study material for the students. In-charge Faculty: Prof.Shrikanth Kanguri. Mobile:9686799402 Email:shreekant.kanguri@gmail.com	vide with		through google to designed curriculum are shared so as to understand the subject	
	Others- if any					

	Year 2022						
			Observations / Remarks by Auditors				
Focus	Perspective/ Key Areas	PLANNING	Outcomes achieved [4]	Reasons for any deviation [5]	Further action plan, if applicable [6]		

	Awareness Program							
F5 M3 & M5	Learning Programs through workshops	< Activity/ Outcomes/Targets and I/C to be mentioned here >	I Faculty					
	Technology Transfer Programs	< Activity/ Outcomes/Targets and I/C to be mentioned here >	l Faculty					
	Others- if any							
				2022				
			Y	ear 2022	Olement de la	a bank a Planta		
Focus	Perspective/		Observations / Remarks by Auditors Reasons for any Fig. 1					
	Key Areas	PLANNING	Outcomes achieved [4]		deviation [5]	Further action plan, if applicable [6]		
	No. of Offers							
F6	No. of students getting Placed		Not Applicable					
Placement	pay packages			9				
1 iactiiciit	being offered MoUs							
	Internship							
	Others- if any							
		Year 2022						
Focus	Perspectiv	ve Perspective Key Areas		Outcome s chieved [4]	Observations / R Reasons for any deviation [5]	emarks by Auditors Further action plan, if applicable [6]		

		NBA Faculty I/C: NBA Coordinator: Dr.Jenifer J.Karnel					
		NAAC Faculty I/C:	Activity-1: NAAC preparedness				
F7 Accreditation Ranking	and	NAAC Coordinator: Dr.Jenifer J.Karnel	Outcome/Target: Data collection and Documentation for submission	Documents submitted to administrative office as and when asked for.			
		NIRF ranking. Faculty I/C: Dr.Jenifer J.Karnel PG Coordinator:	Activity: Aiming for ranking within 200 Strengthening institute by publication in high impact journals, by getting more fund from external agency	 Published 12 research papers in international journals . Attended FDP, Seminars, Workshops, conferences and presented papers. Two inter-department project are ongoing. 			
		Others- if any					

	Year 2022						
Focus	Perspective	Perspective/ Key Areas	Observations / Remarks by Auditors				
			Outcomes achieved [4]	Reasons for any deviation [5]	Further action plan, if applicable [6]		
Others							

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							
II Quarter								
Q	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	PRINCIPAL