NATIONAL BOARD OF ACCREDITATION

Data Capturing Points of the Program Applied for NBA Accreditation– Tier I/II UG (Engineering) Institute Programs

Program Name : Biomedical Engineering	**Discipline**: Engineering & Technology
Level : Under Graduate	**Tier**: 1
Application No: 10763	**Date of Submission**: 07-08-2026

PART A- Profile of the Institute

A1.Name of the Institute: Dhanalakshmi Srinivasan Engineering College	
Year of Establishment : 2001	Location of the Institute: Perambalur
A2. Institute Address:No.3 Thuraiyur Road, Perambalur, Tamilnadu India	
City:Perambalur	State:Tamil Nadu
Pin Code:621212	Website:www.dsengg.ac.in
Email:dsengg_p28@yahoo.co.in	Phone No(with STD Code):04328-220444
A3. Name and Address of the Affiliating University (if any):	
Name of the University : AICTE	City: Chennai
State : Tamil Nadu	Pin Code: 600025
A4. Type of the Institution: Self-Supported Institute	
A5. Ownership Status: Self financing	

A6. Details of all Programs being Offered by the Institution:

- No. of UG programs: **17**
- No. of PG programs: **6**

Table No. A6.1: List of all programs offered by the Institute.

Sr.No.	Discipline	Level of program	Name of the program	Year of Start	Year of Closed	Name of The Department
1	Computer Application	PG	Master of Computer Application	2005	--	Computer Application
2	Engineering & Technology	UG	Aeronautical Engineering	2006	--	Aeronautical Engineering
3	Engineering & Technology	UG	Aerospace Engineering	2018	2023	Aerospace Engineering
4	Engineering & Technology	UG	Agricultural Engineering	2021	2025	Agricultural Engineering
5	Engineering & Technology	UG	Artificial Intelligence and Data Science	2020	--	Artificial Intelligence and Data Science
6	Engineering & Technology	UG	Biomedical Engineering	2005	--	Biomedical Engineering

7	Engineering & Technology	UG	Biotechnology	2022	2025	Biotechnology
8	Engineering & Technology	PG	CAD/CAM	2011	--	Mechanical Engineering
9	Engineering & Technology	UG	Chemical Engineering	2017	2025	Chemical Engineering
10	Engineering & Technology	UG	Civil Engineering	2008	--	Civil Engineering
11	Engineering & Technology	PG	Communication Systems	2006	--	Electronics and Communication Engineering
12	Engineering & Technology	PG	Computer Science and Engineering	2006	--	Computer Science and Engineering
13	Engineering & Technology	UG	Computer Science and Engineering	2001	--	Computer Science and Engineering
14	Engineering & Technology	UG	Computer Science and Engineering (Cyber Security)	2023	--	Computer Science and Engineering (Cyber Security)
15	Engineering & Technology	UG	Electrical & Electronics Engineering	2002	--	Electrical and Electronics Engineering
16	Engineering & Technology	UG	Electronics & Communication Engineering	2001	--	Electronics and Communication Engineering
17	Engineering & Technology	UG	Food Technology	2018	--	Food Technology
18	Engineering & Technology	UG	Information Technology	2001	--	Information Technology
19	Engineering & Technology	UG	Mechanical Engineering	2005	--	Mechanical Engineering
20	Engineering & Technology	UG	Pharmaceutical Engineering and Technology	2019	2025	Pharmaceutical Engineering and Technology
21	Engineering & Technology	PG	Power Electronics and Drives	2011	--	Electrical and Electronics Engineering
22	Engineering & Technology	UG	Robotics and Automation	2017	2025	Robotics and Automation
23	Management	PG	Master of Business Administration	2005	--	Management

A7. Programs to be considered for Accreditation vide this Application:

Table No. A7.1: List of programs to be considered for accreditation.

Name of the Department	Having Allied Departments	Name of the Program	Program Level
Biomedical Engineering	No	Biomedical Engineering	UG

Table No. A7.2: Allied Department(s) to the Department of the program considered for accreditation as above.
Cluster ID. Name of the Department (in table no. A7.1) Name of allied Departments/Cluster (for table no. A7.1)

No Record

PART-B: Program information

B1. Provide the Required Information for the Program Applied For:

Table No. B1: Program details.

A. List of the Programs Offered by the Department:

SR.NO.	PROGRAM NAME	PROGRAM APPLIED LEVEL	YEAR OF START / YEAR OF CLOSED	SANCTIONED INTAKE	INCREASE/DECREASE INTAKE (if any)	YEAR OF INCREASE/DECREASE	CURRENT INTAKE	YEAR OF AICTE APPROVAL	AICTE/COMPETENT AUTHORITY ARROVAL DETAILS	ACCREDITATION STATUS	FROM	TO	NO. OF TIMES PROGRAM ACCREDITED	PROGRAM DURATION
1	Biomedical Engineering	UG	2005 / --	60	Yes	2011	120	2011	AICTE	Granted accreditation for 3 years for the period (specify period)	2018	2021	1	4

List of the Allied Departments/Cluster and Programs:

B2. Detail of Head of the Department for the program under consideration:

A. Name of the HoD :	Dr. KARTHIKEYAN D
B. Nature of appointment:	Regular
C. Qualification:	M.E. and Ph.D.

B3. Program Details

Table No.B3.1: Admission details for the program excluding those admitted through multiple entry and exit points.

Item (Information to be provided cumulatively for all the shifts with explicit headings, wherever applicable)	2024-25 (CAY)	2023-24 (CAYm1)	2022-23 (CAYm2)	2021-22 (CAYm3)	2020-21 (CAYm4)	2019-20 (CAYm5)	2018-19 (CAYm6)
N=Sanctioned intake of the program (as per AICTE /Competent authority)	120	120	120	120	120	120	120
N1=Total no. of students admitted in the 1st year minus the no. of students, who migrated to other programs/ institutions plus no. of students, who migrated to this program	79	126	119	126	119	124	91
N2=Number of students admitted in 2nd year in the same batch via lateral entry including leftover seats	0	0	0	1	2	2	6

N3=Separate division if any	0	0	0	0	0	0	0
N4=Total no. of students admitted in the 1st year via all supernumerary quotas	0	0	0	0	0	0	0
Total number of students admitted in the program (N1 + N2 + N3 + N4) - excluding those admitted through multiple entry and exit points.	79	126	119	127	121	126	97

CAY= Current Academic Year. CAYm1= Current Academic Year Minus 1 CAYm2= Current Academic Year Minus 2. LYG= Last Year Graduate. LYGm1= Last Year Graduate Minus 1. LYGm2= Last Year Graduate Minus 2.

B4. Enrolment Ratio in the First Year

Table No. B4.1: Student enrolment ratio in the 1st year.

Year of entry	N (From Table 4.1)	N1 (From Table 4.1)	N4 (From Table 4.1)	Enrollment Ratio [(N1/N)*100]
2024-25 (CAY)	120	79	0	65.83
2023-24 (CAYm1)	120	126	0	105.00
2022-23 (CAYm2)	120	119	0	99.17

Average [(ER1 + ER2 + ER3) / 3] = 90.00≡ 20.00

B5. Success Rate of the Students in the Stipulated Period of the Program

Table No.B5.1: The success rate in the stipulated period of a program.

Item	(2020-21) LYG	(2019-20) LYGm1	(2018-19) LYGm2
A*= (No. of students admitted in the 1st year of that batch and those actually admitted in the 2nd year via lateral entry, plus the number of students admitted through multiple entry (if any) and separate division if applicable, minus the number of students who exited through multiple entry (if any).	122.00	126.00	126.00
B=No. of students who graduated from the program in the stipulated course duration	109.00	116.00	90.00
Success Rate (SR)= (B/A) * 100	89.34	92.06	71.43

Average SR of three batches ((SR_1+ SR_2+ SR_3)/3): 84.28

B6. Academic Performance of the First-Year Students of the Program

Table No.B6.1: Academic Performance of the First-Year Students of the Program.

Academic Performance	CAYm1(2023-24)	CAYm2(2022-23)	CAYm3 (2021-22)
X=(Mean of 1st year grade point average of all successful students on a 10-point scale) or (Mean of the percentage of marks of all successful students in 1st year/10)	8.20	8.23	8.18
Y=Total no. of successful students	120.00	113.00	125.00
Z=Total no. of students appeared in the examination	126.00	119.00	126.00
API [X*(Y/Z)]	7.81	7.82	8.12

Average API[(AP1+AP2+AP3)/3] : 7.92

B7: Academic Performance of the Second Year Students of the Program

Table No.B7.1: Academic Performance of the Second Year Students of the Program.

Academic Performance	CAYm1 (2023-24)	CAYm2 (2022-23)	CAYm3 (2021-22)
X=(Mean of 2nd year grade point average of all successful students on a 10-point scale) or (Mean of the percentage of marks of all successful students in 2rd year/10)	8.01	7.80	8.22
Y=Total no. of successful students	108.00	125.00	117.00
Z=Total no. of students appeared in the examination	113.00	126.00	120.00
API [X * (Y/Z)]	7.66	7.74	8.01

Average API [(AP1 + AP2 + AP3)/3] : 7.80

B8. Academic Performance of the Third Year Students of the Program

Table No.B8.1: Academic Performance of the Third Year Students of the Program

Academic Performance	CAYm1 (2023-24)	CAYm2 (2022-23)	CAYm3 (2021-22)
X=(Mean of 3rd year grade point average of all successful students on a 10-point scale) or (Mean of the percentage of marks of all successful students in 3rd year/10)	7.98	7.73	8.33
Y=Total no. of successful students	125.00	117.00	119.00
Z=Total no. of students appeared in the examination	125.00	117.00	122.00
API [X*(Y/Z)]:	7.98	7.73	8.13

Average API [(AP1 + AP2 + AP3)/3] : 7.95

B9. Placement, Higher Studies, and Entrepreneurship

Table No.B9.1: Placement, higher studies, and entrepreneurship details.

Item	LYG (2020-21)	LYGm1(2019-20)	LYGm2(2018-19)
FS*=Total no. of final year students	122.00	126.00	126.00
X=No. of students placed	102.00	95.00	96.00
Y=No. of students admitted to higher studies	11.00	13.00	16.00
Z= No. of students taking up entrepreneurship	1.00	1.00	2.00
Placement Index(P) = (((X + Y + Z)/FS) * 100):	93.44	86.51	90.48

Average Placement Index = (P_1 + P_2 + P_3)/3: 90.14 Placement Index Points:

PART C: Faculty Details in Department and Allied Departments

(Data to be filled in for the Department and Allied Departments)

C1. Faculty details of Department and Allied Departments

Table No.C1: Faculty details in the Department for the past 3 years including CAY

Sr.No	Name of the Faculty	PAN No.	Highest degree	University	Area of Specialization	Date of Joining in this Institution	Experience in years in current institute	Designation at Time Joining in this Institution	Present Designation	The date on which Designated as Professor/ Associate Professor if any	Nature of Association (Regular/ Contract/ Ad hoc)	Currently Associated (Y/N)	In case of NO, Date of Leaving	IS HOD?
1	Mrs. NIVEDHA A K	XXXXXXX29K	M.E.	ANNA UNIVERSITY	BIOMEDICAL ENGINEERING	24/06/2015	11.1	Assistant Professor	Assistant Professor		Regular	Yes		No
2	Mrs. KRISHNA PRIYA S	XXXXXXX41F	M.E.	ANNA UNIVERSITY	MEDICAL ELECTRONICS	12/09/2017	8.10	Assistant Professor	Assistant Professor		Regular	Yes		No
3	Mrs. RAMYA K	XXXXXXX94Q	M.E.	ANNA UNIVERSITY	MEDICAL ELECTRONICS	20/06/2016	10.1	Assistant Professor	Assistant Professor		Regular	Yes		No
4	Dr. KARTHIKEYAN D	XXXXXXX31L	M.E. and Ph.D.	ANNA UNIVERSITY	IMAGE PROCESSING	27/06/2019	7.1	Associate Professor	Professor	27/01/2026	Regular	Yes		Yes
5	Mr. NARAYANAN C	XXXXXXX78N	M.Tech	SASTRA UNIVERSITY	BIOMEDICAL SIGNAL PROCESSING AND INSTRUMENTATION	18/06/2008	18.1	Assistant Professor	Associate Professor	01/06/2011	Regular	Yes		No
6	Dr. SUTHA S	XXXXXXX26E	M.E. and Ph.D.	ANNA UNIVERSITY	CONTROL AND INSTRUMENTATION ENGINEERING	18/03/2019	7.4	Professor	Professor		Regular	Yes		No
7	Mrs. SASIKALA M	XXXXXXX75E	M.E.	ANNA UNIVERSITY	VLSI DESIGN	05/01/2018	8.4	Assistant Professor	Assistant Professor		Regular	No	29/05/2026	No
8	Mrs. VENNILA M R	XXXXXXX99F	M.E.	ANNA UNIVERSITY	COMMUNICATION SYSTEMS	10/06/2019	7.1	Assistant Professor	Assistant Professor		Regular	Yes		No
9	Ms. GOMATHI T	XXXXXXX92L	M.E.	ANNA UNIVERSITY	BIOMEDICAL ENGINEERING	26/06/2019	7.1	Assistant Professor	Assistant Professor		Regular	Yes		No
10	Mrs. JAYAHARI SHREE	XXXXXXX84E	M.E.	ANNA UNIVERSITY	COMMUNICATION AND NETWORKING	12/12/2019	6.5	Assistant Professor	Assistant Professor		Regular	No	29/05/2026	No
11	Mrs. VINOTHINI G	XXXXXXX61M	M.E.	ANNA UNIVERSITY	MEDICAL ELECTRONICS	16/08/2021	4.11	Assistant Professor	Assistant Professor		Regular	Yes		No
12	Mrs. RUBINA BEGAM M	XXXXXXX84J	M.E.	ANNA UNIVERSITY	MEDICAL ELECTRONICS	18/07/2022	4	Assistant Professor	Assistant Professor		Regular	Yes		No

13	Ms. YOGAPRIYA M S	XXXXXXX57D	M.E.	ANNA UNIVERSITY	BIOMEDICAL ENGINEERING	26/07/2022	4	Assistant Professor	Assistant Professor		Regular	Yes		No
14	Mrs. MUTHULAKSHMI S	XXXXXXX98L	M.E.	ANNA UNIVERSITY	BIOMEDICAL ENGINEERING	27/07/2022	4	Assistant Professor	Assistant Professor		Regular	Yes		No
15	Ms. ANTO MAURIN LISHA L	XXXXXXX95J	M.E.	ANNA UNIVERSITY	MEDICAL ELECTRONICS	18/07/2024	2	Assistant Professor	Assistant Professor		Regular	Yes		No
16	Mrs. VALLIMAYIL S	XXXXXXX21C	M.E.	ANNA UNIVERSITY	EMBEDDED SYSTEM TECHNOLOGIES	22/07/2024	1	Assistant Professor	Assistant Professor		Regular	No	30/07/2025	No
17	Mrs. ARCHANA J	XXXXXXX39K	M.E.	ANNA UNIVERSITY	MEDICAL ELECTRONICS	24/07/2024	2	Assistant Professor	Assistant Professor		Regular	Yes		No
18	Mrs. MURUGANANTHAM L	XXXXXXX32G	M.Tech	PRIST UNIVERSITY	POWER ELECTRONICS AND DRIVES	16/12/2019	6.7	Assistant Professor	Assistant Professor		Regular	Yes		No
19	Mrs. SRIDEVI R	XXXXXXX04K	M.E.	ANNA UNIVERSITY	COMMUNICATION AND NETWORKING	11/09/2023	2.10	Assistant Professor	Assistant Professor		Regular	Yes		No
20	Dr. PADMANABHAN S K	XXXXXXX28J	M.E. and Ph.D.	SATHYABAMA UNIVERSITY	ELECTRONICS AND COMMUNICATION ENGINEERING	04/01/2021	3.4	Professor	Professor		Regular	No	27/05/2024	No
21	Dr. LAKSHMANAPRABHU K	XXXXXXX37L	M.E. and Ph.D.	BS ABDUR RAHMAN CRESCENT INSTITUTE OF SCIENCE AND TECHNOLOGY	ELECTRICAL AND COMMUNICATION SCIENCES	03/06/2019	6.11	Associate Professor	Associate Professor		Regular	No	27/05/2026	No
22	Dr. ARIVAZHAGI P	XXXXXXX61K	M.E. and Ph.D.	ANNA UNIVERSITY	COMMUNICATION SYSTEMS	24/02/2021	3.3	Associate Professor	Associate Professor		Regular	No	27/05/2024	No
23	Mrs. ARCHANA R	XXXXXXX86G	M.E.	ANNA UNIVERSITY	MEDICAL ELECTRONICS	26/06/2017	6.11	Assistant Professor	Assistant Professor		Regular	No	27/05/2024	No
24	Mrs. CHANDRAVADIVU A	XXXXXXX67G	M.E.	ANNA UNIVERSITY	BIOMEDICAL ENGINEERING	13/06/2018	5.11	Assistant Professor	Assistant Professor		Regular	No	27/05/2024	No
25	Mrs. KAVIPRIYA C	XXXXXXX17H	M.E.	ANNA UNIVERSITY	MEDICAL ELECTRONICS	16/08/2021	2.9	Assistant Professor	Assistant Professor		Regular	No	27/05/2024	No
26	Mrs. CHANDRA R	XXXXXXX23H	M.E.	ANNA UNIVERSITY	COMMUNICATION SYSTEMS	16/12/2019	3.5	Assistant Professor	Assistant Professor		Regular	No	26/05/2023	No

27	Mrs. AGATHIYA S	XXXXXXX96Q	M.E.	ANNA UNIVERSITY	BIOMEDICAL ENGINEERING	10/06/2019	3.11	Assistant Professor	Assistant Professor		Regular	No	26/05/2023	No
28	Mr SELVAKUMAR P	XXXXXXX45K	M.Tech	SASTRA UNIVERSITY	VLSI DESIGN	16/09/2020	2.8	Assistant Professor	Assistant Professor		Regular	No	26/05/2023	No
29	Dr. TAMILCHELVAN R	XXXXXXX49A	M.E. and Ph.D.	ANNA UNIVERSITY	RF AND MICRWAVE SUBSYSTEM	16/09/2020	5.8	Associate Professor	Associate Professor		Regular	No	27/05/2026	No
30	Mr. DINESH KUMAR P	XXXXXXX91N	M.E.	ANNA UNIVERSITY	VLSI DESIGN	10/06/2019	3.11	Assistant Professor	Assistant Professor		Regular	No	26/05/2023	No
31	Mr. BALAKRISHNAN C	XXXXXXX81H	M.Tech	BHARTH UNIVERSITY	BIOMEDICAL ENGINEERING	16/12/2019	3.5	Assistant Professor	Assistant Professor		Regular	No	26/05/2023	No
32	Mrs. ARULTHILAGAVATHY M	XXXXXXX27B	M.E.	ANNA UNIVERSITY	VLSI DESIGN	16/09/2020	2.8	Assistant Professor	Assistant Professor		Regular	No	26/05/2023	No
33	Mr. RAGUL KANNAN R	XXXXXXX51B	M.E.	ANNA UNIVERSITY	CONTROL AND INSTRUMENTATION	16/08/2021	2.10	Assistant Professor	Assistant Professor		Regular	No	25/06/2024	No
34	Dr. KARTHIKEYAN K	XXXXXXX93E	M.Tech and Ph.D.	BHARATHIDASAN UNIVERSITY	BIOMEDICAL SCIENCE	19/12/2023	2.7	Assistant Professor	Assistant Professor		Regular	Yes		No
35	Dr. CHANDRAN M	XXXXXXX80H	M.Tech and Ph.D.	ANNA UNIVERSITY	BIOTECHNOLOGY	05/09/2022	3.11	Professor	Professor		Regular	Yes		No
36	Dr. VIGNESH RAJ S	XXXXXXX61D	M.Tech and Ph.D.	ANNA UNIVERSITY	NANO SCIENCE AND TECHNOLOGY	07/11/2022	3.9	Assistant Professor	Associate Professor	26/06/2023	Regular	Yes		No
37	Dr. KALANIDHI K	XXXXXXX95B	M.Tech and Ph.D.	ANNA UNIVERSITY	NANO SCIENCE AND TECHNOLOGY	04/03/2024	2.5	Assistant Professor	Associate Professor	27/03/2026	Regular	Yes		No
38	Mrs. R AARTHI	XXXXXXX59L	M.E.	ANNA UNIVERSITY	CONTROL AND INSTRUMENTATION	01/06/2022	4.2	Assistant Professor	Assistant Professor		Regular	Yes		No
39	Mr.AAKASH M	XXXXXXX54P	M.Tech	BHARATH INSTITUTE OF HIGHER EDUCATION AND RESEARCH	BIOMEDICAL ENGINEERING	04/08/2025	1	Assistant Professor	Assistant Professor		Regular	Yes		No
40	Ms.KAVIYALAKSHMI S	XXXXXXX93Q	M.E.	ANNA UNIVERSITY	MEDICAL ELECTRONICS	31/07/2025	1	Assistant Professor	Assistant Professor		Regular	Yes		No

41	Dr.SUMATHI J	XXXXXXX86C	M.Tech and Ph.D.	ANNA UNIVERSITY	BIOMEDICAL SIGNAL PROCESSING AND INSTRUMENTATION	15/04/2026	0.3	Associate Professor	Associate Professor		Regular	Yes		No

Table No.C2: Faculty details of Allied Departments for the past 3 years including CAY.

C2. Student-Faculty Ratio (SFR)

No. of UG(Engineering) programs in Department including allied departments/ clusters (UGn):
UG1=1st UG program
UGn=nth UG program
B= No. of Students in UG 2nd year (ST)
C= No. of Students in UG 3rd year (ST)
D= No. of Students in UG 4th year (ST)
No. of PG (Engineering) programs in Department including allied departments/ clusters (PGm):
PG1=1st PG program.
PGm=mth PG program
A= No. of Students in PG 1st year
B= No. of Students in PG 2nd year
Student Faculty Ratio **(SFR)** = S/F
S= No. of students of all programs in the Department including all students of allied departments/clusters.
No. of students (ST)=Sanctioned Intake (SA)+ Actual admitted students via lateral entry including leftover seats (L) if any (limited to 10 % of SA)
Students who admitted under supernumerary quotas (SNQ, EWS, etc) will not be considered in calculating SFR value. Those students are exempted.
F=Total no. of regular or contractual faculty members (Full Time) in the Department, including allied departments/clusters (excluding first year faculty (The faculty members who have a 100% teaching load in the first-year courses)).

No. of UG Programs in the Department1 No. of PG Programs in the Department0

Table No.C2.1: Student-faculty ratio.

Description	**CAY(2024-25)**	**CAYm1 (2023-24)**	**CAYm2 (2022-23)**
UG1.B	120	120	121
UG1.C	120	121	122
UG1.D	121	122	122
UG1: Biomedical Engineering	**361**	**363**	**365**
DS=Total no. of students in all UG and PG programs in the Department	361	363	365
AS=Total no. of students of all UG and PG programs in allied departments	0	0	0
S=Total no. of students in the Department (DS) and allied departments (AS)	**S1=** 361	**S2=** 363	**S3=** 365
DF=Total no. of faculty members in the Department	26	26	30
AF= Total no. of faculty members in the allied Departments	0	0	0
F=Total no. of faculty members in the Department (DF) and allied Departments (AF)	**F1=** 26	**F2=** 26	**F3=** 30

Description	CAY(2024-25)	CAYm1 (2023-24)	CAYm2 (2022-23)
FF=The faculty members in F who have a 100% teaching load in the first-year courses	0	0	0
Student Faculty Ratio (SFR)=S/(F-FF)	**SFR1= 13.88**	**SFR2= 13.96**	**SFR3= 12.17**
Average SFR for 3 years	**SFR= 13.34**		

C3. Faculty Qualification

- Faculty qualification index (FQI) = 2.5 * [(10X +4Y)/RF] where
- X=No. of faculty members with Ph.D. degree or equivalent as per AICTE/UGC norms.
- Y=No. of faculty members with M. Tech. or ME degree or equivalent as per AICTE/ UGC norms.
- RF=No. of required faculty in the Department including allied Departments to adhere to the 20:1 Student-Faculty ratio, with calculations based on both student numbers and faculty requirements as per section C2 of this documents: (RF=S/20).

Table No.C3.1: Faculty qualification.

Year	X	Y	RF	FQ = 2.5 x [(10X + 4Y) / RF)]
2024-25(CAY)	7	19	18.00	20.28
2023-24(CAYm1)	8	18	18.00	21.11
2022-23(CAYm2)	6	24	18.00	21.67

C4. Faculty Cadre Proportion

- Faculty Cadre Proportion is 1(RF1): 2(RF2): 6(RF3)
- RF1= No. of Professors required = 1/9 * No. of Faculty required to comply with 20:1 Student-Faculty ratio based on no. of students (S) as per C2 of this documents:.
- RF2= No. of Associate Professors required = 2/9 * No. of Faculty required to comply with 20:1 Student-Faculty ratio based on no. of students (S) as per section C2 of this documents:.
- RF3= No. of Assistant Professors required = 6/9 * No. of Faculty required to comply with 20:1 Student-Faculty ratio based on no. of students (S) as per section C2 of this documents:.
- Faculty cadre and qualification and experience should be as per AICTE/UGC norms.

Table No.C4.1: Faculty cadre proportion details.

Year	Professors		Associate Professors		Assistant Professors	
	Required RF1	Available AF1	Required RF2	Available AF1	Required RF3	Available AF3
2024-25	2.00	2.00	4.00	4.00	12.00	20.00
2023-24	2.00	3.00	4.00	5.00	12.00	18.00
2022-23	2.00	2.00	4.00	4.00	12.00	24.00
Average	RF1=2.00	AF1=2.33	RF2=4.00	AF2=4.33	RF2=12.00	AF2=20.67

C5. Visiting/Adjunct Faculty/Professor of Practice

Table No. C5.1: List of visiting/adjunct faculty/professor of practice and their teaching and practical loads.

(CAYm1)

S.No	Name of the Person	Designation	Organization	Name of the Course	No. of hours handled
1	Dr.M.Sivagamy	Former Professor	Periyar College of Pharmaceutical Sciences	Bio Chemistry	54.00
2	Dr.T.Meena	Retd. Director and Professor of Physiology	Madurai Medical College	Human Physiology and Anatomy	52.00
3	Dr.R.Ranjani Devi	Associate Professor	Dhanalakshmi Srinivasan Medical College and hospital	Medical Image Processing	55.00

(CAYm2)

S.No	Name of the Person	Designation	Organization	Name of the Course	No. of hours handled
1	Dr.B.N.Arudhra Dharasenam.	Retd. Professor	Kalasalingam Medical College and Hospital	Bio Sciences	55.00
2	Dr.T.Meena	Retd. Director and Professor of Physiology	Madurai Medical College	Human Physiology and Anatomy	52.00
3	Dr.R.Ranjani Devi	Associate Professor	Dhanalakshmi Srinivasan Medical College and hospital	Medical Image Processing	55.00

(CAYm3)

S.No	Name of the Person	Designation	Organization	Name of the Course	No. of hours handled
1	Dr.T.Meena	Retd. Director and Professor of Physiology	Madurai Medical College	Human Physiology and Anatomy	50.00
2	Dr.R.Ranjani Devi	Associate Professor	Dhanalakshmi Srinivasan Medical College and hospital	Medical Image Processing	55.00
3	Dr.B.NArudhra Dharasenam	Retd. Professor	alasalingam Medical College and Hospital	Biochemistry	52.00

C6. Academic Research

Table No. C6.1: Faculty publication details.

S.No.	Item	2023-24 (CAYm1)	2022-23 (CAYm2)	2021-22 (CAYm3)
1	No. of peer reviewed journal papers published	30	21	46
2	No. of peer reviewed conference papers published	12	10	7
3	No. of books/book chapters published	17	5	7

C7. Sponsored Research Project

Table No. C7.1: List of sponsored research projects received from external agencies.

(CAYm1)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25
Mrs.M.S.Yogapriya	Savana Arif, Monisha P, Pavithra K, Priyadharshini R.P	Tamilnadu State Council for Science and Technology, Chennai, Student Project Scheme 2023-24	Alzheimer's disease detection using soft computing techniques	Tamilnadu State Council for Science and Technology, Chennai	1 Year	0.08
Dr.D.Karthikeyan	Sanjai S	MSME Idea Hackathon 4.0	Aquatic Feed production using a by-product of sericulture and rice milling - Sustainable Development	Ministry of Micro, Small & Medium Enterprises (MSME)	1 Year	13.50
						Amount received (Rs.):13.58

(CAYm2)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25
Mr. C. Narayanan	Mushaib Jaleel, Rino Mathew, Rinto, Shahabas	Biomedical Engineering	Development of Biopolymeric Scaffold for Burn Wound Skin Regeneration	Atheenapandiyan Pvt. Ltd,Chennai	1 year	1.50
Mrs. S. Krishna Priya	sivagami,sowmiya, srinidhi, swathika	Biomedical Engineering	Pain Measurement in mammography test using soft curve paddle	Leeway Biomedical, Bangalore	1.5 year	2.00
						Amount received (Rs.):3.50

(CAYm3)

Total Amount (Lacs) Received for the Past 3 Years: 17.08

Note*:

- Only sponsored research projects will be considered. Infrastructure-based projects will not be considered here.

C8. Consultancy Work

Table No. C8.1: List of consultancy projects received from external agencies.

(CAYm1)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25
Mrs. M. Rubina Begam		Medingers Healthcare Solutions,Erode	Determination of Varicose Veins Problems Using Concurrent Sensor Network	Medingers Healthcare Solutions,Erode	10 Months	1.00
Mrs. A.K Nivedha		MI Measuring Instruments,Madurai	Lung Cancer Detection Using Inception Algorithm	MI Measuring Instruments,Madurai	9 Months	1.00
Mrs. S.Krishna Priya		Trichy Research Institute of Biotechnology,Trichy	Synthesis and Characterization of Nanoparticle from Fruits	Trichy Research Institute of Biotechnology,Trichy	4 Months	0.55
Mr. C.Narayanan		Scitrix Empowering Services,Sivagangai	Prediction of Diabetic Retinopathy by ML	Scitrix Empowering Services,Sivagangai	6 Months	0.75
Dr. D. Karthikeyan		Medingers Healthcare Solutions,Erode	Practiing Surgery by using Virtual Reality	Medingers Healthcare Solutions,Erode	1.5 year	1.00
Dr. S. Sutha		Atheenapandiyan Pvt Ltd	Analysis of fetal brain ultrasound using LABVIEW	Atheenapandiyan Pvt Ltd	1.5 year	1.50
Mrs. G. Vinothini		Leeway Biomedical, Bangalore	Biometric authentication based patient database management system and prescription	Leeway Biomedical, Bangalore	1 year	1.25
Mrs M. R Vennila		Cyrix, Kerala	Anatomical placement of an accelerometer based hand fracture rehab / paralysed person monitoring device using IoT	Cyrix, Kerala	1 year	1.30
						Amount received (Rs.):8.35

(CAYm2)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25
Mrs. G.Vinothini		Bioplus Medical System,Trichy	Cardiovascular Hemodynamic Function Measuring System	Bioplus Medical System,Trichy	6 Months	0.60
Ms. T.Gomathi		ACME Systems,Ciombatore	Early Detecing Myocardial Infraction Using Echocardiography	ACME Systems,Trichy	4 Months	0.50
Mrs. A.K Nivedha		MI Measuring Instruments,Madurai	Detection And Classification Of Stages Of Diabetic Retinopathy Using Deep Learning With Mobilenet v2	MI Measuring Instruments,Madurai	8 Months	0.75
Mr. R.Ragul Kannan		Windro Science Research Foundation,Trichy	Auto-Cpap (Apap) For Treatment Of Obstuctive Sleep Apnea	Windro Science Research Foundation,Trichy	6 Months	0.75
Mrs. S.Krishna Priya		Trichy Research institute of biotechnology pvt.ltd	Brain computer interface based upper limb prosthesis	Trichy Research institute of biotechnology pvt.ltd	1 year	1.25
Dr. S. Sutha		MI Measuring Instruments,Madurai	Analysis of bone plates using finite element analysis	MI Measuring Instruments,Madurai	6 months	0.50
Dr. D. Karthikeyan		cyrix, kerala	Radiology pressure injector using RF communication	cyrix, kerala	6 months	0.50
Mr. C. Narayanan		IBSC, vishakapattinam	Biodegradable Stent to prevent restenosis coronary artery lesions	IBSC, vishakapattinam	1.2 years	0.90
						Amount received (Rs.):5.75

(CAYm3)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25
Mrs. A.K Nivedha		MI Measuring Instruments,Madurai	Evaluation Of Shoulder Rehabilitation Device For Post Operative Rotator Cuff Repair	MI Measuring Instruments,Madurai	6 Months	1.00
Mr. C.Narayanan		Bioplus Medical System,Trichy	Design And Implementation Of Wireless Power Transfer Based On Spider Webâ€ Coil For Biomedical Implants	Bioplus Medical System,Trichy	10 Months	1.25
Mrs. S.Krishna Priya		ACME Systems, Coimbatore	Iot Based Artificial Cpr Device To Predict Cardiac Arrest	ACME Systems,Trichy	6 Months	0.95
Mr. R.Ragul Kannan		Trichy Research Institute of Biotechnology,Trichy	Convolution Neural Network For Quadriplegic Patient To Communicate Using Arduino And Sd Card Module	Trichy Research Institute of Biotechnology,Trichy	8 Months	1.00
Dr. S. Sutha		Windro Science Research Foundation,Trichy	Sensor based eye controlled automated wheel chair	Windro Science Research Foundation,Trichy	9 months	0.50
Dr. D. Karthikeyan		Atheenapandian pvt.ltd, Bangalore	Health Monitoring and management using IOT devices in cloud based	Atheenapandian pvt.ltd, Bangalore	1.5 year	0.95
Mrs. K. Ramya		Leeway Biomedical, Bangalore	Implementation of advances in smart wheel chair technology using solar renewable energy	Leeway Biomedical, Bangalore	6 months	0.50
						Amount received (Rs.):6.15

Total amount (Lacs) received for the past 3 years: 20.25

Note*:

- Only consultancy projects will be considered. Infrastructure-based projects will not be considered here.

C9. Institution Seed Money or Internal Research Grant to its Faculty for Research Work

Table No. C9.1: List of faculty members received seed money or internal research grant from the Institution.

(CAYm1)

Faculty name	Project title/ Support for Activity	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25	Amount Utilized(Lacs) i.e. 15,25,000=15.25	Outcomes of the project
Mr. C.Narayanan	Lung Cancer Detection using Inception Algorithm	3 months	0.03	0.03	Lung cancer detection using Inception algorithms provides high accuracy in identifying cancerous nodules from medical images.
Mr. C.Narayanan	AI Chatbot Based Collaboration Treatment	3 months	0.03	0.03	enhanced patient engagement through AI chatbot collaboration. It resulted in improved treatment adherence and better health outcomes.
Mrs.A.K Nivedha	Smart Incubator for Infant Monitoring	3 months	0.03	0.03	Smart incubator monitors infants, ensuring safety and care.
Mrs.A.K Nivedha	Ear Electronic Device for Tinnitus Frequency Detection and Prevention	3 months	0.03	0.03	Ear device detects tinnitus frequency, aiding prevention.
Mrs.G.Vinothini	Techniques Skin Cancer Prediction using Deep Learning	3 months	0.03	0.03	Skin cancer diagnosis enhanced through deep learning"
Mrs.R.Sridevi	Determination of Varicose Veins Problems using Cocurrent Sensor Networks	3 months	0.03	0.03	Smart sensor network aids varicose vein detection
Mr.R.Ragul Kannan	Advancing Blood Bank Efficiency and Safety Through IoT Automation	3 months	0.03	0.03	IoT ensures efficient and safe blood bank system
Mr.C.Narayanan	Predicting Diabetic Retinopathy using Machine Learning	3 months	0.03	0.03	ML enables accurate prediction of diabetic retinopathy
Mr.C.Narayanan	Visual Assistant for Cecity Person	3 months	0.03	0.03	Assistive tech empowers visually impaired people
Mrs. S. Krishna Priya	Synthesis and Characterization of Silver Nanoparticles from Herbal Fruit for Anticancer	3 months	0.03	0.03	Eco-synthesized Silver Nanoparticles exhibit anti cancer ctivity
Ms. T. Gomathi	QR Code Scanner Based 24/7 Automated Medicine Dispenser System	6 months	0.03	0.03	24/7 QR based system ensures automated Medicine Access
Ms. T. Gomathi	A Novel Machine Learning Approach for Arrhythmia Detection Enhanced by Advanced Algorithm	9 months	0.03	0.03	ML with advanced algorithms improves arrythmia detection
Ms. T. Gomathi	Anti urolithiatic & Antimicrobial for Synthesized Zinc Nanoparticle using Vilvam Plants	6 months	0.03	0.03	Zinc nanoparticle from Vilvam inhibits stones, kills UTI microbes
Mrs. G. Vinothini	A Disease Chatbot with Voice Input and Doctor Appointment System	6 months	0.03	0.03	Voice chatbot aids diagnosis, books doctors, boosts healthcare access
Mrs.A.K Nivedha	Automated RFID Based Patient Health Monitoring & Remote Data Transmission with Telegram Integration	6 months	0.03	0.03	RFID based patient monitoring with Telegram integration enables real-time data transmission, & improved remote healthcare management
Mrs. S. Krishna Priya	FluorescentCarbonNanodots as an Alternative for Indocyanine Green toEffectiveVisualizetheArteries	6 months	0.03	0.03	Fluorescent carbonnanodots provide effective arterial imaging
Mrs. S. Krishna Priya	RevolutinizingHsptlOperatnsEnhancingDoctorAvailability &AppointmentEfficiencyThroughDigitalTech&AI	6 months	0.03	0.03	AI-driven digital systems optimize doctor scheduling and appointments & enhancing hospital efficiency
Mr. C.Narayanan	Biometric authentication based patient data base management system and prescription QR generator	6 months	0.03	0.03	Biometric authentication secures patient data access; prescription QR codes enable accurate, tamper-proof digital medication management.
Mrs. G. Vinothini	Non- Invasive Glucose Monitoring with Built in Insulin Dispenser	6 months	0.03	0.03	Device painlessly monitors glucose, automatically dispenses insulin

Mr.R.Ragul Kannan	Enhancing Surgical Anesthesia Management Through IoT and Machine Learning Intergarion	3 months	0.03	0.03	IoT and ML enable real-time anesthesia control, enhancing safety and precision.
Dr.K.Karthikeyan	Implementation Of Iot Based Smart Assistance Gloves For Speaking Impaired People	3 months	0.03	0.03	IoT smart gloves translate sign language to speech, aiding communication
Dr.K.Karthikeyan	Emerging Innovative Research in Science and Technology	3 months	0.03	0.03	Emerging research drives AI, IoT, biotech advances, solving real problems
Dr.K.Karthikeyan	Machine Learning-Based Approach For Sinus Detection In Medical Imaging	3 months	0.03	0.03	Deep learning models (CNNs, U-Net) accurately identify sinus pathologies
Dr.K.Karthikeyan	Integrating Recent Innovations in Science and Technology: Shaping the Future	3 months	0.03	0.03	Recent innovations integrate AI, IoT, biotech, and green tech, shaping sustainable future
Mrs.R.Sridevi	Visual Assistant for Cecity Person	3 months	0.03	0.03	Visual assistant for cecity enhances navigation, object recognition, and safety.
Mrs.R.Sridevi	Determination of Varicose Veins Problems using Cocurrent Sensor Networks	3 months	0.03	0.03	Sensor networks detect varicose veins via real-time data
Mrs.A.K Nivedha	Modern Incubator For Premature Babies In Rural Areas	3 months	0.02	0.02	Portable, solar-powered incubators with smart controls provide optimal neonatal care in rural areas, enhancing premature infant survival
Mrs. S. Krishna Priya	Smart Vital Sign Monitor	3 months	0.02	0.02	Smart monitor continuously tracks vital signs with IoT-enabled remote access, enhancing timely interventions and patient care
Mr. C.Narayanan	Smart Drug Delivery And Alarming System	3 months	0.02	0.02	Automated drug delivery with real-time alarms and IoT monitoring improves adherence, safety, and personalized treatment management
Mrs.A.K Nivedha	Detection and Therapeutic Aid for Sinus	3 months	0.02	0.02	Integrated sinus detection and therapy device provides early diagnosis and personalized symptom relief for improved patient outcomes
Mrs. G. Vinothini	AI-Powered Visual Assistant for the Visually Impaired	3 months	0.02	0.02	AI-powered visual assistant recognizes objects, text, and faces, providing real-time auditory feedback to enhance autonomy
Mr. C.Narayanan	Detection of Metastable Denatured States in Ubiquitin Under its Native Conditions	3 months	0.01	0.01	Metastable denatured ubiquitin states detected under native conditions
Mr. C.Narayanan	Smart Slippers for Women Safety	3 months	0.01	0.01	Smart slippers for women safety integrate SOS alerts, real-time location tracking
Mr. C.Narayanan	Anatomical Placement of an Acceleraometer Based Paralysed Person Monitoring Device Using IoT	3 months	0.01	0.01	Accelerometer device positioned on limb with movement for remote IoT monitoring of paralysed patients
Mr. C.Narayanan	GSM Based Infusion Pole Replenishment Notification System	3 months	0.01	0.01	Automated GSM alert system ensures timely IV fluid replenishment, enhancing patient safety and caregiver response
Dr.K.Karthikeyan	In-VitroCytotoxicity & DNA Damage Potential of Illicium Verum Mediated Synthesis	3 months	0.01	0.01	Induce ROS, DNA damage, & apoptosis in cancer cells with selective cytotoxicity
Mr. C.Narayanan	Design & Development of Smart CPAP Using IoT	3 months	0.01	0.01	IoT-enabled Smart CPAP offers real-time airflow control, sleep apnea monitoring, and remote health data access
			Amount received (Rs.): 0.94		

(CAYm2)

Faculty name	Project title/ Support for Activity	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25	Amount Utilized(Lacs) i.e. 15,25,000=15.25	Outcomes of the project
Mrs.A.K Nivedha	Automatic Anesthesia Controller Combine with Ventilator	3 months	0.03	0.03	Automation improves safety in anesthesia control
Mrs.A.K Nivedha	Development of biocompatible polymers for ortho braces metallic implants	3 months	0.03	0.03	Safe metallic implants using biocompatible polymers
Mr.R.Ragul Kannan	Interaction Free Infant: Breast Milk Lactation Classification System	3 months	0.03	0.03	System classifies breast milk to aid infant feeding
Dr.K.Karthikeyan	An Artificial Intelligence System For Early Disease Diagnosis And Intervention	3 months	0.03	0.03	AI aids early disease detection, improving treatment outcomes.
Mrs.S.Krishna Priya	Interaction Free Infant: Breast Milk Lactation Classification System	3 months	0.03	0.03	System classifies breast milk to aid infant feeding
Mrs.S.Krishna Priya	3D Modelling of a Biomechanical Assistive Prop to Aid Anterior Tibialis in Tibial Muscular dystrophy	4 months	0.03	0.03	Assistive 3D device helps tibial muscle function
Dr.K.Karthikeyan	Emerging Innovative Research in Science and Technology	3 months	0.03	0.03	Innovative research delivering novel scientific insights and technological advancements with practical applications
Dr.K.Karthikeyan	Rfid Based Interaction Free Infant: Breast Milk Lactation Conditioning And Monitoring System	3 months	0.03	0.03	RFID contactless system monitors breast milk quality and maternal ID, enabling real-time, accurate lactation and infant feeding management
Mrs.S.Krishna Priya	Neonate Incubator Energized With Solar For Medical Management Organization Appraisal	3 months	0.01	0.01	Solar-powered neonatal incubator ensures stable infant care with smart environment control, dual power source & reducing mortality
Ms. M. S. Yogapriya	Idfn. In Adv Breast Cancer Detectn Using The Embedded System With Iot Technology & Temp. Sensor	3 months	0.03	0.03	IoT-embedded system enables early breast cancer detection
Mr.R.Ragul Kannan	Green Synthesis of Fe2O3 Mn2O3 and Mn2O3 with Cynoglossum Zeylanicum and Their Anticancer Activity	3 months	0.03	0.03	Green-synthesized oxides show promising anticancer activity
Mrs.A.K Nivedha	Detection and Classification of Diabetic Retinopathy Using Deep Learning	3 months	0.03	0.03	Deep learning aids in diabetic retinopathy detection
Mr. C.Narayanan	Design and Development of Smart Devices to Assist and Control Snoring	3 months	0.02	0.02	Smart device aids in snoring control for better sleep quality
Mrs.S.Krishna Priya	Prediction of Early on Sepsis and Late on Sepsis using Machine Learning	3 months	0.02	0.02	ML models accurately predict early and late sepsis onset using clinical data, enabling timely interventions
Mrs.A.K Nivedha	Design a Wearable Device to Detect Stress, Anxiety and Provide Non-Invasive Therapy	3 months	0.02	0.02	Wearable device detects stress via physiological sensors and delivers non-invasive biofeedback therapy for anxiety relief
Ms. T. Gomathi	Design and Development of Nebulization Technique	3 months	0.02	0.02	Smart nebulizers produce optimal aerosols for deep lung delivery, improving drug efficacy and patient compliance

Mrs.A.K Nivedha	Aminotors –Portable Aminotic Fluid Level Monitor	3 months	0.01	0.01	Portable amniotic fluid monitor enables real-time, non-invasive volume tracking with remote alerts for early pregnancy complication detection
Mr.R.Ragul Kannan	Segregation Of Bio And nonbiodegradable Wastes For Effective Solid Waste Management	3 months	0.01	0.01	Source segregation of biodegradable and non-biodegradable waste enhances recycling, reduces landfill burden, and improves environmental health
			Amount received (Rs.): 0.44		

(CAYm3)

Faculty name	Project title/ Support for Activity	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25	Amount Utilized(Lacs) i.e. 15,25,000=15.25	Outcomes of the project
Dr.S.Sutha	Simultaneous Surveillance For Neonatal In Icu	3 months	0.03	0.03	Real-time ICU monitoring ensures neonatal safety and care.
Mrs.K.Jayahari Shree	Screening Of Marine Fungal Isolates For Potential Nutraceutical	3 months	0.03	0.03	Marine fungal isolates screened for bioactive compounds show strong antioxidant
Dr.D.Karthikeyan	Knee Pain Self-Massager With Knee Range of Motion Measuring Device	3 months	0.03	0.03	Knee self-massager eases pain & tracks motion range.
Mrs.A.K.Nivedha	Amalgamation and characterization of graphene-calcium titanate composite for electrochemical studies	3 months	0.03	0.03	Electrochemical studies enhanced with new composite
Mrs.S.Krishna Priya	Amalgamation and characterization of graphene-calcium titanate composite for electrochemical studies	3 months	0.03	0.03	Electrochemical studies enhanced with new composite
Ms T.Gomathi	A Novel Incubator for Early Care of Preterm Infants	3 months	0.03	0.03	Designed a novel incubator to provide early care and improved survival of preterm infants
Ms S.Agathiya	Designed a novel incubator to provide early care and improved survival of preterm infants	3 months	0.03	0.03	Wearable spine posture sensor detects abnormal curvature and issues corrective alerts, aiding prevention and management of spinal deformities
Mrs.R.Chandra	Simultaneous Surveillance For Neonatal In Icu	3 months	0.03	0.03	Real-time ICU monitoring ensures neonatal safety and care.
Ms S.Agathiya	Simultaneous Surveillance For Neonatal In Icu	3 months	0.03	0.03	Real-time ICU monitoring ensures neonatal safety and care.
Mr. C.Narayanan	Preparation Of Protein nanofiber For Wound healing Application	3 months	0.03	0.03	Prepared protein nanofibers for wound healing applications to promote faster tissue repair
Mrs.A.K.Nivedha	Preparation Of Protein nanofiber For Wound healing Application	3 months	0.03	0.03	Prepared protein nanofibers for wound healing applications to promote faster tissue repair
Mrs.S.Krishna Priya	Preparation Of Protein nanofiber For Wound healing Application	3 months	0.03	0.03	Prepared protein nanofibers for wound healing applications to promote faster tissue repair
Mrs. R. Chandra	Screening Of Marine Fungal Isolates For Potential Nutraceutical	3 months	0.03	0.03	Marine fungal isolates screened for bioactive compounds show strong antioxidant
Mr. C.Narayanan	Automatic Sensing and Gating on Covid Protocols Using ARDUINO UNO	3 months	0.01	0.01	Developed an Arduino-based automatic sensing and gating system for enforcing COVID protocols
Mr. C.Narayanan	Design & Implementation of Wireless Power Transfer Based on Spider Web Coil	3 months	0.01	0.01	Designed and implemented a wireless power transfer system using spider web coil
Ms T.Gomathi	Ag & Ag-ion NP Synthesized by Photo Reduction for Application in Cancer Therapy	3 months	0.01	0.01	potential application in cancer therapy ensuring biomedical relevance
Mrs.S.Krishna Priya	Pain Measurement In Mammography Test Using Soft Curve Paddle	3 months	0.01	0.01	Reduce pain and improve patient comfort during diagnostic testing

Mrs.S.Krishna Priya	Biogenic process of CuO, ZnO Nanoparticles using Solanum Lycopersicum	3 months	0.02	0.02	Synthesized for sustainable biomedical applications
Mrs.A.K.Nivedha	Development of bio compatible polymers for ortho braces metallic implants	3 months	0.02	0.02	Improved patient safety and comfort
Mrs.K.Jayahari Shree	Knee Pain Self Massager Measured by Synovial Fluid	3 months	0.02	0.02	Reduces pain, synovial fluid volume decreases
Mr. P. Dinesh Kumar	Brain Computer Based Upper Limb Prosthesis	3 months	0.02	0.02	Restore mobility and assist rehabilitation
Mrs. A. Chandravadivu	Piezocrystal Incubator for Early Care of Preterm Infant with Monitoring	3 months	0.02	0.02	Continuous vital sign monitoring and thermal care
Mrs. M. Sasikala	Realtime Emergency Embedded Designed Robotic Four Wheeler for Patients	3 months	0.02	0.02	Assist patients during emergencies
Mrs. K. Ramya	AI Based Epileptic Seizure Detection Using KNN Technique	3 months	0.02	0.02	Real time monitoring & timely clinical intervention
Ms.S.Agathiya	Vesture Scrutiny and Admonition of Rachi Scrutiny Using an Congener Appliance Sensor	3 months	0.02	0.02	Monitoring of spinal curvature to support early detection
Mrs.S.Krishna Priya	Real Epidemiology of Varicose Veins and Chronic Venous Disease Prediction System Using AI Sys.	3 months	0.02	0.02	High accuracy, enabling early diagnosis, personalized care, and improved management
Ms. T. Gomathi	Extractn & Recovery of Proteins with Various Prosthetic Groups Through Help of Modified Trizol Mtd	3 months	0.02	0.02	Extracted and recovered proteins with diverse prosthetic groups
Mrs. A. Chandravadivu	Biosyn & Characterizn Of Zirconium NP from Catharanthus Roseus Leaves Extract	3 months	0.02	0.02	Antioxidant & Anticancer effects against breast cancer cells
Mrs. R. Chandra	A Hand Controlled Prosthestic Leg Movement for Hemiparasi	3 months	0.03	0.03	Hand-controlled prosthetic leg restores gait & mobility in hemiparesis
Dr.D.Karthikeyan	A Hand Controlled Prosthestic Leg Movement for Hemiparasi	3 months	0.03	0.03	Hand-controlled prosthetic leg restores gait & mobility in hemiparesis
Mr. C. Balakrishnan	A Hand Controlled Prosthestic Leg Movement for Hemiparasi	3 months	0.03	0.03	Hand-controlled prosthetic leg restores gait & mobility in hemiparesis
Mrs.K.Jayahari Shree	A Hand Controlled Prosthestic Leg Movement for Hemiparasi	3 months	0.03	0.03	Hand-controlled prosthetic leg restores gait & mobility in hemiparesis
Mr. R. Ragul Kannan	Analysis Of Urodynamic Testing Using a Wireless Near IR Spectroscopy Device	6 months	0.03	0.03	Monitoring of bladder function, aiding diagnosis of LUTD
Mrs. G. Vinothini	Analysis Of Urodynamic Testing Using a Wireless Near IR Spectroscopy Device	6 months	0.03	0.03	Monitoring of bladder function, aiding diagnosis of LUTD
Mr. C.Narayanan	Analysis Of Urodynamic Testing Using a Wireless Near IR Spectroscopy Device	6 months	0.03	0.03	Monitoring of bladder function, aiding diagnosis of LUTD
Mr. P. Selva Kumar	Analysis Of Urodynamic Testing Using a Wireless Near IR Spectroscopy Device	6 months	0.03	0.03	Monitoring of bladder function, aiding diagnosis of LUTD

Ms. T. Gomathi	Audio Visual Reception of American Sign Language for Blind, Deaf and Dumb People	6 months	0.03	0.03	Aid communication for blind, deaf, & mute individuals
Mr. C.Narayanan	IV Drip Monitoring & Control System With Blood Leakage Detection System	6 months	0.03	0.03	Developed a smart IV drip & blood leakage monitoring system
Dr.D.Karthikeyan	IV Drip Monitoring & Control System With Blood Leakage Detection System	6 months	0.03	0.03	Developed a smart IV drip & blood leakage monitoring system
Mrs. S.Agathiya	IV Drip Monitoring & Control System With Blood Leakage Detection System	6 months	0.03	0.03	Developed a smart IV drip & blood leakage monitoring system
Mrs. M. Sasikala	IV Drip Monitoring & Control System With Blood Leakage Detection System	6 months	0.03	0.03	Developed a smart IV drip & blood leakage monitoring system
Mr. P. Dinesh Kumar	Screening Of Marine Fungal Isolates For Potential Nutraceutical	3 months	0.03	0.03	Marine fungal isolates screened for bioactive compounds show strong antioxidant
Mr. C.Narayanan	Enzymatic Degradation of Biomedical Waste (Polythene) by Microbial Consortium	6 months	0.03	0.03	Microbial consortium enzymatically degrades biomedical LDPE waste effectively, achieving significant polymer
Mr. P. Selva Kumar	Enzymatic Degradation of Biomedical Waste (Polythene) by Microbial Consortium	6 months	0.03	0.03	Microbial consortium enzymatically degrades biomedical LDPE waste effectively, achieving significant polymer
Mrs. M. Arulthilagavathy	Enzymatic Degradation of Biomedical Waste (Polythene) by Microbial Consortium	6 months	0.03	0.03	Microbial consortium enzymatically degrades biomedical LDPE waste effectively, achieving significant polymer
Mrs. M. R. Vennila	Enzymatic Degradation of Biomedical Waste (Polythene) by Microbial Consortium	6 months	0.03	0.03	Microbial consortium enzymatically degrades biomedical LDPE waste effectively, achieving significant polymer
Dr. R. Tamil Chelvan	Identification & Classification of Cardiac Diseases by ML Algorithm	6 months	0.03	0.03	Identification and classification of cardiac diseases to support early diagnosis
Mr. R. Ragul Kannan	Identification & Classification of Cardiac Diseases by ML Algorithm	6 months	0.03	0.03	Identification and classification of cardiac diseases to support early diagnosis
Mrs. C. Kavipriya	Identification & Classification of Cardiac Diseases by ML Algorithm	6 months	0.03	0.03	Identification and classification of cardiac diseases to support early diagnosis
Mrs. G. Vinothini	Identification & Classification of Cardiac Diseases by ML Algorithm	6 months	0.03	0.03	Identification and classification of cardiac diseases to support early diagnosis
Mrs. M. Arulthilagavathy	IoT based Health Improvement System	6 months	0.03	0.03	Provides continuous health monitoring
Mrs. M. Sasikala	IoT based Health Improvement System	6 months	0.03	0.03	Provides continuous health monitoring
Dr. P.Arivazhagi	IoT based Health Improvement System	6 months	0.03	0.03	Provides continuous health monitoring
Mr. R. Ragul Kannan	IoT based Health Improvement System	6 months	0.03	0.03	Provides continuous health monitoring
Mr. C. Narayanan	Preparation Of Protein nanofiber For Wound healing Application	3 months	0.03	0.03	Prepared protein nanofibers for wound healing applications to promote faster tissue repair

Mrs.A.K. Nivedha	Preparation Of Protein nanofiber For Wound healing Application	3 months	0.03	0.03	Prepared protein nanofibers for wound healing applications to promote faster tissue repair
Mrs.S.Krishna Priya	Preparation Of Protein nanofiber For Wound healing Application	3 months	0.03	0.03	Prepared protein nanofibers for wound healing applications to promote faster tissue repair
Mrs.S.Krishna Priya	Detection Of Stereotypic Behaviour And Epilepsy Using Lab View	6 months	0.03	0.03	LabVIEW-based system detects epileptic seizures and stereotypic behaviors through real-time EEG analysis, enabling early intervention
Mrs.K. Ramya	Detection Of Stereotypic Behaviour And Epilepsy Using Lab View	6 months	0.03	0.03	LabVIEW-based system detects epileptic seizures and stereotypic behaviors through real-time EEG analysis, enabling early intervention
Dr.S.K. Padmanabhan	Detection Of Stereotypic Behaviour And Epilepsy Using Lab View	6 months	0.03	0.03	LabVIEW-based system detects epileptic seizures and stereotypic behaviors through real-time EEG analysis, enabling early intervention
Dr. P.Arivazhagi	Detection Of Stereotypic Behaviour And Epilepsy Using Lab View	6 months	0.03	0.03	LabVIEW-based system detects epileptic seizures and stereotypic behaviors through real-time EEG analysis, enabling early intervention
Mrs.G. Vinothini	Simultaneous Surveillance For Neonatal In Icu	3 months	0.03	0.03	Real-time ICU monitoring ensures n
Mrs.A.K Nivedha	Post Stroke Flexion-Extension Rehabilitation: Design of Low Cost Lower Limb Exoskeleton	3 months	0.03	0.03	Low-cost lower limb exoskeleton enables effective post-stroke flexion-extension rehabilitation, improving motor function, walking speed, and balance
Mrs.A.K Nivedha	Design and Implementation of Tactile Sensor Based Low Cost Prosthetic Hand Device	3 months	0.03	0.03	Low-cost prosthetic hand with tactile sensor prevents slippage, restores hand function efficiently.
Dr. D. Karthikeyan	Automatic Separation Of Bio And Non - Biodegradable Wastes For Enrichment Of The Waste Management	6 months	0.03	0.03	Developed an automatic system for separating bio and non-biodegradable wastes to enhance waste management efficiency
Dr. S. Sutha	Automatic Separation Of Bio And Non - Biodegradable Wastes For Enrichment Of The Waste Management	6 months	0.03	0.03	Developed an automatic system for separating bio and non-biodegradable wastes to enhance waste management efficiency
Mr.C. Narayanan	Automatic Separation Of Bio And Non - Biodegradable Wastes For Enrichment Of The Waste Management	6 months	0.03	0.03	Developed an automatic system for separating bio and non-biodegradable wastes to enhance waste management efficiency
Mrs.R. Archana	Automatic Separation Of Bio And Non - Biodegradable Wastes For Enrichment Of The Waste Management	6 months	0.03	0.03	Developed an automatic system for separating bio and non-biodegradable wastes to enhance waste management efficiency
			Amount received (Rs.): 1.85		

Total amount (Lacs) received for the past 3 years : 3.23

PART D: Laboratory Infrastructure in the Department

(Data to be filled in for the Department)

D1. Adequate and Well-Equipped Laboratories, and Technical Manpower

Table No.D1.1: List of laboratories and technical manpower.

Sr. No	Name of the Laboratory	Number of students per set up(Batch Size)	Name of the Important Equipment	Weekly utilization status(all the courses for which the lab is utilized)	Technical Manpower Support		
					Name of the Technical staff	Designation	Qualification
1	Bio-Physiology Lab	30	1.Microscope 2.Centrifuge 3.Wintrobes Tube 4.Neubaur's Chamber 5.Haemoglobinometer	Anatomy and H	Ms.T.Priya	Technical Staff	B.Tech (Pharma)
2	Biosciences Lab	30	1.Colorimeter 2.Spectrophotometer 3.Weighning balance, 4.SDS Gel Electrophoresis 5.Centrifuge	Fundamentals	Ms.M.Barakkath Nisha Be	Technical Staff	B.Sc(Bio-Tech)
3	Medical Instrumentation Lab	30	1.Spirometer 2.Audiometer 3.Surgical diathermy 4.PH meter 5.EMG and EEG Simulators 6.ECG Unit 7.Short	Biomedical Inst	Mr.M.Raja	Technical Staff	Diploma in EEE
4	Medical Imaging Lab	30	1.PCs with MATLAB and Simulink	Signal Process	Ms.M.Sumaya	Technical Staff	MCA
5	Medical Innovation Center.	30	1.PCs with MATLAB and Simulink 2.Patient Monitoring Systems 3.Research Microscope 4.Spirometer TINA	Mini Project, M	Mr.R.Kumaraswamy	Technical Staff	Diploma in EEE

D2. Safety Measures in Laboratories

Table No. D2.1: List of various safety measures in laboratories.

Sr. No	Laboratory Name	Safety Measures
1	Bio-Physiology Lab	Basic Safety measures 1. Always wear a lab coat, protective gloves, goggles, and closed-toe shoes. 2. Tie back long hair before starting any work. 3. Dispose of waste water properly. 4. Know the location of the first aid box. Specific Safety Measures 1) Learn the correct way to operate each piece of equipment before use. 2) Handle all chemicals with care. 3) Keep your work area neat and organized. 4) Be familiar with emergency devices and how to use them. 5) Eating and drinking are not allowed inside the lab. 6) Wash your hands properly after experiments.
2	Biosciences Lab	Basic Safety measures 1. Enter the lab only during scheduled hours. 2. Be aware of fire extinguishers and eye wash stations. 3. Clean up chemical spills immediately after lab sessions. Specific Safety Measures 1) Always read chemical labels carefully before use. 2) Never taste or smell chemicals. 3) Keep all liquids away from electrical equipment.
3	Medical Instrumentation Lab	Basic Safety measures 1. Wear a lab coat and gloves during all lab sessions. 2. Know the location of emergency exits and first aid kits. 3. Pay attention to high-voltage warning signs. 4. Report accidents immediately to the instructor. 5. Do not use machines without proper training Specific Safety Measures 1) Check that equipment is calibrated before use. 2) Only trained or supervised students should operate machines. 3) Be aware of emergency shutoff switches. 4) Stay alert to possible electrical hazards.

4	Medical Imaging Lab	Basic Safety measures 1. Follow radiation warning signs carefully. 2. Wear lead aprons and thyroid shields during procedures. 3. Complete radiation safety training before handling imaging devices. Specific Safety Measures 1) Always wear your radiation monitoring badge during imaging sessions. 2) Enter only shielded imaging rooms when permitted. 3) Ensure equipment is in good working condition and report faults. 4) Do not remain inside the imaging room during scans unless authorized.
5	Medical Innovation Centre	Basic Safety measures 1. Use tools only after receiving proper training. 2. Wear a lab coat and carry your ID card at all times. 3. Work in well-ventilated areas. 4. Keep your desk clean and organized. 5. Know the emergency procedures and evacuation routes Specific Safety Measures 1) Do not touch hot surfaces unless they are labeled and safe to handle. 2) Store electrical components securely after use. 3) Carry out prototype testing only under mentor supervision. 4) Participate in regular fire safety drills. 5) Keep flammable items away from electronics.

D3. Project Laboratory/Research Laboratory

Project and Research Laboratories:

The department hosts dedicated Project, Research, and Centre of Excellence laboratories to support innovation, interdisciplinary projects, and biomedical research. These labs foster hands-on learning, industry collaboration, and entrepreneurship, enabling students to develop prototypes, publish research, and pursue startups in healthcare technology and biomedical engineering.

The Project and Research Laboratories in Biomedical Engineering are equipped with a comprehensive range of advanced hardware and software tools to meet the needs of students, faculty, and multidisciplinary collaborators. These laboratories house specialized facilities such as biomedical instrumentation systems, physiological signal acquisition units, medical imaging devices, biosensors, tissue engineering setups, microcontroller- and automation and control units, and advanced diagnostic equipment. In addition, powerful software platforms such as MATLAB/Simulink, LabVIEW, SolidWorks, biomedical image processing tools, and embedded system IDEs support activities in simulation, modeling, analysis, and design. This state-of-the-art infrastructure enables students to gain hands-on experience in medical device prototyping, biomedical signal and image analysis, physiological data monitoring, rehabilitation system design, and healthcare technology integration. Faculty members leverage these facilities to mentor student projects, undertake funded research, and develop innovative healthcare solutions in collaboration with clinical and industrial partners. The laboratories are also open to students and researchers from other disciplines, promoting interdisciplinary learning, prototype development, and collaborative problem-solving. Through effective utilization, these resources not only enhance academic learning but also cultivate industry-relevant skills, entrepreneurship, and impactful research outcomes that address real-world healthcare challenges.

List of Laboratory which supports for Project and Research works:

S. No.	Name of the Laboratory	Description & Purpose	Name of the major equipment	Utilization
1.	Project Lab	The Project Laboratory is a dedicated facility where students conceptualize, design, prototype, and validate biomedical engineering solutions as part of their academic curriculum and research projects. It provides a platform for integrating theoretical knowledge with practical problem-solving in healthcare technology. Equipped with biomedical instrumentation, prototyping tools, simulation software, and testing devices, the lab supports projects in areas such as bio-signal acquisition, medical device design, AI-assisted diagnostics, prosthetics, rehabilitation systems, and healthcare data analytics. The lab fosters innovation, encourages interdisciplinary collaboration, and promotes product development aligned with industry and societal needs.	1. ECG Machine & Simulator 2. Patient Monitor 3. Infusion Pump 4. Spirometer 5. Pulse Oximeter 6. BP Monitor 7. Glucometer 8. Biomedical Sensor Kits (ECG, EMG, EEG, Temperature) 9. Function Generator 10. Digital Storage Oscilloscope 11. Power Supply Units 12. Multimeter	UG Students – Final-year and mini-project development, hands-on biomedical device prototyping. Faculty Members – Research guidance, prototype testing, and technology validation. Research Scholars – Biomedical innovations for publications and patents. Industry & Hospital Partners – Collaborative product development and testing.

2.	Research Lab	The Research Laboratory is designed to facilitate advanced studies and innovation in biomedical engineering. It provides a high-end infrastructure for faculty, postgraduate students, and research scholars to conduct experimental work in biomedical signal processing, medical imaging, device prototyping, and biocompatibility testing. Equipped with specialized biomedical data acquisition systems, image processing tools, and precision fabrication equipment, the lab supports funded research projects, interdisciplinary collaborations, and technology development initiatives. It acts as a central resource for generating research publications, developing prototypes for commercialization, and fostering industry-academia partnerships.	1.High-Performance Computers with MATLAB, LabVIEW, and Image Processing Software 2. 4. EMG & EEG Systems 3. Microcontroller Kits 4. Medical Imaging Softwares	Research Scholars – Development of novel biomedical technologies and publications. Faculty – Execution of funded research projects and technology transfer. UG Students – Participation in research-based mini-projects. Industry & Hospital Collaborators – Joint development and validation of healthcare innovations.

Mini Projects and Capstone Projects:

The following projects were undertaken by Biomedical Engineering students utilizing the facilities of the Project Laboratory. This laboratory serves as a dynamic and collaborative space that inspires students to explore cutting-edge healthcare technologies and develop innovative biomedical solutions. Equipped with advanced medical instrumentation, biosensors, signal acquisition systems, development boards, prototyping tools, and simulation software, the laboratory offers an ideal environment for hands-on learning, experimentation, and innovation. It enables students to transform their concepts into functional prototypes in areas such as medical device design, biomedical signal and image processing, rehabilitation systems, healthcare IoT, and bioinformatics applications. By fostering innovation, problem-solving abilities, and an entrepreneurial mindset, the Project Laboratory plays a vital role in preparing students to address real-world healthcare challenges and contribute to advancements in the biomedical field.

Course Outcomes for Project Work

S. No.	Program Outcomes	Course Outcomes
1	PO1, PO2	Explain the basic concepts & broad principles of Biomedical engineering projects.
2	PO4, PO5, PO10	Apply concepts of Project and Production Management to engineering projects.
3	PO8, PO9, PO10	Organise effectively to achieve perfection in project implementation & completion.
4	PO3, PO6, PO7, PO8	Apply theoretical concepts to solve industrial problems with teamwork and multidisciplinary approach.
5	PO4, PO9, PO10, PO11	Implement project planning in their Industrial In-Plant training work.
6	PO6, PO7, PO9, PO11	Demonstrate professionalism with ethics; communicate effectively; link engineering to society.

Capstone Projects:
Academic Year 2024-25

S. No.	Register No.	Name	Project Title	Mapping with PO,PSO
1	810421121001	AANASTRAJ A	INTEGRATED TACTICAL VEST FOR SOLDIER HEALTH MONITORING AND NAVIGATION WITH THERMAL REGULATION	PO1, PO2, PO3, PO4, PO5, PO7, PO9, PO10, PO11; PSO1, PSO2
	810421121004	ABINASH R		
	810421121021	ARIHARAN J		
	810421121023	AROKKIYA PRATHEESH S		
2	810421121041	EPSIBA J	DESIGN AND DEVELOPMENT OF SMART SHOES FOR DIABETIC PATIENTS	PO1, PO2, PO3, PO4, PO5, PO6, PO8, PO9, PO10; PSO1, PSO3
	810421121043	GAYATHRI N		
	810421121054	JESLIN BACKIYAVATHI J A		
3	810421121008	AKHIL JAYAN	WEARABLE SMARTGLASSES AS AN AID DYSLEXIA	PO1, PO2, PO3, PO4, PO5, PO7, PO9, PO11; PSO2, PSO3
	810421121010	AKSHAY S		
	810421121035	DEVAJITH A		
	810421121052	JEEVAMANIKANDAN T		
4	810421121018	ANNA ALBIN SIBU	SMART POSTURE CORRECTION WEARABLE FOR INDIVIDUALS WITH CEREBRAL PALSY	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO10; PSO1, PSO2
	810421121019	ANSA ANTONY		
	810421121020	ANUSREE S		
	810421121033	DENSA THOMAS		

5	810421121025	BALAJI M	REAL-TIME STRESS MONITORING SYSTEM FOR WORKERS USING IOT AND MACHINE LEARNING	PO1, PO2, PO3, PO4, PO5, PO7, PO9, PO10, PO11; PSO1, PSO3
	810421121027	BESKI J		
	810421121032	CHEZHIYAN P		
	810421121046	GOWDHAM S		
6	810421121065	MADHUMITHA A	DETECTION OF OSTEOPOROSIS THROUGH BIOMECHANICAL ANALYSIS OF BONDING MOVEMENT	PO1, PO2, PO3, PO4, PO5, PO7, PO9, PO11; PSO1, PSO2
	810421121066	MADHUMITHA L		
	810421121085	PAVITHRA B		
7	810421121099	ROSHNI R	UTILIZING AUTOMATED DRUG DELIVERY SYSTEM FOR SEIZURE DETECTION AND TREATMENT	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10; PSO1, PSO2
	810421121111	SHAHANA R		
	810421121118	SRIDEVI S		
	810421121120	SUSHMA T		
8	810421121106	SANJAY V	THE INTELLIGENT SAFETY HELMAT WITH MONITORING AND PREVENTION SYSTEM	PO1, PO2, PO3, PO4, PO5, PO7, PO8, PO9, PO10, PO11; PSO1, PSO3
	810421121108	SARANRAJ S		
	810421121116	SOURABH KUMAR		
	810421121117	SRI HARAN R		
9	810421121098	RANJITHA R	AN AUTOMATED IOT BASED TEMPERATURE AND FACE MASK ENTRY SYSTEM WITH RFID	PO1, PO2, PO3, PO4, PO5, PO7, PO9, PO10, PO11; PSO2, PSO3
	810421121113	SINEKA S		
	810421121122	VARSHINI R		
	810421121125	YUVANISHA A		

10	810421121078	NAISA NIZAR	AN ANALYSIS OF IOT BASED SOLUTION FOR CONGENTIAL HEART DISEASE MONITORING AND PREVENTION	PO1, PO2, PO3, PO4, PO5, PO7, PO9, PO11; PSO1, PSO2
	810421121079	NANDANA S		
	810421121088	PRIYA DHARSHINI P		
	810421121115	SIVASANKARI P		
11	810421121072	MELWIN ANTONY K L	THERMAL MUSCLE STIMULATOR FOR PATIENT WITH METAL IMPLANT	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10; PSO1, PSO2
	810421121073	MIDHUN MANOJ		
	810421121077	MUHAMMED HASHIM A P		
	810421121091	PUGAZHENTHI K		

Academic Year 2023-24

S.No.	Register No.	Name	Project Title	Mapping with PO,PSO
1	DSUG20121001	AADHITHYAN K	ROBOTIC ARM FOR HOSPITAL WASTE MANAGEMENT	PO1, PO2, PO3, PO5, PO6, PO7, PO8, PO9, PO10, PSO1, PSO2
	DSUG20121002	AAKASH S		
	DSUG20121004	ABDUL MASTHAN M		
	DSUG20121005	ABDUL KAIYUM M		
2	DSUG20121006	ABIRAMI D	A DISEASE CHAT BOX WITH VOICE INPUT AND DOCTOR APPOINTMENT SYSTEM	PO1, PO2, PO3, PO4, PO5, PO9, PO10, PO11, PSO1, PSO3
	DSUG20121036	DHIVYA A		
	DSUG20121053	KAMALI R		
	DSUG20121058	KAVIYA C		

3	DSUG20121009	AKHIL RAJ	SMART INCUBATOR FOR PREMATURE BABIES IN RURAL AREAS	PO1, PO2, PO3, PO4, PO8, PO9, PO10, PO11, PSO1, PSO2, PSO3
	DSUG20121049	JERIN JOB		
	DSUG20121050	JESWIN PHILIP THOMAS		
	DSUG20121051	JOYAL JOSEPH		
4	DSUG20121020	ARUNKUMAR S	DETERMINATION OF VARICOSE VEINS PROBLEMS USING CONCURRENT SENSOR NETWORK	PO1, PO2, PO3, PO4, PO8, PO9, PO11, PSO1, PSO2
	DSUG20121021	ARUNRAJ K		
	DSUG20121040	GOKULRAM SR		
	DSUG20121018	ARUNACHALAM		
5	DSUG20121061	KRISHNAN V	SEIZURE DETECTION SYSTEM	PO1, PO2, PO3, PO4, PO5, PO9, PO10, PO11, PSO2, PSO3
	DSUG20121100	SATHISH KUMAR M		
	DSUG20121113	SYED MAHAMUDUL HASAN A		
	DSUG20121117	VELMURUGAN P		
6	DSUG20121062	LOGESWARI R	EAR ELECTRONIC DEVICE FOR TINNITUS	PO1, PO2, PO3, PO5, PO6, PO7, PO8, PO9, PO10, PSO1, PSO2
	DSUG20121063	MAHALAKSHMI P		
	DSUG20121090	RANJUNA G		
7	DSUG20121065	MENAKA T	VISUAL ASSISTANCE FOR IMPAIRED PERSON	PO1, PO2, PO3, PO4, PO8, PO9, PO11, PSO1, PSO2, PSO3
	DSUG20121070	MONISHA P		
	DSUG20121092	SAFVANA		
	DSUG20121109	SUBHASHAINI K		

8	DSUG20121069	MOHANA PRASATH P	GESTURE BASED SPEECH RECOGNITION	PO1, PO2, PO3, PO4, PO5, PO9, PO10, PO11, PSO1, PSO3
	DSUG20121076	NESAMANI G		
	DSUG20121091	RUBAN CHAKRAVARTHY S		
	DSUG20121096	SANTHOSH KUMAR R		
9	DSUG20121072	NANDHAKUMAR S	GAINT STABILITY MONITORING	PO1, PO2, PO3, PO4, PO8, PO9, PO11, PSO2, PSO3
	DSUG20121084	PRAVIN KUMAR P		
	DSUG20121108	SRIRAM S		
	DSUG20121094	SANJEEVIKUMAR D		
10	DSUG20121101	SELVALAKSHMI A	AI BASED NATURAPATHY TREATMENT VIRTUALLY	PO1, PO2, PO3, PO4, PO5, PO9, PO10, PO11, PSO1, PSO3
	DSUG20121074	NARMATHA E		
	DSUG20121082	PAVITHRA K		
	DSUG20121088	PRIYADHARSHINI R P		
11	DSUG20121089	RAGUL A	PRACTICING SURGERY BY USING VIRTUAL REALITY	PO1, PO2, PO3, PO5, PO6, PO7, PO8, PO9, PO10, PSO1, PSO2
	DSUG20121095	SANTHOSH B		
	DSUG20121099	SATHEESH KUMAR K		
	DSUG20121121	ZAIN BASHA H		
12	DSUG20121097	SARANRAJ R	AI BASED CLASSIFICATION OF ASD	PO1, PO2, PO3, PO4, PO8, PO9, PO11, PSO2, PSO3
	DSUG20121118	VENGATESWARA D		
	DSUG20121114	TAMILSELVAM P		
	DSUG20121303	THIRUMURUGAN N		

13	DSUG20121112	SURUTHI M	PREDICTION OF DIABETIC RETINOPATHY BY USING ML	PO1, PO2, PO3, PO4, PO5, PO9, PO10, PO11, PSO1,

Academic Year 2022-23

S.No.	**Reg. No.**	**Name**	**Project Title**	**PO PSO Mapping**
1.	810419121001	K.V. AARTHI	ARTIFICIAL SOFT AND HARD PALATE	PO1, PO2, PO3, PO6, PO8, PO9, PO10, PO11, PSO2, PSO3
	810419121022	J.DEEPIKA		
	810419121049	J.JENCY		
	810419121062	M.MAHALAKSHMI		
2.	810419121007	AJAY KRISHNA . K	HI TECH AID FOR AUTISTIC CARE	PO1, PO2, PO3, PO6, PO8, PO9, PO10, PO11, PSO2, PSO3
	810419121045	JAISON. S		
	810419121053	KARTHIKEYAN. P		
3.	810419121003	R.AARTHI	ANALYSIS OF BONE PLATES USING FINITE ELEMENT ANALYSIS	PO1, PO2, PO4, PO5, PO11, PSO1, PSO2
	810419121017	D.ANUPRIYA		
	810419121047	S.JAYASWETHA		
	810419121062	R.MAHALAKSHMI		

4.	810419121036	B.DURGA DEVI	SKIN ELECTRICAL RESISTANCE AS A DIAGNOSTIC THERAPEUTIC BIOMARKER OF BREAST CANCER MEASURING LYMPHATIC REGIONS.	PO1, PO2, PO4, PO6, PO7, PO11, PSO1, PSO2
	810419121038	R.ELAVARASI		
	810419121043	R.HARITHA		
	810419121046	P.JANSIRANI		
5.	810419121019	BARATH RAJ. S	BIODEGRADABLE STENT TO PREVENT RESTENOSIS CORONARY ARTERY LESIONS	PO1, PO2, PO3, PO5, PO6, PO7, PO9, PSO1, PSO3
	810419121030	DHIWAKAR. A		
	810419121040	GOKUL PRAKASH. P		
6.	810419121024	R.DEEPTHI	AUTO-CPAP (APAP) FOR TREATMENT OF OBSTUCTIVE SLEEP APNEA	PO1, PO2, PO3, PO5, PO6, PO8, PO9, PO10, PSO2, PSO3
	810419121027	P.DHARANI		
	810419121037	T.DURGA DEVI		
	810419121054	S.KAVIYA		
7.	810419121122	VENKATRAMAN R	ANALYSIS OF THE HYPERGLYCEMIC ANTIDIABETIC HERBAL BASED DRUG DELIVERY SYSTEM	PO1, PO2, PO4, PO6, PO7, PO11, PSO1, PSO2
	810419121069	NARESH KUMAR N		
	810419121083	PRINCE KUMAR R		
	810419121079	PERIYASAMY R		
8.	810419121087	RAHINI T	DETECTION AND CLASSIFICATION OF STAGES OF DIABETIC RETINOPATHY USING DEEP LEARNING WITH MOBILENETV2	PO1, PO2, PO4, PO5, PO6, PO9, PO11, PSO2, PSO3
	810419121091	SABRINA BANU M		
	810419121102	SREE LAKSHMI T		
	810419121101	SOWMIYA V		

9.	810419121106	SUGANYA S	SPEECH TO BRAILLE CONVERTER COMMUNICATION SYSTEM FOR VISUALLY AND HEARING IMPAIRED PERSON	PO1, PO2, PO3, PO5, PO6, PO7, PO8, PO9, PSO2, PSO3
	810419121112	SUVITHA B		
	810419121124	VIJAYALAKSHMI M		
	810419121107	SUJANASHIRIN M S		
10.	810419121082	PRATHISHA S	SMART SPIROMETER FOR THE EARLY DETECTION OF COPD, PNEUMONIA, ASTHMA	PO1, PO2, PO3, PO5, PO6, PO9, PO10, PSO2, PSO3
	810419121125	VISHALINI T		
	810419121076	NIVETHA P		
	.810419121075	NITHYA M	DESIGN AND DEVELOPMENT OF NEBULIZATION TECHNIQUE	PO1, PO2, PO3, PO5, PO6, PO8, PO9, PSO2, PSO3

Mini projects - Academic Year 2024-2025

S. No.	REGISTER NUMBER	STUDENT NAME	COURSE	SEMINAR TOPIC	MAPPING WITH PO & PSO
1.	810421121021	ARIHARAN J	Diagnostic & Therapeutic Equipment – I	Principles and working of Ventilators	PO1, PO2, PO3, PO5, PO6, PSO1, PSO3
2.	810421121023	AROKKIYA PRATHEESH S	Biomedical Digital Signal Processing	ECG Signal Processing using FFT	PO1, PO2, PO4, PO5, PO9, PSO1, PSO2
3.	810421121006	AKASH R	Biomechanics	Analysis of Human Gait	PO1, PO2, PO3, PO6, PO8, PSO1, PSO3

4.	810421121005	ABINAYA S	Diagnostic & Therapeutic Equipment – II	Dialysis Machine – Principles and Operation	PO1, PO2, PO3, PO5, PO6, PSO1, PSO3
5.	810421121009	AKILA N	Medical Imaging Systems	Magnetic Resonance Imaging (MRI) – Physics & Applications	PO1, PO2, PO4, PO5, PO9, PSO1, PSO2
6.	810421121040	ELAMATHI E	Rehabilitation Engineering	Wearable Exoskeletons for Rehabilitation	PO1, PO2, PO3, PO6, PO8, PSO1, PSO3
7.	810421121011	ALBIN EBBY	Principles of Hospital Management	Lean Management in Hospital Operations	PO6, PO8, PO9, PO10, PO11, PSO3
8.	810421121022	ARJUN K B	Biomedical Instrumentation for Speciality Areas	Anaesthesia Machines – Design and Function	PO1, PO2, PO3, PO5, PSO1, PSO3
9.	810421121018	ANNA ALBIN SIBU	Artificial Intelligence in Biomedical Engineering	AI-based Medical Image Diagnosis	PO1, PO2, PO4, PO5, PO9, PSO1, PSO2
10.	810421121019	ANSA ANTONY	Medical ethics & Standards	Ethical principles & Legal regulatory framework	PO1, PO2, PO5, PO6, PO11, PSO2, PSO3
11.	810421121056	KAMALI S	Diagnostic & Therapeutic Equipment – I	Principles and working of Ventilators	PO1, PO2, PO3, PO5, PO6, PSO1, PSO3
12.	810421121062	KOPPERUNDEVI T	Biomedical Digital Signal Processing	ECG Signal Processing using FFT	PO1, PO2, PO4, PO5, PO9, PSO1, PSO2
13.	810421121054	JESLIN BACKIYAVATHI J A	Biomechanics	Analysis of Human Gait	PO1, PO2, PO3, PO6, PO8, PSO1, PSO3
14.	810421121057	KANISHKA M	Diagnostic & Therapeutic Equipment – II	Dialysis Machine – Principles and Operation	PO1, PO2, PO3, PO5, PO6, PSO1, PSO3
15.	810421121059	KEERTHANA J	Medical Imaging Systems	Magnetic Resonance Imaging (MRI) – Physics & Applications	PO1, PO2, PO4, PO5, PO9, PSO1, PSO2
16.	810421121065	MADHUMITHA A	Rehabilitation Engineering	Wearable Exoskeletons for Rehabilitation	PO1, PO2, PO3, PO6, PO8, PSO1, PSO3

17.	810421121074	MOHAMED HAMEEM M	Principles of Hospital Management	Lean Management in Hospital Operations	PO6, PO8, PO9, PO10, PO11, PSO3
18.	810421121086	PRAKASH G	Biomedical Instrumentation for Speciality Areas	Anaesthesia Machines – Design and Function	PO1, PO2, PO3, PO5, PSO1, PSO3
19.	810421121078	NAISA NIZAR	Artificial Intelligence in Biomedical Engineering	AI-based Medical Image Diagnosis	PO1, PO2, PO4, PO5, PO9, PSO1, PSO2
20.	810421121095	RAKHESH A	Neurophysiology and Neural Engineering	Body Area Networks in Healthcare	PO1, PO2, PO5, PO6, PO11, PSO2, PSO3
21.	810421121096	RAMAKRISHNAN R	Diagnostic & Therapeutic Equipment – I	Principles and working of Ventilators	PO1, PO2, PO3, PO5, PO6, PSO1, PSO3
22.	810421121099	ROSHNI R	Biomedical Digital Signal Processing	ECG Signal Processing using FFT	PO1, PO2, PO4, PO5, PO9, PSO1, PSO2
23.	810421121111	SHAHANA R	Biomechanics	Analysis of Human Gait	PO1, PO2, PO3, PO6, PO8, PSO1, PSO3
24.	810421121118	SRIDEVI S	Diagnostic & Therapeutic Equipment – II	Dialysis Machine – Principles and Operation	PO1, PO2, PO3, PO5, PO6, PSO1, PSO3
25.	810421121112	SINDHU SHREE R	Medical Imaging Systems	Magnetic Resonance Imaging (MRI) – Physics & Applications	PO1, PO2, PO4, PO5, PO9, PSO1, PSO2
26.	810421121106	SANJAY V	Rehabilitation Engineering	Wearable Exoskeletons for Rehabilitation	PO1, PO2, PO3, PO6, PO8, PSO1, PSO3
27.	810421121102	SAKTHI RAMANA A	Principles of Hospital Management	Lean Management in Hospital Operations	PO6, PO8, PO9, PO10, PO11, PSO3
28.	810421121105	SANJAY P	Biomedical Instrumentation for Speciality Areas	Anaesthesia Machines – Design and Function	PO1, PO2, PO3, PO5, PSO1, PSO3
29.	810421121081	NARMADHA J	Artificial Intelligence in Biomedical Engineering	AI-based Medical Image Diagnosis	PO1, PO2, PO4, PO5, PO9, PSO1, PSO2

30.	810421121087	PRIYA DHARSHINI K	Medical ethics & Standards	Confidentialty of Medical records	PO1, PO2, PO5, PO6, PO11, PSO2, PSO3

Academic Year 2023-2024

S. No.	REGISTER NUMBER	STUDENT NAME	SUBJECT	SEMINAR TOPIC	PO & PSO
1	DSUG20121001	AADHITHYAN K	Diagnostic And Therapeutic Equipment – I	Defibrillators: Working Principles And Clinical Applications	PO1, PO2, PO3, PO5, PO6, PSO1, PSO3
2	DSUG20121008	AFRIN S	Biomedical Digital Signal Processing	Noise Reduction Techniques In EEG Signals	PO1, PO2, PO4, PO5, PO9, PSO1, PSO2
3	DSUG20121016	ARUN PANDIYAN M	Biomechanics	Biomechanical Analysis Of The Knee Joint	PO1, PO2, PO3, PO6, PO8, PSO1, PSO3
4	DSUG20121024	BEEBIKA R	Diagnostic And Therapeutic Equipment – II	Endoscopy Systems: Design And Function	PO1, PO2, PO3, PO5, PO6, PSO1, PSO3
5	DSUG20121025	BERTIN SHAJU THOMAS	Medical Imaging Systems	Computed Tomography (CT) Image Reconstruction Techniques	PO1, PO2, PO4, PO5, PO9, PSO1, PSO2
6	DSUG20121037	GANESH R	Rehabilitation Engineering	Robotic Arm Design For Stroke Rehabilitation	PO1, PO2, PO3, PO6, PO8, PSO1, PSO3
7	DSUG20121040	GOKULRAM S R	Medical Ethics	Informed Consent In Clinical Trials	PO6, PO7, PO8, PO9, PSO3
8	DSUG20121047	JAGAN JS	Telehealth Technology	Remote Patient Monitoring Systems	PO1, PO2, PO5, PO6, PO9, PSO2, PSO3
9	DSUG20121048	JAYAPRIYAN M	Medical Equipment Maintenance And Troubleshooting	Troubleshooting Techniques For Ultrasound Machines	PO1, PO2, PO3, PO5, PO6, PSO1, PSO3
10	DSUG20121049	JERIN JOB	Diagnostic And Therapeutic Equipment – I	Defibrillators: Working Principles And Clinical Applications	PO1, PO2, PO3, PO5, PO6, PSO1, PSO3
11	DSUG20121057	KAVIYA M	Biomedical Digital Signal Processing	Noise Reduction Techniques In EEG Signals	PO1, PO2, PO4, PO5, PO9, PSO1, PSO2

12	DSUG20121061	KRISHNAN V	Biomechanics	Biomechanical Analysis Of The Knee Joint	PO1, PO2, PO3, PO6, PO8, PSO1, PSO3
13	DSUG20121062	LOGESWARI R	Diagnostic And Therapeutic Equipment – II	Endoscopy Systems: Design And Function	PO1, PO2, PO3, PO5, PO6, PSO1, PSO3
14	DSUG20121063	MAHALAKSHMI P	Medical Imaging Systems	Computed Tomography (CT) Image Reconstruction Techniques	PO1, PO2, PO4, PO5, PO9, PSO1, PSO2
15	DSUG20121089	RAGUL.A	Rehabilitation Engineering	Robotic Arm Design For Stroke Rehabilitation	PO1, PO2, PO3, PO6, PO8, PSO1, PSO3
16	DSUG20121090	RANJUNA G	Medical Ethics	Informed Consent In Clinical Trials	PO6, PO7, PO8, PO9, PSO3
17	DSUG20121302	RIJOY P M	Telehealth Technology	Remote Patient Monitoring Systems	PO1, PO2, PO5, PO6, PO9, PSO2, PSO3
18	DSUG20121303	THIRUMURUGAN N	Medical Equipment Maintenance And Troubleshooting	Troubleshooting Techniques For Ultrasound Machines	PO1, PO2, PO3, PO5, PO6, PSO1, PSO3
19	DSUG20121113	SYED MAHAMUDUL HASAN A	Diagnostic And Therapeutic Equipment – I	Defibrillators: Working Principles And Clinical Applications	PO1, PO2, PO3, PO5, PO6, PSO1, PSO3
20	DSUG20121114	TAMILSELVAM P	Biomedical Digital Signal Processing	Noise Reduction Techniques In EEG Signals	PO1, PO2, PO4, PO5, PO9, PSO1, PSO2
21	DSUG20121070	MONISHA P	Biomechanics	Biomechanical Analysis Of The Knee Joint	PO1, PO2, PO3, PO6, PO8, PSO1, PSO3
22	DSUG20121072	NANDHAKUMAR S	Diagnostic And Therapeutic Equipment – II	Endoscopy Systems: Design And Function	PO1, PO2, PO3, PO5, PO6, PSO1, PSO3
23	DSUG20121061	KRISHNAN V	Medical Imaging Systems	Computed Tomography (CT) Image Reconstruction Techniques	PO1, PO2, PO4, PO5, PO9, PSO1, PSO2
24	DSUG20121080	PARTHASARATHI B	Rehabilitation Engineering	Robotic Arm Design For Stroke Rehabilitation	PO1, PO2, PO3, PO6, PO8, PSO1, PSO3
25	DSUG20121100	SATHISHKUMAR.M	Medical Ethics	Informed Consent In Clinical Trials	PO6, PO7, PO8, PO9, PSO3

26	DSUG20121104	SIMI. H	Telehealth Technology	Remote Patient Monitoring Systems	PO1, PO2, PO5, PO6, PO9, PSO2, PSO3
27	DSUG20121102	SENTHILKUMAR S	Medical Equipment Maintenance And Troubleshooting	Troubleshooting Techniques For Ultrasound Machines	PO1, PO2, PO3, PO5, PO6, PSO1, PSO3
28	DSUG20121044	HARIPRASATH J	Diagnostic And Therapeutic Equipment – I	Defibrillators: Working Principles And Clinical Applications	PO1, PO2, PO3, PO5, PO6, PSO1, PSO3
29	DSUG20121048	JAYAPRIYAN M	Biomedical Digital Signal Processing	Noise Reduction Techniques In EEG Signals	PO1, PO2, PO4, PO5, PO9, PSO1, PSO2
30	DSUG20121115	UJWAL ULLAS	Biomechanics	Biomechanical Analysis Of The Knee Joint	PO1, PO2, PO3, PO6, PO8, PSO1, PSO3

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S.No	Register Number	Student Name	Subject	Seminar Topic	PO Mapping	PSO Mapping
1	DSUG20121037	GANESH R	Bio Signal Processing	ECG: Acquisition and Analysis	PO1, PO2, PO3, PO10	PSO1, PSO2
2	DSUG20121062	KRISHNAN V	Biomedical Instrumentation	Defibrillators: Working and Applications	PO1, PO2, PO7, PO10	PSO1, PSO2
3	DSUG20121089	PAVITHRA K	Medical Imaging Techniques	Ultrasound Imaging: Physics and Applications	PO1, PO2, PO10	PSO2, PSO3
4	DSUG20121025	DEEPA P D	Biomechanics	Biomechanics of the Knee Joint	PO1, PO2, PO3, PO6	PSO1, PSO3
5	DSUG20121066	MOHAMED IRSHAD K	Medical Image Processing	Noise Reduction Techniques in Medical Images	PO1, PO2, PO6, PO10	PSO2, PSO3
6	DSUG20121018	ARUNKUMAR A	Bio Signal Processing	EMG: Signal Characteristics and Applications	PO1, PO2, PO3, PO10	PSO1, PSO2
7	DSUG20121105	SIVARANJANI M	Biomedical Instrumentation	Ventilators: Principle and Clinical Applications	PO1, PO2, PO3, PO10	PSO1, PSO2
8	DSUG20121077	NITHIN P LALJU	Biomechanics	Biomechanics of Spinal Cord Injury	PO1, PO2, PO4, PO10	PSO1, PSO3

9	DSUG20121041	HARIPRASATH J	Medical Imaging Techniques	CT Imaging: Advances and Clinical Applications	PO1, PO2, PO3, PO10	PSO2, PSO3
10	DSUG20121113	TAMILSELVAM P	Medical Image Processing	Artificial Intelligence in Medical Image Analysis	PO1, PO2, PO4, PO10	PSO2, PSO3
11	DSUG20121085	PREETHIBA C	Bio Signal Processing	Biomedical Signal Acquisition Systems	PO1, PO2, PO10	PSO1, PSO2
12	DSUG20121028	DHANUSH S	Biomedical Instrumentation	Infusion Pumps: Design and Clinical Uses	PO1, PO2, PO3, PO10	PSO1, PSO2
13	DSUG20121097	SARANRAJ R	Medical Imaging Techniques	Optical Coherence Tomography (OCT)	PO1, PO2, PO10	PSO2, PSO3
14	DSUG20121012	ANANDHU AJITH	Biomechanics	Biomechanics of Shoulder Joint	PO1, PO2, PO3, PO6	PSO1, PSO3
15	DSUG20121110	SELVALAKSHMI A	Medical Image Processing	Image Registration in Medical Applications	PO1, PO2, PO6, PO10	PSO2, PSO3
16	DSUG20121054	JOYAL JOSEPH	Bio Signal Processing	Heart Rate Variability Analysis	PO1, PO2, PO3, PO10	PSO1, PSO2
17	DSUG20121022	BOOMIKA K	Biomedical Instrumentation	Dialysis Machine: Principle and Operation	PO1, PO2, PO7, PO10	PSO1, PSO2
18	DSUG20121073	NANTHINI S	Biomechanics	Biomechanics of Hip Replacement	PO1, PO2, PO4, PO10	PSO1, PSO3
19	DSUG20121121	ZAIN BASIYA. H	Medical Imaging Techniques	Functional MRI (fMRI): Principles and Applications	PO1, PO2, PO3, PO10	PSO2, PSO3
20	DSUG20121040	GOKULRAM S R	Medical Image Processing	Edge Detection Techniques in Medical Images	PO1, PO2, PO4, PO10	PSO2, PSO3
21	DSUG20121046	ISWARYA V	Bio Signal Processing	Phonocardiography: Signal Processing and Analysis	PO1, PO2, PO10	PSO1, PSO2
22	DSUG20121076	NARMATHA R	Biomedical Instrumentation	ECG Machines: Design and Functionality	PO1, PO2, PO3, PO10	PSO1, PSO2

23	DSUG20121114	UJWAL ULLAS	Medical Imaging Techniques	X-Ray Imaging and Digital Radiography	PO1, PO2, PO10	PSO2, PSO3
24	DSUG20121033	DHIVAGAR L	Biomechanics	Biomechanics of Prosthetic Limbs	PO1, PO2, PO6	PSO1, PSO3
25	DSUG20121087	PRIYADHARSHINI R	Medical Image Processing	Machine Learning in Medical Image Classification	PO1, PO2, PO4, PO10	PSO2, PSO3
26	DSUG20121115	VAISAKH VS	Bio Signal Processing	EEG Signal Denoising Using Digital Filters	PO1, PO2, PO3, PO10	PSO1, PSO2
27	DSUG20121020	ASWIN CHOPRAA K	Biomedical Instrumentation	Cochlear Implants: Principle and Applications	PO1, PO2, PO7, PO10	PSO1, PSO2
28	DSUG20121074	NARMATHA H R	Medical Imaging Techniques	Mammography: Techniques and Clinical Relevance	PO1, PO2, PO3, PO10	PSO2, PSO3
29	DSUG20121116	VELMURGAN P	Biomechanics	Sports Biomechanics: Analysis of Human Motion	PO1, PO2, PO4, PO10	PSO1, PSO3
30	DSUG20121099	SATHEESH KUMAR K	Medical Image Processing	Deep Learning for Medical Image Segmentation	PO1, PO2, PO6, PO10	PSO2, PSO3

Mini/Micro Project

A **mini project** is a small-scale, practical implementation of engineering concepts that allows students to apply theoretical knowledge to solve real-world problems. It usually takes place in the **final year** of undergraduate programs and serves as a precursor to the **major project**.

Academic Year 2024-2025

S.No.	REGISTER NUMBER	NAME OF THE BATCH MEMBERS	MINI PROJECT TITLE	PO & PSO
1.	810421121072	MELWIN ANTONY K L	Autism Patient Proximity Tracking And Monitoring	PO1, PO2, PO4, PO5, PO10 PSO1, PSO2, PSO3
	810421121073	MIDHUN MANOJ		
	810421121077	MUHAMMED HASHIM A P		
	810421121091	PUGAZHENTHI K		

2.	810421121078	NAISA NIZAR A	IOT Based Portable Health Checker Device	PO1, PO2, PO3, PO4, PO6, PO9,PO11,PSO1,PSO2, PSO3
	810421121079	NANDANA S		
	810421121088	PRIYADHARSHINI P		
	810421121078	NAISA NIZAR A		
3.	810421121098	RANJITHA R	Precise Temperature Controller For Baby Incubator	PO1, PO2, PO3, PO4, PO6, PO11 ,PSO1, PSO3
	810421121113	SINEKA S		
	810421121122	VARSHINI R		
	810421121125	YUVANISHA A		
4.	810421121065	MADHUMITHA A	Urinary Bladder Fullness Detection System	PO1, PO2, PO4, PO5, PO6, PO10 ,PSO1, PSO2, PSO3
	810421121066	MADHUMITHA L		
	810421121068	MAHARITHIKA A		
	810421121094	RAJASRI R		
5.	810421121107	SANTHOSH KUMAR K	Wearble Sensor System Prototype For SIDS Prevention	PO1, PO2, PO3, PO4, PO6, PO8,PO10,PSO1,PSO2,PSO3
	810421121123	VIDYACHARAN B		
	810421121126	YUVARAJ B		
6.	810421121082	NIVI V	Cuffless Blood Pressure Monitoring	PO1, PO2, PO3, PO4, PO6, PO11, PSO1, PSO2, PSO3
	810421121090	PUGALENTHI M		
	810421121092	RAHUL E		

7.	810421121097	RANJITH KUMAR L	Laser Based Non-Invasive Glucose Monitoring System	PO1, PO2, PO4, PO5, PO9, PO11 ,PSO1, PSO2, PSO3
	810421121109	SARAVANAN C		
	810421121114	SIVASAKTHI E		
	810421121124	VIJAY R		
8.	810421121102	SAKTHI RAMANA A	Uv Light Therapy Treatment	PO1, PO2, PO3, PO4, PO6, PO9,PO10 ,PSO1, PSO3
	810421121105	SANJAY P		
	810421121119	SURYA PRAKASH M		
	810421121127	SIVAPRAKASH N		
9.	810421121100	SAKTHI DESHNA U	Paralysed Patient Monitoring	PO1, PO2, PO4, PO5, PO6, PO8,PO9,PO11 PSO1, PSO2, PSO3

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S.No.	REGISTER NUMBER	NAME OF THE BATCH MEMBERS	MINI PROJECT TITLE	MAPPING WITH PO & PSO
1.	DSUG20121006	ABIRAMI D	Iot Based Nostril Temperature And Oxygen Level Monitoring	PO1, PO2, PO3, PO4, PO5, PO6, PO9; PSO1, PSO2, PSO3
	DSUG20121008	AFRIN S		
	DSUG20121030	DEEPIKA V		
	DSUG20121031	DEEPIKA G		
2.	DSUG20121003	AASHA.A	Medical Equipments online Purchasing and Educational Resources for Engineering Students	PO1, PO2, PO4, PO5, PO6, PO7, PO8, PO10; PSO1, PSO3
	DSUG20121011	AKSHAYA.A		
	DSUG20121013	ANBARASI.V		
	DSUG20121027	BOOMIKA K		

3.	DSUG20121036	DHIVYA A	Voice Guided Smart Shoes For Enhanced Mobility And Independence Of Visually Impaired Individuals	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO9, PO10; PSO2, PSO3
	DSUG20121053	KAMALI R		
	DSUG20121058	KAVIYA C		
4.	DSUG20121016	ARUN PANDIYAN M	IOT Based Hybrid System for Patient Monitoring and Medication in Transit	PO1, PO2, PO3, PO4, PO5, PO6, PO8, PO9, PO10; PSO1, PSO2, PSO3
	DSUG20121018	ARUNACHALAM P		
	DSUG20121019	ARUNKUMAR A		
5.	DSUG20121009	AKHIL RAJ	Arduino Based Sleep Monitoring And Alert System	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO9; PSO1, PSO2
	DSUG20121012	ANANDHU AJITH		
	DSUG20121025	BERTIN SHAJU THOMAS		
6.	DSUG20121039	GIRIJA S	Anatomical Placement Of An Accelerometer Based Paralyzed Patient Monitoring Device Using Iot	PO1, PO2, PO3, PO4, PO5, PO6, PO9, PO10; PSO2, PSO3
	DSUG20121046	ISWARYA V		
	DSUG20121052	JUHANA ZAMZAD T		
	DSUG20121056	KAVIYADHARSHINI		
7.	DSUG20121024	BEEBIKA R	Accelerometer Based Hand Fracture Rehabilitation Monitoring Device By Using Iot	PO1, PO2, PO3, PO4, PO5, PO6, PO9; PSO2, PSO3
	DSUG20121026	BHUVANESHWARI.B		
	DSUG20121028	CHINNAMANI D		
	DSUG20121029	DEEPA D		
8.	DSUG20121064	MAHIN BASHEER	Rehabilitation of Paralysed hand using IOT	PO1, PO2, PO3, PO4, PO5, PO8, PO9; PSO2, PSO3
	DSUG20121066	MOHAMED IRSHAD K		
	DSUG20121302	RIJOY PM		

9.	DSUG20121062	LOGESWARI R	Smart Hip rehabilitation system using sensor technology and IOT connectivity for personalized treatment and monitoring	PO1, PO2, PO3, PO4, PO5, PO8, PO9, PO10; PSO2, PSO3
	DSUG20121063	MAHALAKSHMI P		
	DSUG20121090	RANJUNA G		

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S.No.	REGISTER NUMBER	STUDENT NAME	MINI PROJECT TITLE	PO & PSO
1.	810419121066	MUPPUDATHI RAJA.M	Wound Assessment Using Force Sensor	PO1, PO2, PO3, PO4, PO5, PSO1, PSO2, PSO3
	810419121068	NALRAJ S		
	810419121081	POOVARASAN S		
2.	810419121069	NARESH KUMAR.N	Detection Of Hypodermic Infiltration During Intravenous Therapy	PO1, PO2, PO3, PO4,PO5,PO6,PSO1, PSO2, PSO3
	810419121071	NAVANEETHA KRISHNAN K		
	810419121109	SURYA.D		
3.	810419121072	NIKITHA M	Wearable Sensor System Prototype For Sids Prevention	PO1, PO2, PO3, PO4, PO5, PO6, PO8,PSO2, PSO3
	810419121078	PAVITHRA P		
	810419121092	SANTHIYA.S		
4.	810419121090	ROSHINI M	A Low Cost Portable Ecg Machine For Predicting Arrthymia	PO1, PO2, PO3, PO4, PO5, PO6, PO11,PSO1, PSO2, PSO3
	810419121104	SUBASHINI P		
	810419121121	VEERASATHIYA		
5.	810419121085	PRIYADHARSHINI.P	Temperature Sensor Based Breast Cancer Detector	PO1, PO2, PO3, PO4, PO5, PO6; PSO1, PSO2, PSO3
	810419121106	SUGANYA.S		
	810419121107	SUJANA SHIRIN.M.S.		

6.	810419121095	SATHYA. S	Ppg Sensor Based Varicose Vein And Heart Disease Detector	PO1, PO2, PO3, PO4, PO5, PO6; PSO1, PSO2, PSO3
	810419121098	SHANMUGI		
	810419121123	VIDHYA.M		
7.	810419121097	SHALINI. S	Paralysis Stimulator	PO1, PO2, PO3, PO4, PO5, PO8, PO9, PO10,PSO2, PSO3
	810419121099	SHEERIN .J		
	810419121100	SNEHA.M		
8.	810419121101	SOWMIYA.V	An Iot Based System For Healthcare Monitoring System	PO1, PO2, PO3, PO4, PO5, PO6, PO8, PO9, PSO2, PSO3
	810419121113	SUVITHA B		
	810419121124	VIJAYALAKSHMI.M		
9.	810419121086	PUSHPARAJ S	Automated Blood Bank	PO1, PO2, PO3, PO5, PO6, PO8, PO10,PSO2, PSO3
	810419121088	RENGANATHAN S		
	810419121116	THIVAKAR K		
	810419121120	VEERAMANI C		
10.	810419121080	POONGUZHALI V	Photoplethysmograph For Glucometer	PO1, PO2, PO3, PO4, PO5, PO6, PO11,PSO1, PSO2, PSO3

Hackathons and Design Challenges:

The following hackathon and design challenge projects were undertaken by Biomedical Engineering students as part of their active participation in the Project and Research Laboratory initiatives. These activities provided an engaging platform for students to apply their technical expertise, creativity, and problem-solving skills to real-world healthcare challenges. Through participation in competitive and collaborative settings, students developed innovative biomedical solutions, strengthened their teamwork and communication skills, and gained valuable exposure to emerging healthcare technologies, clinical practices, and industry trends. The resources, advanced equipment, and expert mentorship available in the Project and Research Laboratory played a pivotal role in guiding students through ideation, prototyping, validation, and optimization of their solutions, ensuring that the outcomes were both practical and impactful in addressing medical and societal needs.

Academic Year 2024-2025

S. No.	Name of the Students	Problem Statement	State/National / International Level	Date of Event	Name of the Award if Any
1	Kopperundevi T	Uploaded solution in Smart India Hackathon Project Title: AI-based early detection and monitoring of diabetic retinopathy using fundus imaging and deep learning	National Level	16.04.2025	Presented
2	Anjitha B.M & Bhuvaneshwari.K	Uploaded solution in Smart India Hackathon Project Title: Portable low-cost ECG device with real-time cloud connectivity for remote cardiac monitoring	National Level	16.04.2025	Presented
3	Thilagavathy @ Sarumathi & Swathi. A	Presented in College Level Ideathon Project Title: Wearable gait monitoring device for early detection of Parkinson's disease	National Level	28.02.2025	Presented

Lab Utilization and Benefits:

The faculty & students have greatly benefited from engaging in these research projects by utilizing the state-of-the-art research laboratories available in the department. With the support of these facilities, they have been able to develop innovative solutions, conduct experimental work, and publish their findings in reputed journals and conferences. These research outcomes reflect the department's commitment to fostering hands-on learning, critical thinking, and industry-relevant skills among students.

Research Projects & Journal Details:

S.No.	Name of the Student & Semester	Name of the Publisher	Name of the Journal/ Conference, etc.	Volume No. & Issue No.

1	Narmatha.E, Pavithra.K, Priyadharshini.RP, Selvalakshmi.A.	International Journal of Applied and Advanced Scientific Research (IJAASR)	AI Chatbot Based Collaboration Treatment	Volume 9 & Issue 1
2	Menaka.T, Monisha.P, Safvana, Subhashini.K.	Indo American Journal of Multidisciplinary Research and Review(IAJMRR)	Visual Assistance For Cecity Person	Volume 8 & Issue 1
3	Chinnamani.D, Girija.S, Iswarya.V, Juhana Zamzad.T	International Journal of Applied and Advanced Scientific Research (IJAASR)	Lung Cancer Detection Using Inception Algorithm	Volume 9 & Issue 1
4	Nithya.M, Srinithi.P, Supraja.R, Suruthi.M.	Indo American Journal of Multidisciplinary Research and Review(IAJMRR)	Predicting Diabetic Retinopathy Using Machine Learning	Volume 8 & Issue 1
5	Arjun Pradeep, Adarash Mohanan, Aravind.MJ, Akshay.BS	International Journal of Applied and Advanced Scientific Research (IJAASR)	Implementation Of IOT Based Smart Assistance Gloves For Speaking Impaired People	Volume 9 & Issue 1

6	Parthasarathi.B, Parthasarathi.R, Senthil Kumar.S, Sudhahar.D	International Journal of Creative Research(IJCRT)	Machine Learning-Based Approach For Sinus Detection In Medical Imaging	Volume 12 & Issue 5
7	Akhil Raj, Jerin Job, Jeswin Philip Thomas, Joyal Joseph.T	Indo American Journal of Multidisciplinary Research and Review(IAJMRR)	Smart Incubater For Infant Monitoring	Volume 8 & Issue 1
8	Kaviya.B, Kiruthika.D, Divyadharshini.K,Kaviya.M	International Research Journal of Modernization in Engineering, Technology and Science(IRJMETS)	Automated RFID-Based Patient Health Monitoring And Remote Data Transmission With Telegram Integration	Volume 6 & Issue 5
9	Logeswari.R, Mahalakshmi.P, Ranjuna.G	International Journal of Research Publication and Reviews(IJRPR)	Ear Electronic Device For Tinnitus Frequency Prevention	Volume 5 & Issue 5
10	Nanthini.S, Priyadharshini.P, Vinotha.M,	International Journal of Creative Research(IJCRT)	Synthesis And Characterization Of Silver Nanoparticles From Herbal Fruit For Anticancer	Volume 12 & Issue 5

11	Afrin.s, Deepika.V, Deepika.G	Sirjana Journal	Fluorescent Carbon Nanodots As An Natural Alternative For Indocy Anine Green To Effectively Visualize The Arteries	Volume 54 & Issue 5
12	Saranraj.R, Tamilselvam.P, Vengateswaran.D,Thirumurugan.N	International Journal for Modern Trends in Science and Technology (IJMTST)	Revolutionizing Hospital Operations Enhancing Doctor Availability And Appointment Efficiency Through Digital Technology And Al Integration	Volume 10 & Issue 5
13	Aswin Chopraa.K, Dharshan.S, Dhineshkumar.G, Hariprasath.J	International Journal of Research Publication and Reviews(IJRPR)	Advancing Blood Bank Efficiency And Safety Through IOT Automation	Volume 5 & Issue 5
14	Nadhakumar.S, Pravinkumar.P, Sanjeevikumar.D, Sriram.S	International Journal of Research Publication and Reviews(IJRPR)	Enhancing Surgical Anasthesia Management Through IOT And Machine Learning Integration	Volume 5 & Issue 5
15	Aasha.A, Akshaya.A, Anbarasi.V, Kaviya Dharshini.S	International Journal of Research Publication and Reviews(IJRPR)	A Novel Machine Learning Approach For Arrhythmia Detection Enhanced By Advanced Algorithm	Volume 5 & Issue 5
16	Simi.H, Sivaranjani.M, Sri Harini.S	International Journal of Advance Research And Innovative Ideas In Education (IJARIIE)	Antiurolithiatic And Antimicrobial Activity Of Synthesized Zinc Nanoparticle Using Vilvam Medicinal Plant On Urinary Tract Infection Causing Struvite Urinary Stones	Volume 10 & Issue 3

17	Beebika.R, Bhuvaneshwari.B,Boomika.K, Deepa.D	International Research Journal of Modernization in Engineering, Technology and Science(IRJMETS)	QR Code Scanner-Based 24/7 Automated Medicine Dispenser System	Volume 6 & Issue 5
18	Abirami.D, Divya.A, Kamali.R, Kaviya.C	International Journal of Research Publication and Reviews(IJRPR)	A Disease Chatbot With Voice Input And Doctor Appointment System	Volume 5 & Issue 5
19	Mohana Prasath.B, Nesamani.G, Ruban Chakaravarthy.S, Santhosh.R	International Journal of Advance Research And Innovative Ideas In Education (IJARIIE)	Techniques Skin Cancer Prediction Using Deep Learning	Volume 10 & Issue 3
20	Dhivagar.L, Gershon Geo.J, Hariharan.R, Jayapriyan.M	International Journal of Research Publication and Reviews(IJRPR)	Non-Invasive Glucose Monitoring With Built In Insulin Dispenser	Volume 5 & Issue 5
21	Sathiyaseelan S Sylesh R Tamilselvan G Vishnu B	International Research Journal (TIJER)	3D Modelling of a Biomechanical Assistive Prop to Aid Anterior Tibialis in Tibial Muscular dystrophy	Volume 10 & Issue 5
22	B. Mohamed Thahir , T. Sudharsan , S. Nafees Ahamed	International Journal for Research in Applied Science and Engineering Technology (IJRASET)	Automatic Anaesthesia Controller Combine with Ventilator	Volume 11 & Issue 4

23	Rahini. T , Sabrina Banu. M , Sowmiya . V, Sreelakshmi. T	International Journal for Research in Applied Science and Engineering Technology (IJRASET)	Detection and Classification of Diabetic Retinopathy Using Deep Learning	Volume 11 & Issue 5
24	S. Renganathan, C.Veeramani, S.Pushparaj, K.Thivakar	Journal of Emerging Technologies and Innovative Research(JETIR)	Green Synthesis of Fe2O3 Mn2O3 and Mn2O3 with Cynoglossum Zeylanicum and Their Anticancer Activity	Volume 10 & Issue 5
25	B. Durga Devi R. Haritha P. Jansirani R. Elavarasi	International Journal of Engineering Research & Technology (IJERT)	Identification In Advance Breast Cancer Detection Using The Embedded System With Iot Technology And Mlx90614 Temperature Sensor	Volume 11, Issue 07
26	R. Deepthi S. P.Dharini T.Durga devi	Science, Technology and Development	NTERACTION FREE INFANT: BREAST MILK LACTATION CLASSIFICATION SYSTEM	Volume 12, Issue 06
27	M. Mohamed Javidh Sathyaseelan R Sriram R Suresh Kumar S	International Journal of Engineering Research & Technology (IJERT)	A Novel Incubator for Early Care of Preterm Infants	Volume 10, Issue 09

28	L.Anto Maurin Lisha R. Harshini Devi M. Madhumitha	International Journal of Engineering Research & Technology (IJERT)	Design and Implementation of Tactile Sensor Based Low Cost Prosthetic Hand Device	Volume 10, Issue 09
29	Elaiyazhwar K, Hariharan S , Bathmanaban H	International Journal for Science and Advance Research In Technology (IJSART)	Post Stroke Flexion-Extension Rehabilitation: Design of Low Cost Lower Limb Exoskeleton	Volume 8 Issue 5
30	Archana. H, Jaya Sneha. B, Jimana Parveen. D, Kamani. S	International Journal of Engineering Research & Technology (IJERT)	Automatic Postpartum Hemorrhage Monitoring and Control System	Volume 10 Issue 9
31	Aparna J, Gokila G, Keerthika K	International Journal of Engineering Research & Technology (IJERT)	Implementation of Advanced in Smart Wheel Chair Technology for Physically Challenged People	Volume 10 Issue 9
32	Vikash Kumar S, Santhosh G, Sathish P, Sathish B	International Journal of Engineering Research & Technology (IJERT)	Copper catalyzed oxidative coupling of amines with form-amides: a new approach for the synthesis of unsymmetrical urea derivatives	Volume 10 Issue 9

The Centre of Excellence (CoE):

BIOMATRIX – Centre of Excellence in Biomedical Signals, Artificial Intelligence, Medical Imaging and Innovation.

S.No.	Equipment / Software	Description	Utilization

1	Skrip Multi-Para Physiograph with USB and BioWave Software	A biomedical data acquisition system used to record and display physiological signals through a computer interface.	Used for educational ECG, EMG and other supported physiological signal acquisition, waveform analysis, practical demonstrations and student research.
2	Electrodes, Lead Wires and Consumables	Accessories used to connect compatible physiological signal acquisition equipment to the subject.	Used for supervised signal recording, electrode placement demonstrations, practical experiments and biomedical signal analysis.
3	Biomedical Sensor and Microcontroller Kit (Arduino/ESP32)	A hardware development kit containing microcontroller boards, sensors and interfacing accessories.	Used to develop biomedical sensor prototypes, data acquisition circuits, IoT-based monitoring demonstrations and student innovation projects.
4	Python	An open-source programming language for scientific computing, data analysis and artificial intelligence.	Used for biomedical data processing, signal filtering, feature extraction, statistical analysis, machine-learning algorithms and AI-based healthcare projects.
5	Jupyter Notebook	An interactive programming environment for executing code, visualising results and documenting experiments.	Used for practical demonstrations, biomedical signal analysis, AI model development, data visualisation and reproducible student research.
6	3D Slicer	Open-source software for medical image visualisation, segmentation and three-dimensional reconstruction.	Used for CT, MRI and other supported medical image analysis, anatomical segmentation, 3D model generation and patient-specific anatomical modelling projects.
7	PyTorch	An open-source deep-learning framework for developing and training neural networks.	Used for AI-based medical image classification, segmentation, biomedical signal classification, model training and performance evaluation.

Key activities include:

Conducting **hands-on training programs** on biomedical instrumentation, sensors, medical imaging, and healthcare IoT systems.

Supporting **student projects** in areas such as wearable health monitoring devices, medical image analysis, assistive and rehabilitation technologies, and biomaterials.

Encouraging **interdepartmental collaboration**, involving students from Electronics, Computer Science, Mechanical, and allied health sciences to design and implement innovative biomedical solutions.

Organizing **workshops, seminars, and technical competitions** to enhance practical skills, clinical awareness, and industry exposure.

Facilitating **research and prototype development** in emerging healthcare technologies and medical device innovation.

Promoting **entrepreneurial initiatives** by guiding students to transform their biomedical innovations into viable healthcare solutions.

Start-up / Innovation / Entrepreneurship Related Work:

The Department of Biomedical Engineering (BME) actively promotes **innovation, research, and entrepreneurship** through the **Next Gen Incubation Unit (NGIU)**. The NGIU provides a structured platform for **student and faculty innovations** to evolve into **start-ups, patents, and technology-enabled healthcare solutions**. The initiative focuses on key areas of biomedical engineering such as:

Medical Instrumentation & Diagnostic Devices

Biomedical Signal & Image Processing

Healthcare IoT & Remote Patient Monitoring Systems

Assistive and Rehabilitation Technologies

Biomaterials & Medical Implants

This innovation ecosystem is further **strengthened and supported by the Centre of Excellence in Biomedical Engineering**, which provides the **specialized biomedical equipment, software platforms, prototyping tools, and testing facilities** essential for healthcare start-up development.

"Strengthening Healthcare Innovation & Entrepreneurship: AIC RAISE partners with DSEC, Perambalur"
Dhanalakshmi Srinivasan Engineering College, Perambalur, has signed a **Memorandum of Understanding (MoU)** with **AIC RAISE (Atal Incubation Centre – Research and Innovation in Social Entrepreneurship)** to foster innovation, entrepreneurship, and a start-up culture among students and faculty in the biomedical domain. This collaboration offers a strong platform for nurturing healthcare innovations through mentorship, incubation support, skill development programs, and industry-clinical partnerships. Under this MoU, students gain access to **training workshops, healthcare innovation bootcamps, clinical problem-solving challenges, and funding opportunities**, enabling them to transform their concepts into viable products and solutions. The partnership also emphasizes **research collaboration, multidisciplinary healthcare projects, and exposure to emerging medical technologies**, ensuring that learners are well-prepared to address real-world healthcare challenges.

List of Events Organized:

S. No.	Date of the Event	Event Name	Description
1	05/02/2024	Inauguration of NEX GEN	Grand launch of NEX GEN in Biomedical Engineering, opening avenues for healthcare innovation, clinical mentorship, and medical device start-up acceleration.
2	23/02/2024	Biomedical Startup Awareness Event – 1st	Introduced first-year students to biomedical innovation, healthcare incubation, and medical start-up opportunities, sparking interest in clinical problem-solving and entrepreneurship.
3	26/02/2024	Pre-incubation Selection Event	A competitive platform where students pitched biomedical ideas, with selected teams advancing to pre-incubation under expert and clinical mentor guidance.
4	28/02/2024	Women's MedTech Hackathon	A women-only biomedical innovation hackathon encouraging problem-solving in healthcare, leadership, and medical technology development, empowering women innovators.
5	04/03/2024	Biomedical Startup Awareness Event – 2nd	Empowered students with insights into healthcare start-ups, medical device business plans, and entrepreneurial opportunities through collaboration with IEDC and clinical partners.
6	20/03/2024	1st Biomedical Patent Filing	An insightful session introducing students to medical patent filing fundamentals, enabling them to protect biomedical innovations and understand healthcare intellectual property.
7	21/05/2024 – 23/05/2024	Biomedical Career Mock Interview – Coimbatore	Career-focused mock interviews for biomedical engineering students, offering real-time feedback, industry-clinical exposure, and direct internship opportunities.

8	16/07/2024	Faculty Development Program in Biomedical Innovation	Advanced training program for educators focusing on pedagogy, biomedical research insights, and innovation-driven teaching practices.
9	26/08/2024	Pitch Perfect – Coimbatore	Dynamic pitching event where groundbreaking biomedical start-up ideas were presented, showcasing creativity, clinical relevance, and entrepreneurial drive.
10	21/10/2024	Pitch Perfect – Dhanalakshmi Srinivasan University	Platform for young biomedical innovators to present healthcare start-up ideas, where students secured top positions, proving excellence in MedTech innovation.
11	28/10/2024	October – Biomedical Boss Table	Focused interaction session strengthening leadership, teamwork, and healthcare innovation initiatives.
12	24/11/2024	BioToycathon	A sustainability-driven challenge where students designed therapeutic and educational biomedical toys from eco-friendly materials, fostering creativity and patient impact.
13	27/11/2024	November – Biomedical Boss Table	A brainstorming meet fostering collaboration, leadership, and innovative decision-making among biomedical student leaders.
14	16/12/2024	2nd Biomedical Patent Filing	A practical workshop where students gained hands-on experience in drafting and filing biomedical patents, reinforcing innovation protection and entrepreneurship in healthcare.
15	29/01/2025	January – Biomedical Boss Table	Kick-start of the year with strategic discussions in healthcare innovation, encouraging planning for student-led MedTech initiatives.
16	25/02/2025	February – Biomedical Boss Table	Collaborative forum to track progress, share clinical insights, and advance biomedical entrepreneurial ideas.

MSME IDEA HACKATHON – Proposed Ideas:

The **Centre of Excellence in Biomedical Engineering** at Dhanalakshmi Srinivasan Engineering College serves as a hub for healthcare innovation, research, and skill development by leveraging the advanced facilities available in the Project and Research Laboratories. Through this centre, students and faculty actively engage in developing novel biomedical solutions addressing real-world healthcare challenges in **medical instrumentation, biomedical signal and image processing, healthcare IoT, rehabilitation engineering, biomaterials, and AI-assisted diagnostics**. The laboratories are utilized to design and prototype impactful ideas such as **AI-based diagnostic systems for early disease detection, wearable health monitoring devices, IoT-enabled remote patient care solutions, and assistive technologies for differently-abled individuals**.

The Centre also promotes **multidisciplinary collaboration** by encouraging students from other departments like Electronics, Computer Science, Mechanical, Biotechnology, and Allied Health Sciences to work alongside Biomedical Engineering students, resulting in innovative prototypes such as **low-cost prosthetic limbs, eco-friendly biomedical implants, smart rehabilitation devices, and telemedicine platforms for rural healthcare**. With strong mentoring support from faculty and healthcare industry experts, these initiatives not only foster **entrepreneurship and start-up culture** but also prepare students for **research publications, patent filing, funding opportunities, and participation in national-level healthcare hackathons and innovation challenges**.

Thus, the Centre of Excellence acts as a catalyst for **bridging theoretical biomedical knowledge with practical healthcare applications**, enabling students to become future-ready biomedical engineers contributing to **affordable healthcare, improved patient outcomes, and sustainable medical technology development**.

Incubatee Name	Title of Proposed Idea / Innovation	Name and Details of Mentor(s)
KOPPERUNDEVI T	AI-Driven Medical Data Analytics for Optimizing Patient Monitoring Systems with IoT Integration to Enhance Diagnosis, Reduce Costs, and Improve Healthcare Accessibility	Dr.D.Karthikeyan, Associate Professor,Biomedical Engineering, DSEC, Perambalur
GOWDHAM S	Drone-Based Emergency Medical Supply Delivery System for Rural and Remote Areas	Mr.C.Narayanan, Associate Professor, Biomedical Engineering, DSEC, Perambalur
NANDHINI P	AI-Enabled Detection and Alert System for Preventing Animal Intrusion in Hospital and Healthcare Facility Premises	Mrs.Rubina Begam M, Assistant Professor, Biomedical Engineering, DSEC, Perambalur
ANJITHA B M	Development of a Compact AI-Driven Disinfection and Medical Supply Drone for Hospitals, Clinics, and Field Healthcare Units	Mrs.S.Krishnapriya, Assistant Professor, Biomedical Engineering, DSEC, Perambalur
CHARUMATHI M	Formulation of Nutrient-Rich Aquatic Feed from Healthcare and Pharmaceutical By-Products for Veterinary and Aquaculture Applications	Mrs.A.K.Nivedha, Assistant Professor, Biomedical Engineering, DSEC, Perambalur
NIJANTHAN M	Development of Edible Biodegradable Medical Packaging for Nutritional Supplements and Oral Rehydration Solutions	Mrs.S.Krishnapriya, Assistant Professor, Biomedical Engineering, DSEC, Perambalur
SAANA L	Creation of Food and Medicine Expiry Indicators Using Natural, Non-Toxic Biochemical Markers	Ms.L.Anto Maurin Lisha, Assistant Professor, Biomedical Engineering, DSEC, Perambalur
THILAGAVATHI @ SARUMATHI	Sustainable Biodegradable Drinking Straws for Patients Using Agricultural Bio-Waste with Enhanced Safety and Usability	Mrs.R Sridevi, Assistant Professor, Biomedical Engineering, DSEC, Perambalur
MANIKANDAN SATHYAMOORTHY	Use of Bioelectrochemical Systems with Cable Bacteria for Sustainable Water Purification and Energy Generation in Healthcare Facilities	Ms.Yoga Priya. M S,Assistant Professor, Biomedical Engineering, DSEC, Perambalur
KIRIJA G	Development of a Vitamin-D and Calcium-Enriched Nutritional Malt Supplement for Patients Using Mushroom and Eggshell Derivatives	Mrs.A.K.Nivedha, Assistant Professor, Biomedical Engineering, DSEC, Perambalur

Students Participation in Hackathons / Ideathons:

S. No.	Name of the Students	Problem Statement	State/National / International Level	Date of Event	Name of the Award if Any

1	Kopperundevi T	Uploaded solution in Smart India Hackathon Project Title: AI-based early detection and monitoring of diabetic retinopathy using fundus imaging and deep learning	National Level	16.04.2025	Presented
2	Anjitha B.M & Bhuvaneshwari.K	Uploaded solution in Smart India Hackathon Project Title: Portable low-cost ECG device with real-time cloud connectivity for remote cardiac monitoring	National Level	16.04.2025	Presented
3	Thilagavathy @ Sarumathi & Swathi. A	Presented in College Level Ideathon Project Title: Wearable gait monitoring device for early detection of Parkinson's disease	National Level	28.02.2025	Presented

PART E: First Year faculty and financial Resources

(Data to be filled in for the first year course faculty and budget allocation and utilization)

E1. First Year Student-Faculty Ratio (FYSFR)

Table No. E1.1: FYSFR details.

Year	Sanctioned intake of all UG programs (S4)	No. of required faculty (RF4= S4/20)	No. of faculty members in Basic Science Courses & Humanities and Social Sciences including Management courses (NS1)	No. of faculty members in Engineering Science Courses (NS2)	Percentage= No. of faculty members ((NS1*0.8) + (NS2*0.2))/(No. of required faculty (RF4)); Percentage= ((NS1*0.8) +(NS2*0.2))/RF

2022-23(CAYm2)	1440	72	63	21	76
2023-24(CAYm1)	1440	72	66	18	78
2024-25(CAY)	1440	72	57	18	68

E2. Budget Allocation, Utilization, and Public Accounting at Institute Level

Table No. E2.1: Budget and actual expenditure incurred at Institute level.

Items	Budgeted in 2024-25	Actual Expenses in 2024-25 till	Budgeted in 2023-24	Actual Expenses in 2023-24 till	Budgeted in 2022-23	Actual Expenses in 2022-23 till	Budgeted in 2021-22	Actual Expenses in 2021-22 till
Infrastructure Built-Up	23884000	23793748	22747500	21610134	28679600	28549884	25694800	23125320
Library	3396000	3395568	3234900	3073183	2940800	1746760	1572000	1414800
Laboratory equipment	5688000	5663757	5417200	5146312	4924700	4432230	3989000	3869330
Teaching and non-teaching staff salary	168000000	161061955	160332700	152316055	145756900	145656988	131091200	130954261
Outreach Programs	1200000	1176252	1141900	1084898	1038200	934362	840900	815673
R&D	1850000	1830566	1764300	1676028	1603900	1443470	1299100	1260127
Training, Placement and Industry linkage	37200000	36267980	36376800	34557934	24887900	24599178	22139200	21475024
SDGs	6540000	6445678	6223200	5911999	5657500	5091674	4582500	4445025
Entrepreneurship	2300000	1978923	1231100	1169524	1300900	1270882	1143800	1109486
Others, specify	9400000	9392892	8987000	8537650	8170000	8053000	7247800	7030366
Total	**259458000**	**251007319**	**247456600**	**235083717**	**224960400**	**221778428**	**199600300**	**195499412**

E3. Budget Allocation, Utilization, and Public Accounting at Program Specific Level

Table No. E3.1: Budget and actual expenditure incurred at program level.

Items	Budgeted in 2024-25	Actual Expenses in 2024-25 till	Budgeted in 2023-24	Actual Expenses in 2023-24 till	Budgeted in 2022-23	Actual Expenses in 2022-23 till	Budgeted in 2021-22	Actual Expenses in 2021-22 till

Laboratory equipment	454200	431490	434900	413155	413300	392635	372000	353400
Software	49300	46835	47200	44840	44800	42560	40300	38285
SDGs	479600	460416	456600	442902	426400	413608	383700	372189
Support for faculty development	184800	179256	177200	171884	176600	169536	158900	154133
R & D	160400	155588	152100	147537	140800	136576	126700	121632
Industrial Training, Industry expert, Internship	212300	205931	206700	198432	185600	178176	167000	160320
Printing, Stationery and Laboratory Maintenance	626700	595365	604800	580608	567000	538650	510300	489888
Total	**2167300**	**2074881**	**2079500**	**1999358**	**1954500**	**1871741**	**1758900**	**1689847**