NATIONAL BOARD OF ACCREDITATION

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

Program Name : Electrical and Electronics Engineering	**Discipline**: Engineering & Technology
Level : Under Graduate	**Tier**: 1
Application No: 10466	**Date of Submission**: 10-03-2025

PART A- Profile of the Institute

A1.Name of the Institute: BASAVESHWAR ENGG. COLLEGE	
Year of Establishment : 1963/1994	Location of the Institute: Bagalkote
A2. Institute Address:S.NIJALINGAPPA VIDYANAGAR	
City:BAGALKOT	State:Karnataka
Pin Code:587102	Website:www.becbgk.edu
Email:BECPRINCIPAL@YAHOO.COM	Phone No(with STD Code):08354-234060
A3. Name and Address of the Affiliating University (if any):	
Name of the University : VISVESVARAYA TECH. UNIVERSITY BELGAUM,KARNATAKA STATE	City: Belgaum
State : Karnataka	Pin Code: 590018
A4. Type of the Institution: Government Aided Institute	
A5. Ownership Status: Government Aided	

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

- No. of UG programs: **11**
- No. of PG programs: **7**

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	Engineering & Technology	UG	Artificial Intelligence and Machine Learning	2020	--	Artificial Intelligence and Machine Learning
2	Engineering & Technology	UG	Automobile Engineering	2024	--	Automobile Engineering
3	Engineering & Technology	UG	Biotechnology	2002	--	Biotechnology
4	Engineering & Technology	UG	Civil Engineering	1963	--	Civil Engineering
5	Engineering & Technology	UG	Computer Science and Engineering	1983	--	Computer Science and Engineering

6	Engineering & Technology	UG	Electrical and Electronics Engineering	1963	--	Electrical and Electronics Engineering
7	Engineering & Technology	UG	Electronics & Communication Engineering	1985	--	Electronics and Communication Engineering
8	Engineering & Technology	UG	Electronics & Computer Engineering	2024	--	Electronics and Computer Engineering
9	Engineering & Technology	PG	Environmental Engineering	2003	--	Civil Engineering
10	Engineering & Technology	PG	Food Biotechnology	2020	2024	Biotechnology
11	Engineering & Technology	PG	Geotechnical Engineering	1994	--	Civil Engineering
12	Engineering & Technology	UG	Industrial & Production Engineering	1984	--	Industrial and Production Engineering
13	Engineering & Technology	UG	Information Science & Engineering	1999	--	Information Science and Engineering
14	Engineering & Technology	PG	Machine Design	2002	--	Mechanical Engineering
15	Engineering & Technology	PG	Masters in Computer Applications	2023	--	Masters in Computer Applications
16	Engineering & Technology	UG	Mechanical Engineering	1963	--	Mechanical Engineering
17	Engineering & Technology	PG	Structural Engineering	1994	--	Civil Engineering
18	Management	PG	Master of Business Administration	2009	--	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
Electrical and Electronics Engineering	No	Electrical and Electronics Engineering	UG
Biotechnology	No	Biotechnology	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	Electrical and Electronics Engineering	UG	1963 / --	60	No	NA	60	1963	South-west/1-43664924117/2024/EOA, dated 17.05.2024	Granted accreditation for 3 years for the period (specify period)	2022	2025	4	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. R L Naik
B. Nature of appointment:	Regular
C. Qualification:	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)	60	60	60	60	60	60	60
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	59	58	53	52	53	54	53
N2=Number of students admitted in 2nd year in the same batch via lateral entry including leftover seats	0	6	12	9	12	11	13
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	3	3	3	3	3	3	3
Total number of students admitted in the program (N1 + N2 + N3 + N4) - excluding those admitted through multiple entry and exit points.	62	67	68	64	68	68	69

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)	60	59	3	103.33
2023-24 (CAYm1)	60	58	3	101.67
2022-23 (CAYm2)	60	53	3	93.33

Average [(ER1 + ER2 + ER3) / 3] = 99.44≡ 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).	72.00	71.00	73.00
B=No. of students who graduated from the program in the stipulated course duration	63.00	58.00	60.00

Average SR of three batches ((SR_1+ SR_2+ SR_3)/3): 83.42

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)
Mean of CGPA or mean percentage of all successful students(X)	6.61	6.95	6.21
Y=Total no. of successful students	61.00	56.00	55.00
Z=Total no. of students appeared in the examination	63.00	56.00	55.00
API [X*(Y/Z)]	6.40	6.95	6.21

Average API[(AP1+AP2+AP3)/3] : 6.52

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)	6.51	6.51	6.46
Y=Total no. of successful students	65.00	60.00	66.00
Z=Total no. of students appeared in the examination	68.00	64.00	68.00
API [X * (Y/Z)]	6.22	6.10	6.27

Average API [(AP1 + AP2 + AP3)/3] : 6.20

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)	6.59	6.62	6.78
Y=Total no. of successful students	58.00	64.00	60.00
Z=Total no. of students appeared in the examination	60.00	66.00	67.00
API [X*(Y/Z)]:	6.37	6.42	6.07

Average API [(AP1 + AP2 + AP3)/3] : 6.29

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	72.00	71.00	74.00
X=No. of students placed	41.00	48.00	52.00
Y=No. of students admitted to higher studies	1.00	4.00	4.00
Z= No. of students taking up entrepreneurship	0.00	0.00	0.00
Placement Index(P) = (((X + Y + Z)/FS) * 100):	58.33	73.24	75.68

Average Placement Index = (P_1 + P_2 + P_3)/3: 69.08 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	Dr. R L Naik	XXXXXXX74A	Ph.D	Visvesvaraya Technological University, Belagavi	Power Electronics Applications	23/05/1997	27.9	Assistant Professor	Professor	23/05/2015	Regular	Yes		Yes

2	Mr. R. S. Allurkar	XXXXXXX15P	M.E/M.Tech	Rajiv Gandhi Proudyogiki Vishwavidyalaya, Madhya Pradesh	Digital Techniques and Instrumentation	01/09/2022	2.6	Associate Professor	Associate Professor	01/09/2022	Regular	Yes		No
3	Dr. Basanagouda Ronad	XXXXXXX33E	Ph.D	Jain University Bangalore	SPV Based Irrigation System	04/10/2010	14.5	Assistant Professor	Associate Professor	01/01/2024	Regular	Yes		No
4	Smt. S. S. Tambakad	XXXXXXX32A	M.E/M.Tech	Visvesvaraya Technological University, Belagavi	Power and Energy Systems	02/05/2005	19.10	Assistant Professor	Assistant Professor		Regular	Yes		No
5	Dr. S. Y. Goudappanavar	XXXXXXX10J	Ph.D	Visvesvaraya Technological University, Belagavi	Wind Energy in Smartgrids	25/09/2008	16.5	Assistant Professor	Assistant Professor		Regular	Yes		No
6	Mr. Shivakumar G Nayak	XXXXXXX37C	M.E/M.Tech	Visvesvaraya Technological University, Belagavi	Power System and Power Electronics	19/12/2016	8.2	Assistant Professor	Assistant Professor		Regular	Yes		No
7	Mr. M. L. Chikkadesai	XXXXXXX38J	M.E/M.Tech	Visvesvaraya Technological University, Belagavi	Power system Engineering	16/11/2023	1.3	Assistant Professor	Assistant Professor		Regular	Yes		No
8	Mr. Santhoshkumar Kandagal	XXXXXXX61R	M.E/M.Tech	Visvesvaraya Technological University, Belagavi	Power and Energy Systems	16/04/2024	0.10	Assistant Professor	Assistant Professor		Regular	Yes		No
9	Mr. B. S. Hadapad	XXXXXXX23D	M.E/M.Tech	Visvesvaraya Technological University, Belagavi	Power and Energy Systems	18/04/2024	0.10	Assistant Professor	Assistant Professor		Regular	Yes		No
10	Mr. S. M. Iddalagi	XXXXXXX65K	M.E/M.Tech	Bharathiar University Coimbatore	Communication Systems	09/06/2022	2.8	Associate Professor	Associate Professor	09/06/2022	Contractual Fulltime	Yes		No
11	Dr. G. Suchitra	XXXXXXX55Q	Ph.D	Visvesvaraya Technological University, Belagavi	Wind Energy Systems	13/03/2024	0.11	Associate Professor	Associate Professor	13/03/2024	Contractual Fulltime	Yes		No
12	Mr. R. G. Patil	XXXXXXX85B	M.E/M.Tech	Jadavpur University, Kolkata	Electrical Machines	11/03/2024	0.11	Assistant Professor	Assistant Professor		Contractual Fulltime	Yes		No

13	Dr. D. S. Jangamshetti	XXXXXXX97N	Ph.D	Indian Institute of Technology Bombay	Speech Signal Processing	06/02/1987	37.1	Assistant Professor	Professor	10/03/2003	Regular	No	29/02/2024	No
14	Dr. Chayalaxmi C. L	XXXXXXX90K	Ph.D	Visvesvaraya Technological University, Belagavi	Embedded Systems and IoT	31/08/2023	1	Associate Professor	Associate Professor	31/08/2023	Regular	No	12/09/2024	No
15	Dr. M. A. Sutagundar	XXXXXXX93M	Ph.D	Visvesvaraya Technological University, Belagavi	Automation Robotics	31/08/2023	1	Assistant Professor	Assistant Professor		Regular	No	12/09/2024	No
16	Dr. S. H. Jangamshetti	XXXXXXX98D	Ph.D	Indian Institute of Technology Kharagpur	Wind Energy Systems	06/02/1987	36.4	Assistant Professor	Professor	23/08/2002	Regular	No	31/05/2023	No
17	Mr. S. M. Patil	XXXXXXX08E	M.E/M.Tech	Indian Institute of Technology Kharagpur	Power Electronics and Machine Drives	11/05/2023	0.11	Assistant Professor	Assistant Professor		Contractual Fulltime	No	26/04/2024	No
18	Mr. V. C. Jainkeri	XXXXXXX38A	M.E/M.Tech	Visvesvaraya Technological University, Belagavi	Power and Energy Systems	11/11/2016	6.9	Assistant Professor	Assistant Professor		Regular	No	19/08/2023	No
19	Smt. Nanda P	XXXXXXX06A	M.E/M.Tech	Visvesvaraya Technological University, Belagavi	Computer Science	10/06/2022	1.3	Assistant Professor	Assistant Professor		Contractual Fulltime	No	30/09/2023	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	66	66	66
UG1.C	66	66	66
UG1.D	66	66	66
UG1: Electrical and Electronics Engineering	**198**	**198**	**198**
DS=Total no. of students in all UG and PG programs in the Department	198	198	198
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=** 198	**S2=** 198	**S3=** 198
DF=Total no. of faculty members in the Department	12	10	10
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=** 12	**F2=** 10	**F3=** 10
FF=The faculty members in F who have a 100% teaching load in the first-year courses	0	0	1
Student Faculty Ratio (SFR)=S/(F-FF)	**SFR1= 16.50**	**SFR2= 19.80**	**SFR3= 22.00**
Average SFR for 3 years	**SFR= 19.43**		

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)	4	8	9.00	20.00
2023-24(CAYm1)	5	4	9.00	18.33
2022-23(CAYm2)	4	6	9.00	17.78

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	1.00	1.00	2.00	1.00	6.00	7.00
2023-24	1.00	1.00	2.00	1.00	6.00	7.00
2022-23	1.00	3.00	2.00	0.00	6.00	5.00
Average	RF1=1.00	AF1=1.67	RF2=2.00	AF2=0.67	RF2=6.00	AF2=6.33

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	Mr. Vinod Narayana	Manager	Shantala Power Limited, Hubballi	Energy Conservation, Audit and Demand Side Management	8.00

(CAYm2)

(CAYm3)

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	9	1	2
2	No. of peer reviewed conference papers published	6	3	1
3	No. of books/book chapters published	0	0	1

C7. Sponsored Research Project

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

(CAYm1)

(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
Dr. R. L. Naik	Smt. S. S. Tambakad	Department of Electrical and Electronics Engineering	Development of FPGA Controlled Multilevel Inverter for Grid Connected PV System	Visvesvaraya Technological University, Belgavi	2 Years	12.00
						Amount received (Rs.):12.00

(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
Dr. B. F. Ronad	Dr. S. Y. Goudappanavar	Department of Electrical and Electronics Engineering	SPV based Outdoor Shelter for Street Vendors-Design, Implementation, Testing and Demonstration of Commercial Applications with SPV Powered DC Distribution	VGST, Dept. IT, BT, Science & Technology, Government of Karnataka	2 Years	3.00
						Amount received (Rs.):3.00

Total Amount (Lacs) Received for the Past 3 Years: 15.00

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)

(CAYm2)

(CAYm3)

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

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
			Amount received (Rs.): 0		

(CAYm2)

(CAYm3)

Total amount (Lacs) received for the past 3 years : 0

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	Analog Electronics & Leaner IC's Lab	15	Analog and digital CRO, Pulse generator, Regulated DC power supply, Function Generators	3 hrsx5 days/weel	Ms. S. A. Kadeshanavar	Instructor	Diploma
2	Transformer and Induction Machines	15	1-phase 1HP, 3-phase 5HP, 6HP squirrel cage induction motors, 2kVA, 1.5 kVA Transformers, 230V 15A	3 hrsx5 days/weel	Mr. M. S. Bevoor	Asst. Instructor	I.T.I
3	DC Machines and Synchronous Machines	15	7.5HP, 5HP DC Compound Motor, 10HP DC Shunt motor, 5HP DC series motor, 4.5kW DC shunt Generator,	3 hrsx5 days/weel	Mr. M. S. Bevoor	Asst. Instructor	I.T.I
4	Power Electronics Lab	15	IGBT & MOSFET Based Choppers & Inverters, Power Converters, PWM Control Setup, AC-DC Converter	3 hrsx5 days/weel	Ms. S. A. Kadeshanavar	Instructor	Diploma
5	Microcontrollers	15	Analog and digital CRO, pulse generator, power supply and trainer kits, Microcontroller kits, Interfacing devices	3 hrsx5 days/weel	Smt. Nagarathna C.	Instructor	M.Tech
6	Power System Simulation	15	Computers, MiPower Software, MATLAB	3 hrsx5 days/weel	Mr. R. B. Kamannavar	Comp. Operator	B.A
7	Relay and High Voltage	15	AC and DC high voltage kit, Oil testing kit, Different electrodes, Relay test kits, Insulation testing equipment,	3 hrsx5 days/weel	Mr. M. S. Bevoor	Asst. Instructor	I.T.I

8	Digital Signal Processing Lab	15	Analog and digital, CRO, power supply, DSP kits	3 hrs×5 days/weel	Mr. R. B. Kamannavar	Comp. Operator	B.A

D2. Safety Measures in Laboratories

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

Sr. No	Laboratory Name	Safety Measures
1	Circuit Simulation and Measurement Laboratory	First aid kit, Periodic inspection of PCs and measuring instruments, fire extinguisher, surge protectors, MCBs, safety instructions displayed.
2	Analog Electronics and Linear ICs Laboratory	First aid kit, insulating mats, MCBs, fire extinguisher, safety posters, periodic earthing check.
3	Transformer and Induction Machines Laboratory	First aid kit, safety gloves, insulating mats, MCBs, periodic inspection of transformers, proper earthing, display of emergency instructions.
4	DC Machines and Synchronous Machines Laboratory	Display of safety guidelines, insulating mats, fire extinguisher, gloves, first aid kit, MCBs, sand bucket, annual earthing conductivity test, tool inspection.
5	Power Electronics & Control Systems Laboratory	First aid kit, proper earthing, circuit breakers, regular inspection.
6	Digital Signal Processing Laboratory	First aid kit, display of safety instructions, fire extinguisher, annual equipment verification.
7	Microcontrollers Laboratory	First aid kit, MCBs, fire extinguisher, proper cable management, safety posters.

8	Power System and Simulation Laboratory	First aid kit, surge protection, regular equipment calibration, fire extinguisher, displayed safety guidelines.
9	Relay and High Voltage Laboratory	Fire extinguisher, insulating mats, sand bucket, gloves, warning signs, first aid kit, earth continuity testing, MCBs, safety charts.

D3. Project Laboratory/Research Laboratory

Laboratory name	Details of equipment available in laboratory	Outcomes/Utilization
SCADA for Distribution and Automation Laboratory	Distribution SCADA Version 1.0 Control & Monitoring Software, IEC 61036, 3Ph LV Measurement, 60-100 A direct measurement from CT, harmonics upto 51 level, RS485 network, MySQL server, HMI Viewer & IFCU, Digital output-4 potential free contacts with programmable timed delay, Data logger- 1MB/8MB, Demand Controller, Dual Port communication, PN8500.	• Total UG projects completed: 05 • Total PG projects completed: 04 • PhD awarded: 01 • Technical papers published in International Journals: 03 • Technical papers presented in International Conferences: 03 • Internships to other college faculties and students
Renewable Energy Laboratory	**Vertical Wind Turbine Generator** 3phase PMSG, Rated Output-1500W, 12 to 48 /60 - 140 LV/HV, rated wind speed-10.5 / 24 m/s, cut-in & cut-out wind speed 2.7 & 12 m/s respectively, Class “H”, > 87%, 16 poles, 1 slot pitch, 375 RPM,3 blades-3.2 m rotor diameter, Carbon Fiber composite, ~ 0.37. Anemometer, 50Ah battery, AC-DC & DC-AC converters. Front wheel drive E-bicycle with solar charging facilities.	• Total UG projects completed: 05 • Total PG projects completed: 01 • PhD awarded: 01+01(On going) • Technical Papers published in International Journals: 01 • Technical Papers presented in International Conferences: 03 • Internships to other college faculties and students
Light Laboratory	Different types of illumination bulbs-Incandescent, different LEDs, Mercury vapor lamp, Sodium vapor lamp, Compact Florescent lamp, Filament lamp, Lux meter	• Mini projects: 01 • Internships to other college students
Smart Control of Power Electronics based Machine Drive Laboratory	**DC Motor with Mechanical Load** 1.0kW, 320V, 1500rpm, Motor type with 1024ppr. Incremental Encoder connected externally for speed feedback and mechanical loading arrangement (Brake Drum) along with required power supply for sensors, shielded cables for motor terminals. **FPGA based WAVECT Controller** 4 Voltage and 4 current sensors capable of sensing up to 1000V and 25A respectively with FPGA processor, generates 16 number of PWM pulses, ADC to convert varying analog signals into digital signal, senses speed from motor and converts it into RPM, captures the instantaneous voltage and current waveform. **Two Level Inverter, Class E Chopper** It consists of 3 Phase IGBT based Inverter + Rectifier + Class E Chopper connected with DC Motor to supply required controlled power supply. **Switched Reluctance Motor Drive with Mechanical Load:** 2.2kW, 3-HP, 320V, 3000rpm, 8/6 with 1024ppr. Incremental Encoder connected externally for speed feedback and mechanical loading arrangement (Brake Drum) along with required power supply for sensors, shielded cables for motor terminals.	• Total UG projects completed: 05 • Total PG projects completed: 04 • PhD awarded: 01(On going) • Technical Papers published in International Journals: 02 • Technical Papers Presented in International Conferences: 05 • Internships to other college faculties and students

Energy Park	**Solar Powered DC Water Pumps** • 0.5HP with 400W Panels (4 modules of 100 W) • 1HP with 900W Panels (6 modules of 150 W) • 2HP with 1800W Panels (10 modules of 180 W) **Solar PV Panels – Mono Crystalline** Solar PV Panels – Mono Crystalline Type, 180 Watts with Module voltage 12 Volts with mechanical support accessories fabricated as a single plane with MS steel tube structure with iron poles for vertical support at both ends **DC-DC Converters** 12V input and output of 12V, 24V, 32V, 48V **Inverters of 1 KVA** each system to connect the battery output to AC loads DC-DC converters for connecting SPV output to batteries (12/24V) Digital Voltmeter and Ammeter to measure the voltage and current in each unit. Existing system specification: 6 Hybrid Systems with following components. Wind generator: 400 W Solar PV panel: 75x2=150W Performance Monitoring Systems for SPV Pumps	• Total UG projects completed: 12 • Total PG projects completed: 12 • PhD awarded: 01 • Technical papers published in International Journals: 08 • Technical papers presented in International Conferences: 14 • Internships to other college faculties and students	

Inside view of SCADA Laboratory

Inside view of Renewable Energy Laboratory

Inside view of Light laboratory

Solar PV Direct Drive Irrigation Pump (2015)

BEC(A) Renewable Energy Park

Interior view of Smart Control of Power Electronics based Machine Drive Laboratory

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)	780	39	18	59	67
2023-24(CAYm1)	780	39	19	67	73
2024-25(CAY)	990	50	19	71	59

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 2024-2025	Actual Expenses in 2024-2025 till	Budgeted in 2023-2024	Actual Expenses in 2023-2024 till	Budgeted in 2022-2023	Actual Expenses in 2022-2023 till	Budgeted in 2021-2022	Actual Expenses in 2021-2022 till
Infrastructure Built-Up	3500000.00	3281141.00	200000000.00	165788889.00	15000000.00	12424080.00	20000000.00	16038156.00
Library	3000000.00	2815157.00	4000000.00	3990082.00	5000000.00	4998422.00	1400000.00	1376911.00
Laboratory equipment	20000000.00	17734490.00	20000000.00	18522412.00	14500000.00	13192618.00	1400000.00	1329633.00
Teaching and non-teaching staff salary	340000000.00	322249461.00	320000000.00	311932538.00	340000000.00	321257109.00	320000000.00	318759644.00
Outreach Programs	150000.00	110008.00	100000.00	45570.00	100000.00	93440.00	100000.00	45275.00
R&D	500000.00	481580.00	800000.00	786207.00	400000.00	300000.00	1200000.00	1144685.00
Training, Placement and Industry linkage	6000000.00	5714047.00	3000000.00	2925722.00	5000000.00	4118771.00	5000000.00	4445438.00
SDGs	2000000.00	1532652.00	1500000.00	1317716.00	1500000.00	1470999.00	1500000.00	1471714.00
Entrepreneurship	15000000.00	10528650.00	2000000.00	1782532.00	10000000.00	6097226.00	00	00
Others, specify	50000000.00	48456248.00	100000000.00	91635338.00	60000000.00	59612042.00	50000000.00	45453141.00
Total	**440150000.00**	**412903434.00**	**651400000.00**	**598727006.00**	**451500000.00**	**423564707.00**	**400600000.00**	**390064597.00**

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 2024-2025	Actual Expenses in 2024-2025 till	Budgeted in 2023-2024	Actual Expenses in 2023-2024 till	Budgeted in 2022-2023	Actual Expenses in 2022-2023 till	Budgeted in 2021-2022	Actual Expenses in 2021-2022 till
Laboratory equipment	1600000	1581041	200000	172280	300000	00	00	00
Software	00	00	00	00	00	00	00	00
SDGs	00	00	00	00	00	00	00	00
Support for faculty development	250000	232690	50000	21209	100000	00	50000	19409
R & D	200000	69440	00	00	00	00	300000	309214
Industrial Training, Industry expert, Internship	100000	85779	150000	139157	00	00	00	00
Miscellaneous Expenses*	00	00	00	00	150000	113669	00	00
Total	**2150000**	**1968950**	**400000**	**332646**	**550000**	**113669**	**350000**	**328623**