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ANNEXURE 2.3.1

S. No.	Details	Page No.
1.	Best Practices like ABL / PBL in Mechanical Department	2
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Department of Mechanical Engineering

Best Practice

Activity / Project Based Learning (ABL/PBL)

Effective participation of students in the teaching learning process is achieved by introducing activity / project based learning in the courses. Selected list of courses are identified to adapt activity/ project based learning every semester. Representative list of courses chosen for Activity / Project based learning in the semester is given below:

Activity Based Learning Course

Applied Materials Engineering

Project Based Learning Courses

- Industrial Robotics and Automation.
- Solid Mechanics.
- Metal Cutting and Machine Tools.
- Transmission Systems Design.
- Finite Element Analysis.
- Automobile Engineering.

CUSTOMIZE YOUR WHEELS - CUSTOM FINISH AVAILABLE !

BRUSHED	COLOR CHROME	GLOSS BLACK	PINSTRIPE
CHROME	GUNMETAL	SATIN BLACK	SPF

C .380
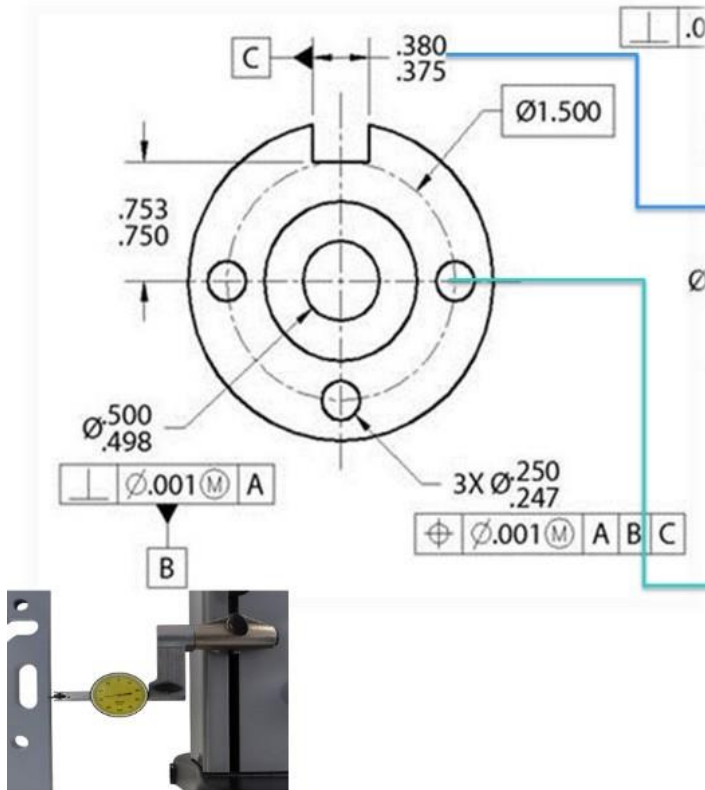.375

Ø1.500

.753
.750

Ø.500
.498

⊥ Ø.001 Ⓜ A

B

3X Ø.250
.247

⊕ Ø.001 Ⓜ A B C

- It has 3 digit accuracy and very small dimension. Hence tool makers microscope is used.

- PCD can be measured only using CMM.
- Position of holes and dimensions are also measured using CMM.

Peer Assisted Learning

Peer assisted learning programme is started for assisting fast learning ability challenged students which involves students (typically from the class toppers) to help them under the supervision of staff. Some of the courses for which PAL conducted are:

- Thermodynamics

- Solid Mechanics

- Transmission System Design

- Machine Dynamics.

Lab Restructuring

Lab courses are restructured periodically in order to equip the students with industry readiness. Experiments are framed in a non-conventional way to make the students to design their own way of experimentation and apply the theory to practice. Some of the examples are shown below:

In MEB2105 Drafting & Modeling Lab course, instead of giving dimensioned drawing from text book, real time engineering components like gears, couplings, crane hook, various joint are given to draft and create the model using software

MEB 2222 Manufacturing Technology lab course allows students to design the sequence their own manufacturing processes to fabricate a particular component
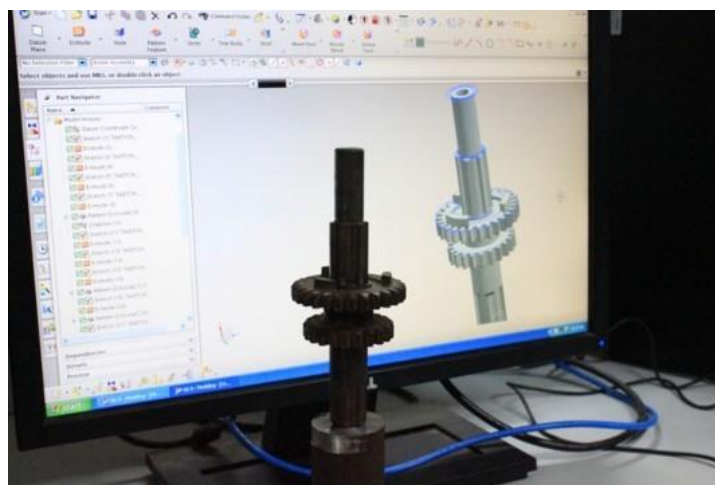
INDUSTRIAL VISIT REPORT

24.05.2022

School of Mechanical Sciences, BSACIST

Organized a Industrial visit to

TVS Training and Services Ltd- Chennai on

May   23 , 2022,   Time:10.00 PM to 4.00 PM

Coordinators	Coordinator
Dr.S.Ravikumar,	Veerabaskaran K
Asst Professor	
Department of Mechanical Engineering	Assistant Manager
School of Mechanical Sciences,	Technical Training Centre – 1 (Technical Training, NAPS, NEEM, Staffing)
BSACIST	Ambattur Industrial Estate, Chennai
Dr .S.Jeavudeen	
Asst Professor	
Department of Mechanical Engineering	
School of Mechanical Sciences,	
BSACIST	

A REPORT ON ONE DAY INDUSTRIAL VISIT to TVS Training and Services Ltd- Chennai

TVS TS is equipped with state-of-the-art training facilities. Nearly 75 students from   VII semester Mechanical Engineering along with faculty Dr.S.Jeavudeen ,Dr.S.Ravikumar and Dr.Thirumurugan visited TVS Training and Services Ltd- Chennai. This visit was mainly focused on to understand the machining process involved in industrial applications. Also the students were able to visualize the Pneumatics & Hydraulics ,Embedded Systems &Electric vehicle

They visited the following workshops in the facility .

Fitting Shop

Maintenance Shop

Welding Shop

Conventional Machine Shop

CNC Turning & Milling Chop

PLC, Advanced PLC & SCADA Lab

CAD/CAM Lab

Material Handling Workshop

Mechatronics

Pneumatics & Hydraulics

Embedded Systems

Automobile Workshop.

This Industrial visit is very helpful to the students he •They were able to gain knowledge about the basic machining process. • They were also informed about the different Job oriented courses offered by TVS training section

Coordinator   HOD (Mech)

The participants list

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Department of Mechanical Engineering

Design Appreciation Lab

This is a unique lab of our institute developed with the objective of enabling students to gain knowledge through handling of engineering products. Tear down of mechanical products to appreciate the use of various mechanisms involved is the main focus of this lab. Through dismantling and assembling a product one can identify the components, materials used and understand the interactions between its subsystems and their functions. This may kindle one's own creativity, ideation and help them realize the importance of team working.

This lab course is divided into four categories.

1. Study exercises
2. Tear down exercises
3. Project: Tear down a real life product
4. Project: Fabrication of a toy/product

A Lab manual containing the description of standard components and each product used in the lab course will be prepared and distributed to the students. They shall go through the lab manual to gain basic knowledge about the product.

Animated videos on the working of the product are also made available in the lab system. Students shall watch the videos either in the lab or YouTube to understand the working of the product.

Study exercises:

The expected outcome of this section is to identify the components and their function. Standard tools & components such as Wrenches, Screw drivers, Hammers, Cutters, Threaded Fasteners, Bearings, Gears and Valves are introduced to the students. Cut models or dismantled automobile products such as front axle, rear axle, differential, clutch, brake caliper and engine components are given to the students.

Tear down exercises:

The students will dismantle and assemble an engineering product to get hands on experience about the product. In this process the students will be able to identify the components and their function. They also gain knowledge on the various mechanisms involved, materials used and the manufacturing process. The details of the product will be documented in the record under these headings for each exercise.

    1. Teardown Plan

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2. Product Disassembly Data *(Identify the important components)*
3. Product Description:
   (General function, key findings from the dissection and applications)
4. Describe at least one key feature of the product
   (Could be reg. features, physics, function etc)
5. Bill of Materials
6. Schematic diagram

Sample products are shown here:

Standard Components

Front axle with Steering

Differential with Rear axle

Engine Gear Box

IC Engine

Gear Pump

Vane Pump

Radial Piston Pump

Fixed Reduction Gear box

Four Jaw Chuck

Reciprocating compressor

Centrifugal Pump

Hydraulic Valves

Reciprocating Pump

Electro-Mechanical components

Tear down a real life product:

Group of student shall identify and bring a product of their interest like toy or mechanical / automobile components not included in the list of experiments. This real life product will be dismantled or cut sectioned in the lab to identify the components, their function and the mechanism of the product. The details of the product will be documented in the record and a presentation on the product shall be given by the team.
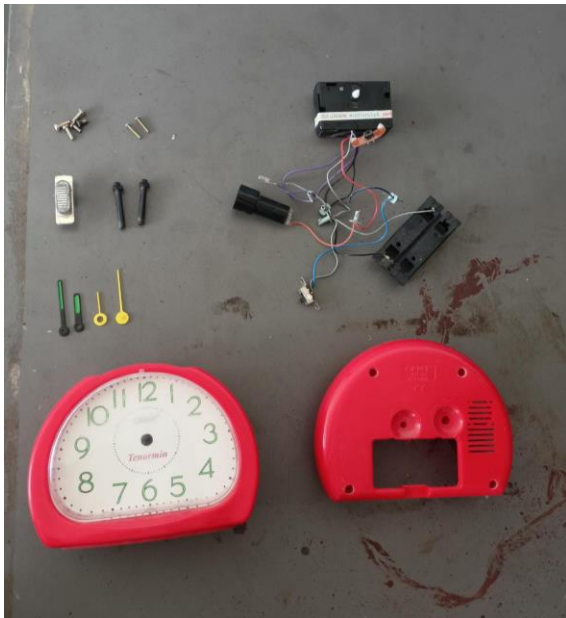
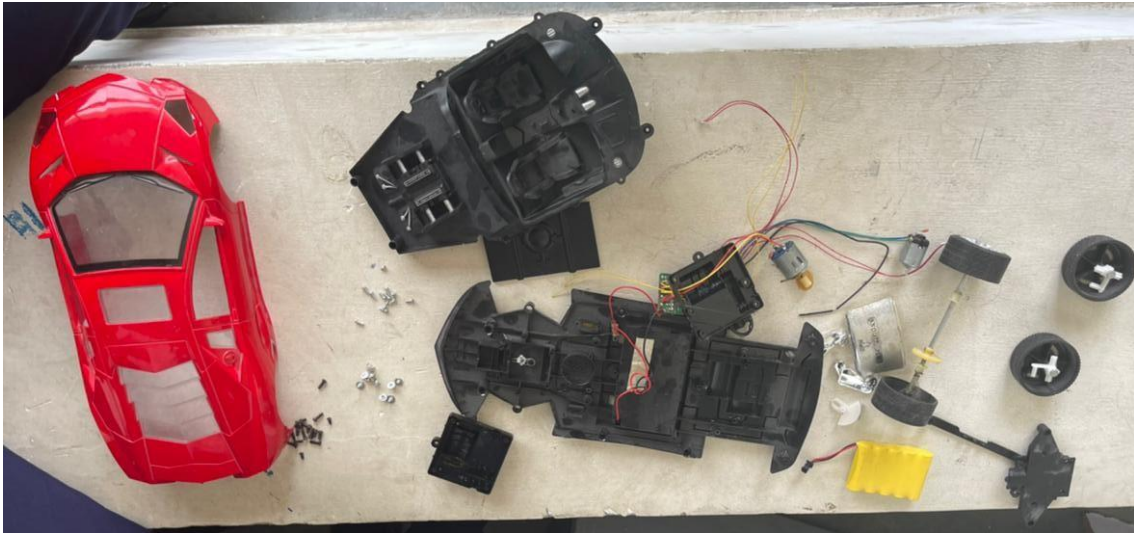Sample product Tear down by students are shown here:

Speaker

Toy

Alarm Time Piece

Internet Modem

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Toy Car

Exhaust Fan

Mobile Phone

Ironing Machine

Packaging Machine

Air Pump

Ceiling Fan

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Fabrication of a toy/product:

Group of students will design simple toys, or products that perform some functions such as move, rotate, jump etc to perform a task, when pulled or pushed or turned on. They can work with different materials and mechanisms to fabricate the toy. The task should be done during the lab session to ensure that students get hands on training in fabrication of products.

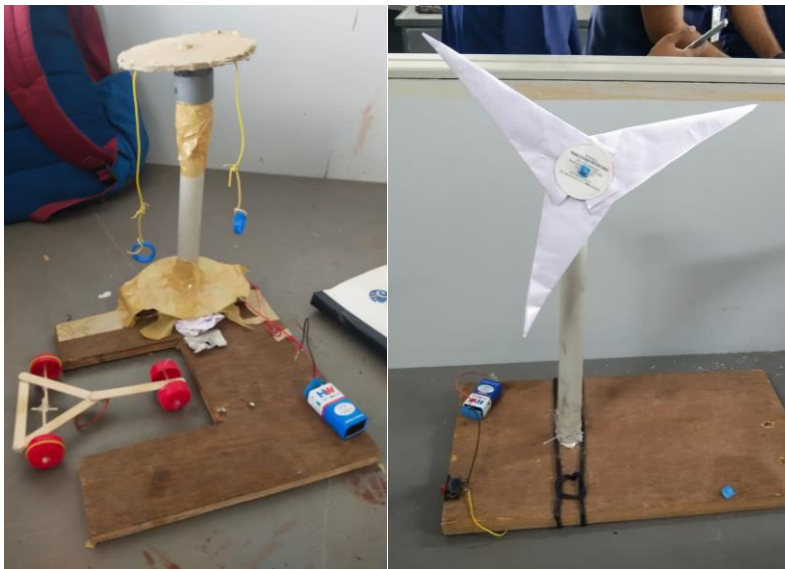Sample product fabricated by students are shown here:

Hydraulic Press

Moving toys

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Cooling Fan

Rotating Ring and Fan

Pump

Date: 25.08.2022

ANNUAL REPORT ON ENTREPRENEURSIP COURSES IN COLLABORATION WITH
WADHWANI FOUNDATION
July 2021 – June 2022

A. DETAILS OF STUDENTS

Month & Year	Social Entrepreneurship Course	Advanced Entrepreneurship Course	Total No. of Students Enrolled
ODD 2021-22 July - Dec. 2021	378	28	406
EVEN 2021-22 Jan. – June 2022	232	-	232

B. Details of Program Co-ordinators

B1. Institute Co-ordinator:

Mrs. B.Sivashanmugavalli, M.E, MBA,
Assistant Professor,
Department of Electronics & Communication Engineering,
BSA Crescent Institute of Science & Technology,
Vandalur, Chennai - 48.

B2.Co-ordinator from Wadhwani Foundation:

Mr. Craig Jude Moreyra, MBA.,
Regional Manager – WE
South Region – India

C. Faculty Members handling Entrepreneurship Courses

ODD SEMESTER 2021-22:

C1. Advanced Entrepreneurship (GEBX 219):

Common to all UG VII Semester – General Elective

     28 students (CSE, EEE, Polymer & IT)

     Ms.B.Sivashanmugavalli, AP / ECE

C2. Social Entrepreneurship (MSC3182):

Class	No. of Students	Course Faculty
Civil Engg.	40	Mr.Y.Ibrahim,AP / Civil
Polymer.	30	Ms.B.Sivashanmugavalli, AP / ECE
Biotechnology	41	Mr.S.SadhishPrabhu,AP(Sr.Gr)/ECE
Mechanical Engg. - A	45	Mr.A.RameshKumar, AP/ECE
Mechanical Engg. - B	29	Mr.Asrar Ahmed, AP / Mechanical
Automobile Engg.	19	Mr.Sirajudeen, AP / Mechanical
Aeronautical	28	Mr.Sirajudeen, AP / Mechanical
Total	**232**	

EVEN SEMESTER 2021-22:

C3. Social Entrepreneurship (MSC3182):

Class	No. of Students	Course Faculty
ECE A	43	Mr.A.RameshKumar, AP/ECE
ECE B	44	Mr.S.SadhishPrabhu,AP(Sr.Gr)/ECE
CSE A	58	Mr.Y.Ibrahim, AP/Civil
CSE B	62	Mr.Sirajudeen, AP / Mechanical
CSE C	61	Mr.Asrar Ahmed, AP / Mechanical
EEE	43	Mr.Kannadasan, AP/Civil
E&I	10	Mr.Kannadasan, AP/Civil
IT	57	Ms.B.Sivashanmugavalli, AP/ECE
Total	**378**	

D. Assessment Procedure for Entrepreneurship Courses:

Sl.no	Details	Max. Marks	Weightage
	a) Learnwise quiz	10	80%
	b) Learnwise Assignments	30	
	c) Capstone Project Presentation on Practice Venture	30	
	d) Learnwise – Final assessment	10	
Summary			
Sl.no	Details	Max. Marks	Weightage
1.	Continuous Internal Assessment	80	80%
2.	Semester end examination	100	20%
	Total		100%

E. Performance of Students:

ODD SEMESTER 2021-22:

E1. Department wise Grade:

Department	I	U	E	D	C	B	A	S	W	TOTAL
Aero	1	0	0	0	0	4	17	6	0	**28**
Auto	0	0	0	0	0	1	13	5	0	**19**
Civil A	1	0	3	0	3	21	11	1	0	**40**
MECH B	0	0	0	2	4	5	13	5	0	**29**
MECH A	0	0	1	15	8	8	11	2	0	**45**
Polymer	0	0	1	0	0	12	11	6	0	**30**
Bio	1	0	1	3	9	17	9	1	0	**41**
Total	**3**	**0**	**6**	**20**	**24**	**68**	**85**	**26**	**0**	**232**

E2. Grade distribution curve:

Grade Distribution
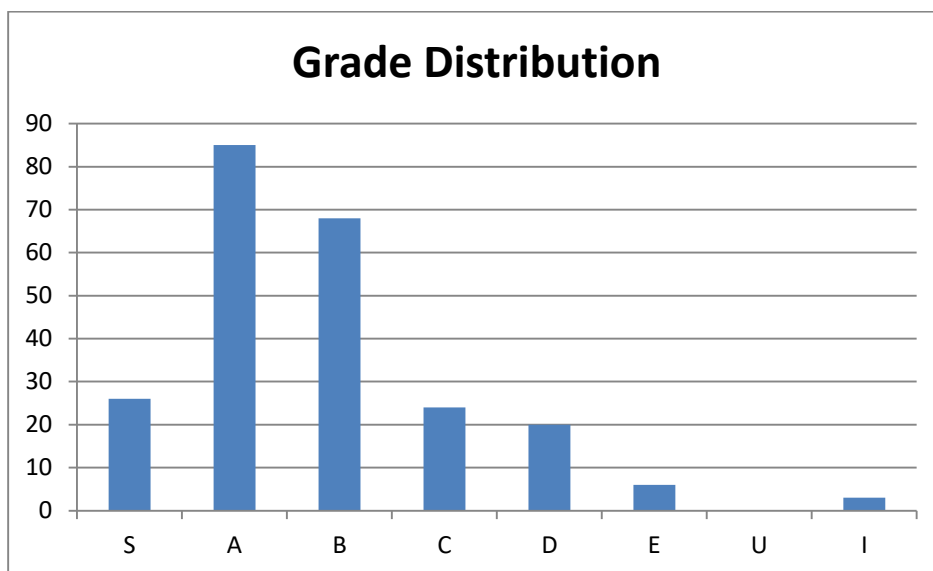
Figure 1. Grade distribution in Odd Semester (2020-21)

EVEN SEMESTER 2021-22:

E1. Department wise Grade:

Dept	I	U	E	D	C	B	A	S	W	TOTAL
ECE A	1	1	6	3	4	9	12	7	0	**43**
ECE B	1	0	0	2	6	7	22	6	0	**44**
CSE A	0	0	1	0	1	3	22	31	0	**58**
CSE B	0	0	0	8	9	7	18	20	0	**62**
CSE C	0	0	2	3	3	5	26	22	0	**61**
EEE	1	0	0	0	6	9	14	13	0	**43**
EIE	0	0	0	0	0	0	9	1	0	**10**
IT	0	0	1	5	10	21	18	2	0	**57**
Total	**3**	**1**	**10**	**21**	**39**	**61**	**141**	**102**	**0**	**378**

E2. Grade distribution curve:
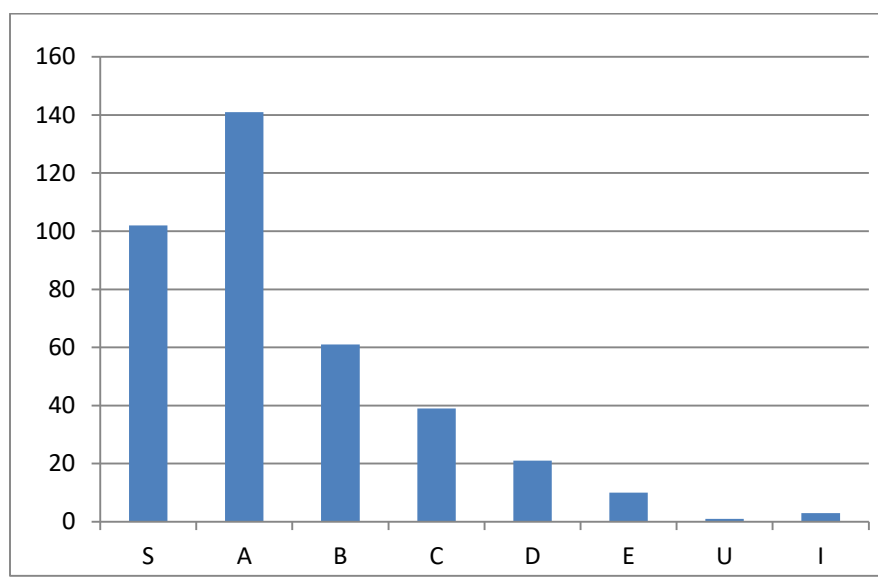
Figure 2 Grade distribution in Even Semester (2020-21)

F. Collaborative Programmes & Activities:

S. No.	Programme / Activities	Name of Faculties Involved	No. of Students Benefited	Faculty Coordinator	Regional Manager (from WF)	Month & Year
1	Offering MSC 3182 - Social Entrepreneurship Course (B.Tech. R2017 students) **(Odd semester 2021-22)**	1. Ms. B. Sivashanmuga Valli, AP/ECE 2. Mr.A.Ramesh Kumar, AP/ECE 3. Mr.S.Sadhish Prabhu,AP(Sr.Gr)/ECE 4. Mr.N.Sirajudeen, AP/Mech 5. Mr.A.Asrar Ahmed, AP/Mech 6. Mr.Y.Ibrahim, AP/Civil	**232 students** from Third year B.Tech. Programmes of School of Mechanical Sciences, School of Infrastructure & School of Life Sciences	Ms. B. Sivashanmuga Valli, AP/ECE	Mr. Craig Jude Moreyra	Jan. – May 2021
3	Offering GECX 219 – Advanced Entrepreneurs	Ms. B. Sivashanmuga Valli, AP/ECE	Final year B.Tech Programm	Ms. B. Sivashanmuga Valli, AP/ECE	Mr. Craig Jude Moreyra	Jan. – May 2021

S. No.	Programme / Activities	Name of Faculties Involved	No. of Students Benefited	Faculty Coordinator	Regional Manager (from WF)	Month & Year
	hip Course (B.Tech. R2017 students) **(Odd semester 2021-22)**		e – **28 students**			
4	Offering MSC 3182 - Social Entrepreneurship Course (B.Tech. R2017 students) **(Even semester 2021-22)**	1. Ms.B. Sivashanmugavalli, AP/ECE 2. Mr.S.SadhishPrabhu, AP(Sr.Gr)/ECE 3. Mr.A. RameshKumar, AP/ECE 4. Mr.N.Sirajudeen, AP/Mech 5. Mr.A.Asrar Ahmed, AP/Mech 6. Mr.Y.Ibrahim, AP/Civil 7. Mr.A.Ramesh Kumar, AP/ECE 8. Mr.Kannadasan, AP/Civil	**378 students** from Third year B.Tech. Programmes of School of Electrical & Communication Sciences, School of Computer, Information & Mathematical Sciences	Ms. B. Sivashanmugavalli, AP/ECE	Mr. Craig Jude Moreyra	Jan. – June 2022
5	Start Me Up Global Entrepreneurship Awards	Institute Award: **Gold Level Award** Global Jury Awards: 1. Mr.S.Sadhish Prabhu, AP(Sr.Gr)/ECE (**Gold Jury**) 2. Mr.A. RameshKumar, AP/ECE (**Gold Jury**) 3. Ms.B. Sivashanmugavalli, AP/ECE	**15** Students have been Awarded	Ms. B. Sivashanmugavalli, AP/ECE	Mr. Craig Jude Moreyra	June 2022

S. No.	Programme / Activities	Name of Faculties Involved	No. of Students Benefited	Faculty Coordinator	Regional Manager (from WF)	Month & Year
		(Gold Jury) 4. Dr.Parvez, CEO,CIIC **(Gold Jury)** Faculty Certifications: 1. Mr.Y.Ibrahim, AP/Civil **(Gold Level)** 2. Mr.S.Sadhish Prabhu, AP(Sr.Gr)/ECE **(Gold Level)** 3. Ms.B. Sivashanmugavalli, AP/ECE **(Silver Level)** 4. Mr.Kannadasan, AP/Civil **(Silver Level)** Student Certification: Team 1: Power cube Team 2: Mettle Team 3: UMP Team 4: AVS Team 5: Grow Together				

H. Details of Students Certification:

The practice ventures of the students enrolled for Foundation Courses are evaluated by Global Jury Members through YouNoodle Platform. The PVs are evaluated based on various criteria such as Problem Identification, Customers, Value proposition, Business Model, Competition Analysis etc., The score are presented in 5 point scale. Those whoever scored above 4 points, will be certified as eligible Practice Ventures. More than **10 Practice Ventures**, **50 students** have been certified from the You Noodle Global Jury Members.

I. Sample Activities from Students:

1. Value Proposition Canvas:
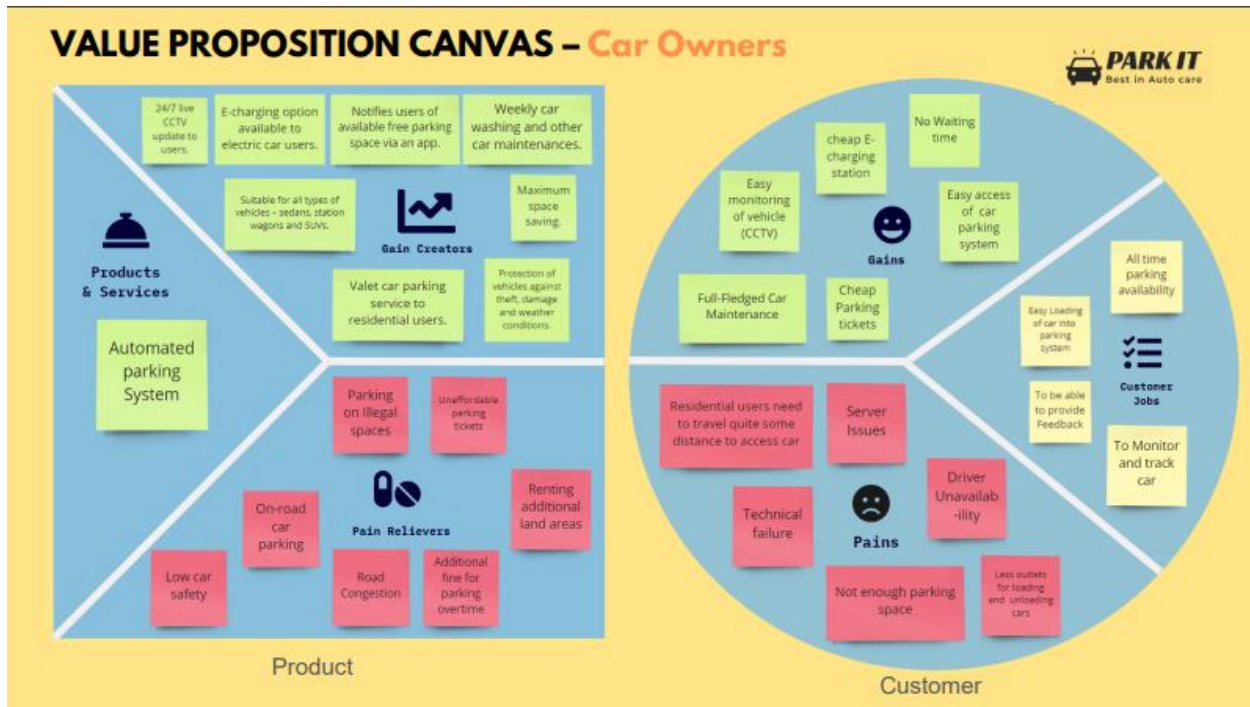
Figure 3. Sample Value Proposition Canvas

2. Business Model :
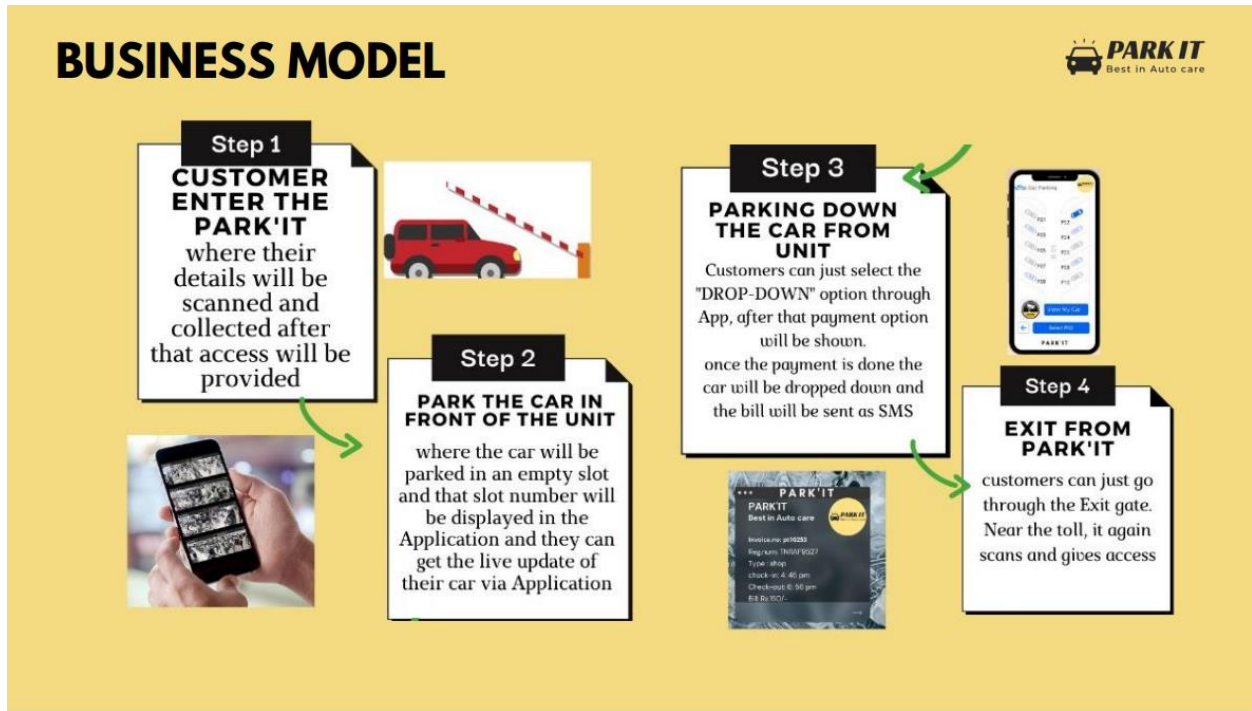
Figure 4. Sample Business Model

3. MVP:

Figure 5. Sample MVP

4. PRV:
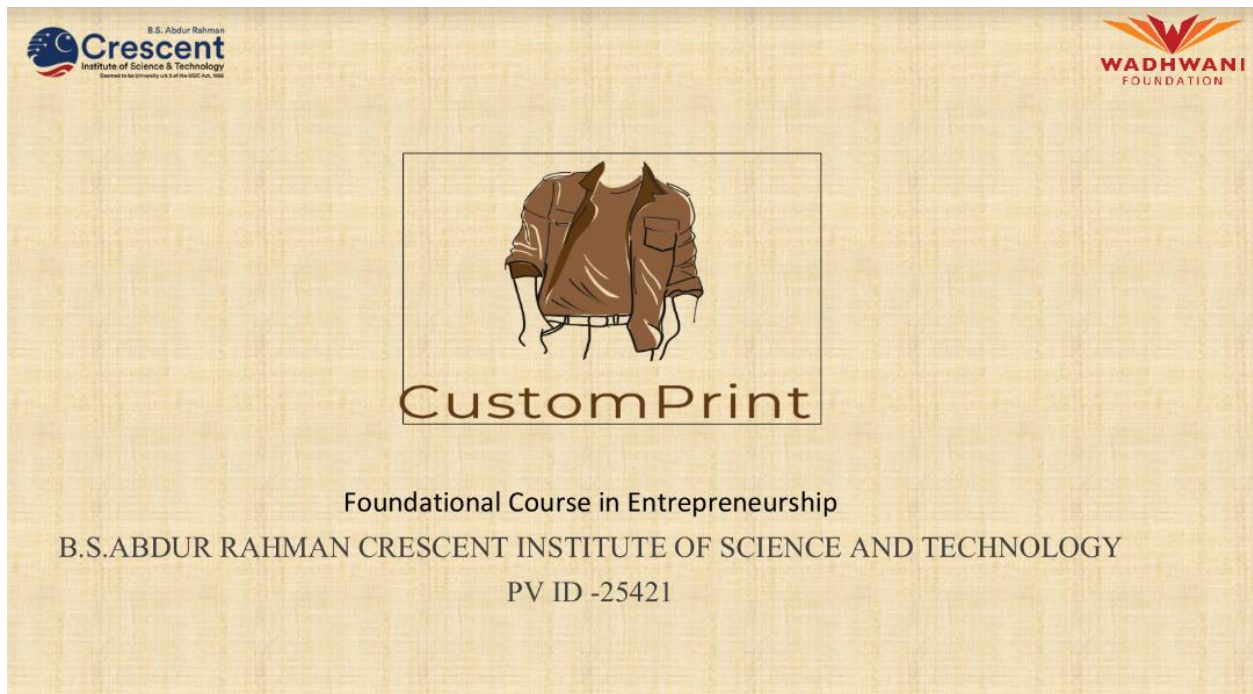
Figure 6. Screenshot of student's PV presentation to the Jury

Dean, Academic Affairs

120 STARTUP COMPENDIUM

www.ciic.ventures

EU - INDIA INNOVATION PARTNERSHIP

One of the few incubators recognized by European Commission under Incubator Innovation Program

CIIC 2022

STARTUP
COMPENDIUM

Crescent
Innovation
Incubation
Council

(A Section 8 Company Under Companies Act 2013)

About CIIC

CIIC, established as a Section-8 not for profit company, is the innovation arm of B. S. Abdur Rahman Crescent Institute of Science and Technology (BSACIST), Chennai, India funded with **Rs. 1.8 Cr** by BioNEST BIRAC, Department of Biotechnology, Ministry of Science and Technology, Government of India, **Rs. 5.25 Cr** funded under Startup India Seed Fund Scheme, Startup India, DPIIT, Ministry of Commerce and Industry, Government of India to support startups, **Rs. 2.10 Cr** funded by MeitY Startup Hub (MSH), MeitY, Government of India for implementing SAMRIDH acceleration Program, **Rs. 10.6 Lakhs** funded by Ministry of Education's Innovation Cell & AICTE, Ministry of Education for hosting Smart India Hackathon 2022 Hardware Edition as a Nodal Centre, **Rs. 1.25 Cr** under Innovation Voucher Program by Entrepreneurship Development & Innovation Institute, Govt. of Tamil Nadu and received **Rs. 7.5 Lakhs** from StartupTN towards Scaleup - Incubator Capacity Building programme & participation in GITEX Future Stars 2021, Dubai. CIIC has currently incubated **120** startups and has been acting as a "One Stop Shop – Startup Incubator" for startups in the field of Life sciences, Industry 4.0 and Smart & Clean Mobility.

CIIC aims to support & render startups into profitable entities through the mission statement called Triple 'M' – Mentor, Money & Market transforming innovation into scalable business models with high productive impact and encouraging interdisciplinary advancement both nationally and internationally.

Vision

To become a University-based startup incubator of excellence, reforming entrepreneurial student aspirants and startups into profitable entities, thereby creating an impact on the economic development and community wealth.

Mission

- Recognize & nurture students, faculty members, and alumni into startups.
- Create and promote collaborative networks through partnerships between academia, industry and government.
- Create facilities through establishing Centres of Excellence.
- Increase and advance the in-house operational skills for leveraging entrepreneurial expertise and resource network.
- Identify & nurture top-notch entrepreneurs in Life sciences, Industry 4.0, Smart & Clean Mobility through expert mentoring and also foster lean startups into sustainable companies.

IMPACT CREATED BY CIIC

120 Startups

88 Partnerships

58 University Patents

220 Workshops & Events

₹ 180 L
Grant received from BIRAC, BioNEST Dept of Biotechnology Ministry of Science and Technology Govt. of India

₹ 525 L
Grant received under Startup India Seed Fund Scheme from Startup India DPIIT, Ministry of Commerce & Industry Govt. of India

₹ 210 L
Received from MeitY Startup Hub (MSH), MeitY, Govt. of India for implementing SAMRIDH Acceleration Program

₹ 10.6 L
Received from AICTE, Ministry of Education, Govt. of India for hosting Smart India Hackathon 2022 Hardware Edition as a Nodal Centre

₹ 125 L
Received startup seed funding grant under Innovation Voucher Program by Entrepreneurship Development & Innovation Institute (EDII), Govt. of Tamil Nadu

₹ 7.5 L
Received a prize money from StartupTN towards ScaleUp – Incubator capacity building programme & participation in GITEX Future Stars, Dubai
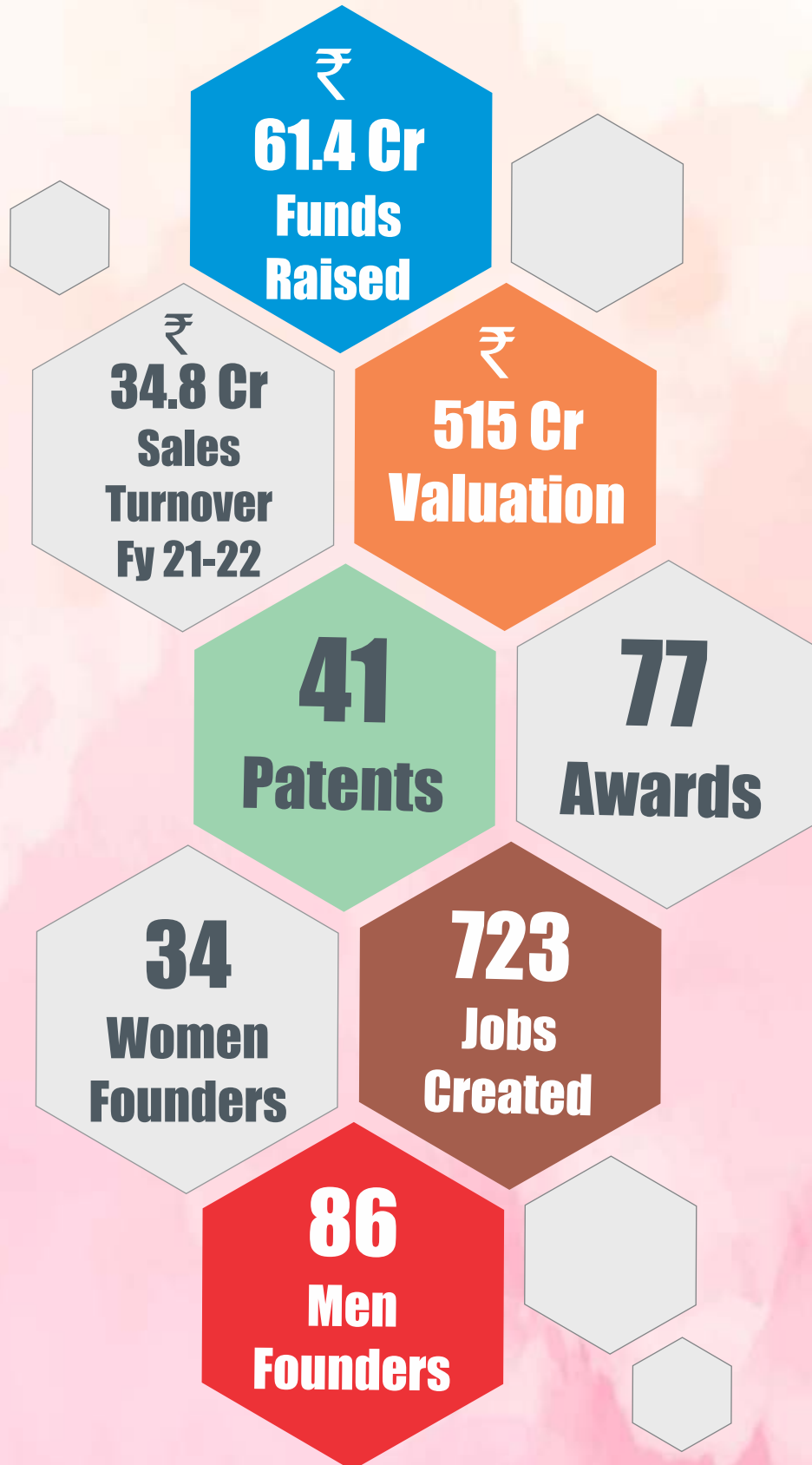
Recognized as
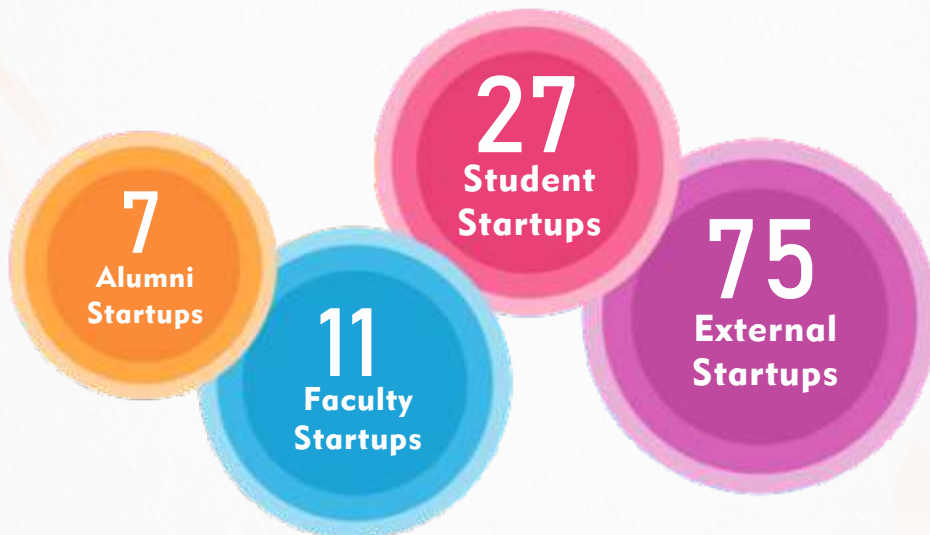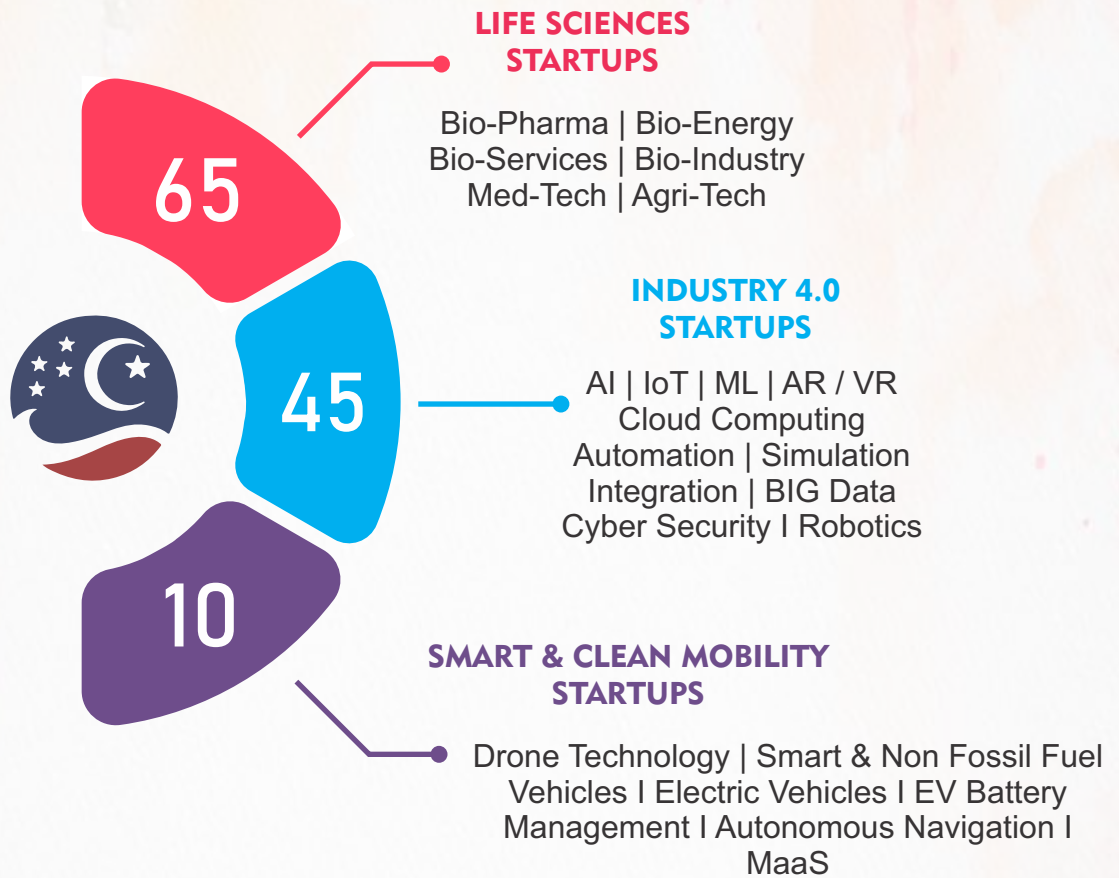**3rd Top Private**
Bio Incubator in India for 3 consecutive years

One of the few incubators recognized by European Commission under Incubator Innovation Program

IMPACT CREATED BY CIIC STARTUPS

₹ **61.4 Cr**
Funds Raised

₹ **34.8 Cr**
Sales Turnover Fy 21-22

₹ **515 Cr**
Valuation

41
Patents

77
Awards

34
Women Founders

723
Jobs Created

86
Men Founders

CIIC STARTUPS' INFOGRAPHIC

65

LIFE SCIENCES STARTUPS

Bio-Pharma | Bio-Energy
Bio-Services | Bio-Industry
Med-Tech | Agri-Tech

45

INDUSTRY 4.0 STARTUPS

AI | IoT | ML | AR / VR
Cloud Computing
Automation | Simulation
Integration | BIG Data
Cyber Security I Robotics

10

SMART & CLEAN MOBILITY STARTUPS

Drone Technology | Smart & Non Fossil Fuel
Vehicles I Electric Vehicles I EV Battery
Management I Autonomous Navigation I
MaaS

7
Alumni Startups

11
Faculty Startups

27
Student Startups

75
External Startups

38
IDEATION
Stage STARTUPS

29
PROTOTYPE
Stage STARTUPS

41
REVENUE
Stage STARTUPS

12
GROWTH
Stage STARTUPS

75
External Startups

AADITHYAA DEVELOPERS

Aadithyaa Builders develop constructional work management software and an application

UN SDG : 9,11

Providing solutions to reduce Carbon dioxide emission through algal technologies

UN SDG : 13,15

AASVA Technologies is the custom ERP software development company for construction sector and provide software development services to all IT and Non IT ventures and entrepreneurs with long term support

UN SDG : 9

Property Smart Card, a complete digital solution for your real estate and property papers. Replacing paper hassle with SaaS.

UN SDG : 9

Offers Stem cell-based research & training, and also involved in research on molecular diagnostics

UN SDG : 3

Predictive toxicity screening of small molecules in non-animal models i e. *C. elegans* for accelerating drug discovery

UN SDG : 3

To invent and commercialize novel genetic diagnostic platforms

UN SDG : 3

Aloe E-cell is the world's first 100% ecofriendly and non-hazardous 1.5V AA size Aloevera batteries which are an alternative to the deadly hazardous dry cell batteries

UN SDG : 7

R&D activity in the field of Genetic Engineering for agriculture, pharmaceutical, food, feed, vaccine and dairy products

UN SDG : 3

On Demand Industrial Drone Manufacturing Design, Develop, Manufacture Drones

UN SDG : 3

Bazaar King Pvt Ltd

Agro based supply chain whole sale to small traders Vegetable

UN SDG : 8

Bio Ark Technology

By using biotechnology aspects, BioArk Technology facilitates wastewater treatment through a novel methodology, production of bioenergy and its services and various bio-product development for effective treatment of Industrial and domestic wastewater.

UN SDG : 6

claco

R&D: A well-designed research facility for the development of impactful technological advancements to support educational system and caters to Industry 4.0
L&D: Team of expert professionals combined with judicious engineering workforce provides offers programs in cutting-edge Technological domain — Project based leaning — From Primary Education to College Students and Working Professionals.

UN SDG : 4

CODINCITY
CODING THE FUTURE

Codincity is a software services company that is born in the cloud with a huge emphasis on cloud and cloud native technologies. Codincity offers various services and solutions around Cloud technologies to help its clients in their cloudification and digital transformation journey

UN SDG : 8

CareMe Health

Creates a digital health care delivery system and provides direct patient care via telemedicine

UN SDG : 3

CREST INNOVATIONS

Developing food formulation for effective management of chronic health conditions

UN SDG : 3

CELUTRON

Bio Ink & 3D Bio-Printing for Tissue and Organ Development

UN SDG : 3

D2D Angaadi

Synergizes the success mantra of both E – Commerce & Local retail stores to deliver a niche bundle of products & services at customer's doorstep in Tier 2 & 3 cities

UN SDG : 8

DiabWellness

DiabWellness Inc.builds the next generation Healthcare Platform hat provides holistic evidence based healthcare management systems and implements a continuity of care model for Diabetes & Metabolic syndrome.

UN SDG : 3

CSME IDEA INNOVATIONS

Developing medical devices using smart technologies like virtual reality, artificial intelligence, and cloud computing for telemedicine applications.

UN SDG : 3,9

DENVIK
access innovation

DENVIK develops and provides core competency in cutting edge embedded technology

UN SDG : 9

ENMAZ

ENMAZ aims to revolutionize the process of digitizing any factory/ industry and enable customers to analyze productivity, process efficiency and machine condition like never before

UN SDG : 9

EasiLyfe.com

Easilyfe.com's vision is to bring all qualified doctors, hospitals and labs under one platform. It aims to treat everyone by providing access to private hospitals regardless of their income

UN SDG : 3

EXONN BIOSCIENCES

Works in the field of biotech & IT with the use of data science to analyze diseases at molecular level and address them with right treatment

UN SDG : 3

Developed a product called "GroTron®. It is a "360° Autonomous Precision Farming Platform" that encompasses all facets of Agriculture using AI/ML/IoT

UN SDG : 2,12

EETA6 pursuit of sustainability

EETA6 focuses on converting biodegradable waste into protein rich animal feed and compost using Black Soldier Fly Composting Technology

UN SDG : 15

EmpAsys

Providing infrastructure management services to clients globally by providing IT operations

UN SDG : 9

ELECTRIFY

Intelligent Medical Stretcher (with Skateboard Architecture Technology)

UN SDG : 3

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foodieclan

An application to review the food and to order within a short distance for bulk booking feature

UN SDG : 2

FARMfinity

Farmfinity aims to promote and propogate efficient and greener agricultural practice through sustainable technologies

UN SDG : 15

FRONTIER LIFECARE INNOVATION PVT LTD

Focusing on Molecular Biology & Cytogenetics based research and services

UN SDG : 3

GRITTER SOLUTIONS PVT LTD

FinDoze is a new generation financial magazine that acts as a personal financial consultant by tailoring content based on users financial goals and commitments.

UN SDG : 17

GTrendz

Gtrendz is an Exclusive E-commerce site for footwear and accessories in India

UN SDG : 8

Green Flora Green and Clean Biosciences

Innovated, Developed & Patented high dietary fibre, high protein, Low GI white polished "Village Rice"

UN SDG : 2,3,12

HAIN BIOSOLUTIONS

Development of super hydrophobic antimicrobial and reusable gloves

UN SDG : 3

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i-Life Biotech aims to simplify the research by innovating & developing lab Instruments catering to R&D in biotech industries.

UN SDG : 3

Developing cutting edge biomedical instruments for Stem cell therapeutics and drug screening applications

UN SDG : 3

Iviewsense provides business intelligence & prescriptive data analytics products, solutions, consulting & training services.

UN SDG : 9

Redefining your health through genetics and cell therapy based technologies which holds the potential to revolutionize medical therapeutics

UN SDG : 3

Providing technologically driven IoT based products and solutions for postharvest management and protected environment farming techniques

UN SDG : 2,12,13

Invitro Biologicals Pvt ltd

Company developes vitro diagnostic Kit and raw materials reagent development for infectious disease, hormones, cardiology, tumer and carncer

UN SDG : 3

Developing NextGen bioprocess and air purifying systems

UN SDG : 11, 13

Focusing on transforming offline and online businesses to achieve their full potential in their digital space with the help of technology and services

UN SDG : 9

KIDIN

Developing efficient high quality, eco-friendly cleaning products which help in eliminating indoor pollution

UN SDG : 6

One stop application to find charging point for any of your Electric Vehicle

UN SDG : 7,9

Medcot provides automatized cot for immobile and bedridden senior citizens

UN SDG : 3

MirrAR platform simplifies the process of creating, sharing and exploring AR, VR, MR & 3D experiences that works on any device in just few minutes to enhance better sales & customer experience

UN SDG : 9

Mark Application Engineering Labs offers smart new product development possibilities by considering latest and advanced components and surface treatment technologies

UN SDG : 9

Improving living standards by finding environmental solutions with innovation and recreation to make a better tomorrow

UN SDG : 7

Naked Nature is into manufacturing skin care products which are organic without any influence of harsh chemicals .

UN SDG : 3

Developing advanced, premium and indigenous protein and meal replacement products from plant and dairy sources for medical, fitness and health purposes

UN SDG : 2,3

Proflo is committed to empower businesses with real-time recommendations, insights and inference through pre-historical data to help them in decision making through an enterprise planning software.

UN SDG : 8

Developing cost-effective field based kits and devices for the rapid diagnosis of infectious diseases through innovative technologies at affordable price

UN SDG : 3

Manufacturer of Wheat grass based health supplements to address human health problems

UN SDG : 3

Raptee is an e-mobility startup working on delivering a no-compromise electric commuter motorcycle for the largest two-wheeler market in the world. They are pioneers in delivering virtually maintenance-free, charge anywhere, ultra-reliable and long lasting (8 Year Warranty) motorcycle

UN SDG : 11

Roha Biotech

Biodegradable Mycelium Based Packaging using agricultural residue and mushrooms

UN SDG : 15

AGTECH Pvt Ltd.,

Agro based supply chain Grocery Traders

UN SDG : 2, 8

Sustainable construction 3d printing for earth moon and mars

UN SDG : 9, 11

Making Aquaculture sustainable through monitoring parameter and resource-optimisation by reducing mortality rates and yielding export quality shrimps

UN SDG : 14

www.ciic.ventures

Simbioen Labs

Developing enzyme-based cocktail with depolymerization for degradation of multiple polymers

UN SDG : 15

Socio Inventions and Innovation Pvt. Ltd

An innovative business model to connect end to end domestic services which includes right from renting a house to maintenance services

UN SDG : 9

SMA — Shri Meenakshi Associate

Providing eco-friendly false ceiling in weather fabrics to control the weather conditions effectively

UN SDG : 11

SOLID PRO

Providing solutions in the field of mechanical, electronics, IoT and automation space through strategic tie-ups & joint ventures

UN SDG : 9

STYLERENT

Democratizing and making high end fashion affordable for the masses

UN SDG : 9

THREE BRANCHES HEALTHCARE PRIVATE LIMITED

Cyster Care was created with the aim to revolutionize the healthcare sector and provide holistic health and wellness solutions to the masses

UN SDG : 4

THREMEAR Private Limited

Focusing on early diagnostic product development for hormonal imbalances to improve women healthcare and wellness

UN SDG : 3

TRANSFERGY

Block chain based fin tech

UN SDG : 17

UDAYAAGRO

Udayaagro intends to solve non-communicable diseases such as constipation, diabetes , obesity, colon cancer etc. with the help of value added food products from our high fiber and high protein white rice

UN SDG : 3, 2

UNIVISER

UNIVISER provides reliable real-time solutions to help university students connect and build valuable partnerships through a single common sense platform with just a few clicks.

UN SDG : 4

VIVALYF INNOVATIONS

Collaborating Innovative Science & Technology to address some of the society's most challenging healthcare issues to improve the quality of life

UN SDG : 3

VISAIYON

Developing electric vehicles with better convergence of performance, efficiency and battery power compared to traditional IC engine bikes

UN SDG : 11

Veegee Chemtech

Agricultural
Combined turmeric harvester

UN SDG : 3

YAGEN ROBOTICS

Manufactures educational robotic
kits and components and aims to
reconstruct the academic approach
towards robotics and automation

UN SDG : 4

HexAI

low code no code bases AI
Application development

UN SDG : 8

7

Alumni Startups

Arma Citizens Wellness Pvt. Ltd.

60Plus India by Arma Citizens
wellness Pvt. Ltd., is an online
platform where children living away
from their parents can book services
and buy products for their senior
citizen parents

UN SDG : 10

Kankyo Bert

Offers customized Biogas solutions
for a range of applications

UN SDG : 7

Kankyo Cleantech LLP

Providing solutions for solid waste
management, waste to energy,
bioremediation & air pollution
control

UN SDG : 7

MEDCUORE
TECHNOLOGY THAT REJUVENATES

Developing eco-centric AI-IoT
integrated smart alert indoor air quality
monitor & advanced anti-microbial
nanoparticulate carbon-metallic ion six
stage purifier with photocatalytic
oxidation technology

UN SDG : 3, 11

PRISTYN

Pristyn Automations Pvt. Ltd.

DUST IT - A Fully autonomous
solar panel cleaning robot
for harnessing optimum energy

UN SDG : 7, 11

REKINDLE
Safety.Intelligence.You

Rekindle Automations is a
healthcare based startup with the
vision to increase safety of the
patients by making the hospitals
more Intelligent

UN SDG : 3

WEGOT
UTILITY SOLUTIONS

Providing a low cost, high precision,
data driven IoT based water
management solution that solves
the impending water crisis by
reducing water consumption.

UN SDG : 6, 12

11 Faculty Startups

Al - Siraat

Developing technology and processed based on the microalgal biomass & products through Nano Biotechnology protocols

UN SDG : 3, 15

ARKINLABS

Developing a scalable platform for drones to provide on-demand rapid aerial surveillance and support

UN SDG : 9

BU-MINDS Pvt Ltd

Providing solutions like drug formulation, repurposing of potential drug candidate & drug screening based on the customer needs

UN SDG : 3

FRICTECK FIBERS

Fricteck Fibers (FF) provides technology solutions in the area of tribiology and friction material formulations

UN SDG : 9

Greenor Science

Conversion of waste to wealth and pollution abatement

UN SDG : 13

HEFA Environ private Limited

Development of Biomaterial for dyes and pollutants removal from industrial effluent for bioremediation

UN SDG : 13

HLRJ Biotech Private Limited

Development of nanobased products to improve the quality of health in humans, animals & plants

UN SDG : 3,13

KAS Scientific Pvt Ltd

Conversion of waste solar panel to IoT enabled nanobased sensor device

UN SDG : 9

Nano-I

Development of unique disinfectant which fights against rice fungal pathogens by nanoemulsion mechanism

UN SDG : 3

Tchetty Pvt Ltd

Mobile based application that enhances the google maps navigation system more accurately by using the 8 digit alphanumeric code

UN SDG : 9

VASTHAK

Providing solutions for farmers to use technology driven methods to increase productivity of crops

UN SDG : 2,3

27
Student Startups

ABEABO
YOU ARE IMPORTANT

Abeabo provides sole attention to get you the most befitting resumes which builds you more assertiveness to crack out the interviews

UN SDG : 8

ALION
Step towards Green

Developing green and clean based bag, an eco-friendly product for the waste water treatment

UN SDG : 7

Bio-Nawrap

Developing an eco-friendly Bio-Nawrap which enhances the protection of food items packed in the wrap against food borne pathogens and also increase the shelf life of food

UN SDG : 7

CanCur - G

Alternative natural supplements for chemotherapeutic drugs used in the treatment of cancer using plant-based natural substances with no side-effects prepared in a cost-effective manner

UN SDG : 3

CITRUS

Nano based spray, to control and prevent citrus canker in various species of Citrus

UN SDG : 9

CLENSELLA
Natural innovation

A safe natural cleanser which acts as a biodefensor against multi drug resistant pathogens

UN SDG : 3

COS-NO-ACNE

Organic nano based formulation to cure acne. A natural solution for young, healthy and glowing skin. COS-NO-ACNE cream completely clears acne

UN SDG : 3

EASY FURNITURE
IMAGINATION INTO REALITY

Innovative and Customized home furnitures

UN SDG : 9

EcoKural

Preventing plastic pollution and deforestation by making furniture by recycling plastic waste.

UN SDG : 3

finanzo

On-demand & live courses on Investments, Trading, banking & finance

UN SDG : 3

FISH GROW - N

Nanotech formulated fish feed serves as an immune booster, prevention of vibriosis and also act as a growth stimulant

UN SDG : 14

An organic, nano based anti aging cream to reduce the wrinkles and fine lines for visibly firmer-looking skin

UN SDG : 3

Nanotech based feed additive for poultry to stimulate the immune system and gut health against various antibiotic resistant pathogens

UN SDG : 15

Development of antibacterial drug formulation by using anionic protonophore and tannic acid

UN SDG : 3

KODAI'S Healthy World

Chemical free, Healthy Organic Food Products with best quality.

UN SDG : 3

An antimicrobial gel formulation for topical use, effective in cuts, burns and wounds

UN SDG : 3

Developing green nano based disinfectant against multidrug resistant microorganisms to provide germ free environment.

UN SDG : 3

Antifungal eye drops using nanotechnology to cure eye infections caused by various fungal species

UN SDG : 3

Integration of environmentally safe nanomaterials against hazardous microbes in human

UN SDG : 3

An application facilitating Out of the Home Advertising.

UN SDG : 3

An accessible, affordable, non-invasive and easy to use diagnostic kit for detecting oral cancer using salivary based biomarkers

UN SDG : 3

Developing green and clean based bag, an eco-friendly product for the waste water treatment

UN SDG : 7

App Tailor with precise measurements and home delivery

UN SDG : 3

Automated farming in the absence
of human/farmers, yet performs the
same work even more efficiently
and in a human-friendly way

UN SDG : 2,12,15

Developing novel drugs for urinary
tract infecting pathogens

UN SDG : 3

Feed additive to prevent vibriosis
and to promote fish growth

UN SDG : 14

Focusing on microbe-free water and
research footsteps to make effluents
contamination free

UN SDG : 7

Partners

Government

Ecosystem

Investors

Business

International

STARTUP
COMPENDIUM
2022

CRESCENT INNOVATION & INCUBATION COUNCIL (CIIC)

Crescent
Innovation
Incubation
Council

(A Section 8 Company Under Companies Act 2013)

CRESCENT INNOVATION & INCUBATION COUNCIL (CIIC)

CHENNAI CAMPUS

BS Abdur Rahman Crescent Institute of Science & Technology,
Seethakathi estate,GST Road, Vandalur,
Chennai - 600048, Tamil Nadu, India.
Landline: 044 22759200 Extn: 485 & 486
Mobile: +91 91506 77762
Email: info.ciic@crescent.education

MADURAI CAMPUS

Seethakathi Estate,Alagar Kovil Road, Madurai - 625301, Tamil Nadu, India.

B.S. Abdur Rahman

Crescent

Institute of Science & Technology
Deemed to be University u/s 3 of the UGC Act, 1956
GST Road, Vandalur, Chennai 600 048

Report on Guest Lecture

"Air Conditioning System Overview - Types & Trends"

Presented by Mr. S. Subramania Raja,

Enmac Systems Pvt. Ltd, Chennai.

Date: 01.06.2022 | Time: 2.30 PM

Organized by

Indian Society of Heating, Refrigerating and Air Conditioning Engineers (ISHRAE) - Department of Mechanical Engineering

Convenor	**Speaker:**
Dr. H. Siddhi Jailani,	
Professor and Head	Mr. S. Subramania Raja
Department of Mechanical Engineering,	Enmac Systems Pvt. Ltd, Chennai
BSA Crescent Institute of Science and Technology	President Elect
	ISHRAE Chennai Chapter
Coordinator	
Dr. S.Mohamed Illyas, Assist. Prof. (Sr.Gr)	
Department of Mechanical Engineering	
BSA Crescent Institute of Science and Technology	

PREAMBLE

A guest lecture on Air Conditioning System Overview - Types & Trends was organized by ISHRAE – Department of Mechanical Engineering, BSA Crescent Institute of Science and Technology. The presentation was delivered by Mr. S. Subramania Raja, Enmac Systems Pvt. Ltd, Chennai. 22 students from the Mechanical Engineering department and faculty members participated in the Guest lecture. Dr. S. Rasool Mohideen, Dean School of Mechanical sciences and Dr. H. Siddi Jailani, Head of the Department felicitated the speaker and his team.

The guest lecture emphasized on overview of types and recent developments in air conditioning system.

The presentation highlighted the following points

- Classification of air conditioning system
- Components and basic functions of air conditioning system
- Recent developments in air conditioning system
- Design aspects of air conditioning system components

Attendees

S.NO	Name	Class	Mail ID
1	Mr. Shameer B	VI Semester - Mech	shameerbond1999@gmail.com
2	Mr. Sooria J. A	VI Semester - Mech	jrsooria2@gmail.com
3	Mr. Syed Farhaan Hussain	VI Semester - Mech	farhaansyed101101@gmail.com
4	Mr. Mohammed Thanish	VI Semester - Mech	mdthanish02@gmail.com
5	Mr. Mohamed Thajul Fazileen	VI Semester - Mech	mohamedfazileen5@gmail.com
6	Mr. Ragul Raj. R	VI Semester - Mech	ragulron10e21@gmail.com
7	Mr. L Kishore Kumar	VI Semester - Mech	kishorekumar7564@gmail.com
8	Mr. Syed Wahid Ali M	VI Semester - Mech	mswahid07@gmail.com
9	Mr. Somesh A	VI Semester - Mech	somurangan04@gmail.com
10	Mr. Riyazur Rahman	VI Semester - Mech	riyazurr89@gmial.com
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12	Mr. Mohammed Suhail. S	VI Semester - Mech	mohamedsuhail1919@gmail.com
13	Mr. Samsu Bahath. K	VI Semester - Mech	samsubahath.k786@gmail.com
14	Mr. Salahudeen V	VI Semester - Mech	shudeen558@gmail.com
15	Mr. Santhosh Ganesh Raj	VI Semester - Mech	santhoshgr2005@gmail.com
16	Mr. Syed Ashfaq Ahamed	VI Semester - Mech	ash03q@gmail.com
17	Mr. Muhammad Faaruq	VI Semester - Mech	muhammadfaaruq.ofc@gmail.com
18	Mr. Mohammed Umar S.A	VI Semester - Mech	samohammedumar@gmail.com
19	Mr. Mohammed Ilyaaz Rahim S	VI Semester - Mech	ilyaazrahim@gmail.com
20	Mr. Mohamed Meeran Fahim	VI Semester - Mech	mfahim2001@gmail.com
21	Mr. Akash M	VI Semester - Mech	akashmurali1581@gmail.com
22	Mr. Aabid Ahmed M	VI Semester - Mech	aabidstar222@gmail.com
23	Dr. Mohamed Illyas S	Assistant Professor	illyas@crescent.education
24	Dr. Ravi Kumar S	Assistant Professor	ravikumars@crescent.education
25	Dr. Rajesh. G	Assistant Professor	rajeshg@crescent.education

Event photos:

Regulations 2021

B.Tech. Degree Programmes

REGULATIONS 2021

for

B.TECH. DEGREE PROGRAMMES

REGULATIONS - 2021
B.TECH. DEGREE PROGRAMMES
(Under Choice Based Credit System)

1.0 PRELIMINARY DEFINITIONS & NOMENCLATURE

In these Regulations, unless the context otherwise requires:

i) **"Programme"** means B.Tech. Degree Programme.

ii) **"Branch"** means specialization or discipline of B.Tech. Degree Programme like Civil Engineering, Mechanical Engineering, etc.,

iii) **"Course"** means theory / practical / laboratory integrated theory / seminar / internship / project and any other subject that is normally studied in a semester like English, Mathematics, Environmental Science, Engineering Graphics, Electronic Devices etc.,

iv) **"Institution"** means B.S. Abdur Rahman Crescent Institute of Science and Technology.

v) **"Academic Council"** means the Academic Council, which is the apex body on all academic matters of this Institute.

vi) **"Dean (Academic Affairs)"** means the Dean (Academic Affairs) of the Institution who is responsible for the implementation of relevant rules and regulations for all the academic activities.

vii) **"Dean (Student Affairs)"** means the Dean (Students Affairs) of of the Institution who is responsible for activities related to student welfare and discipline in the campus.

viii) **"Controller of Examinations"** means the Controller of Examinations of the Institution who is responsible for the conduct of examinations and declaration of results.

ix) **"Dean of the School"** means the Dean of the School of the department concerned.

x) **"Head of the Department"** means the Head of the Department concerned.

2.0 ADMISSION

2.1a) Candidates for admission to the first semester of the eight semester B. Tech. degree programme shall be required to have passed the Higher Secondary Examination of the 10+2 curriculum (Academic stream) prescribed by the appropriate authority or any other examination of any University or authority accepted by the Institution as equivalent thereto.

2.1b) The student shall have studied at least any three of the following courses: Physics, Mathematics, Chemistry, Computer Science, Electronics, Information Technology, Biology, Informatics Practices, Biotechnology, Technical Vocational Subjects, Agriculture, Engineering Graphics, Business Studies, Entrepreneurship at 10+2 level. In case if the student has not studied any or all the courses viz., mathematics, physics and chemistry, he / she shall undergo bridge course(s) in the concerned course(s) at 10+2 level knowledge.

2.2 Notwithstanding the qualifying examination, the candidate might have passed at 10+2, the candidate shall also write an entrance examination prescribed by the Institution for admission. The entrance examination shall test the proficiency of the candidate in the courses considered eligible for admission on the standards prescribed for 10+2 academic stream.

2.3 Candidates for admission to the third semester of the eight semester B.Tech. programme under lateral entry category shall be required to have passed minimum Three years / Two years (Lateral Entry) Diploma examination in any branch of Engineering / Technology or passed B.Sc. Degree from a recognized University as defined by UGC and passed 10+2 examination with Mathematics as a subject or Passed three year Diploma of Vocation Stream (D.Voc) in the same or allied sector or any other examination of any other authority accepted by the Institution as equivalent thereto.

2.4 The Institution shall offer suitable bridge courses in Mathematics, Physics, Engineering drawing, etc., for the students of diverse backgrounds.

2.5 The eligibility criteria such as marks, number of attempts and physical fitness shall be as prescribed by the Institution in adherence to the guidelines of regulatory authorities from time to time.

3.0 BRANCHES OF STUDY

3.1 Regulations are applicable to the following B.Tech. Degree programmes in various branches of Engineering and Technology, each distributed over eight semesters, with two semesters per academic year.

1. Aeronautical Engineering
2. Artificial Intelligence and Data Science
3. Automobile Engineering
4. Biotechnology
5. Civil Engineering
6. Computer Science and Engineering
7. Computer Science and Engineering (Cyber Security)

8. Computer Science and Engineering (Internet of Things)
9. Electrical and Electronics Engineering
10. Electronics and Communication Engineering
11. Electronics and Instrumentation Engineering
12. Information Technology
13. Mechanical Engineering
14. Polymer Engineering

4.0 STRUCTURE OF THE PROGRAMME

4.1 Every programme has a curriculum with syllabi consisting of theory and practical courses such as,

i) Basic Science Courses - BSC
ii) Humanities and Social Sciences including Management Courses - HSC
iii) Engineering Science Courses - ESC
iv) Professional Core Courses - PCC
v) Professional Elective Courses - PEC
vi) Open Elective Courses - OEC
vii) Laboratory Courses – LC
viii) Laboratory Integrated Theory Courses – LITC
ix) Mandatory Courses- MC
x) Project - PROJ (Project work, seminar and internship in industry or at appropriate workplace)

4.1.1 Mandatory Induction Programme for First year Students

The first year students upon admission shall undergo a mandatory three week induction programme consisting of physical activity, creative arts, universal human values, literary, proficiency modules, lectures by eminent people, visits to local areas, familiarization with departments / schools and centres, etc.,

4.1.2 Personality and Character Development

All students shall enroll, on admission, in any of the following personality and character development programmes:

- National Cadet Corps (NCC)
- National Service Scheme (NSS)
- National Sports Organization (NSO)
- Youth Red Cross (YRC)
- Rotaract
- Crescent Indian Society Training Development (ISTD – C)

- Crescent Creative Strokes
- Crescent Technocrats club

The training activities / events / camp shall normally be organized during the weekends / vacation period.

4.1.3 Online Courses for Credit Transfer

Students are permitted to undergo department approved online courses under SWAYAM up to 20% of credits of courses in a semester excluding project semester with the recommendation of the Head of the Department / Dean of School and with the prior approval of Dean (Academic Affairs) during his / her period of study. The credits earned through online courses ratified by the respective Board of Studies shall be transferred following the due approval procedures. The online courses can be considered in lieu of core courses and elective courses.

4.1.4 Value Added Courses

The students are permitted to pursue department approved online courses (excluding courses registered for credit transfer) or courses offered / approved by the department as value added courses.

The details of the value added course viz., syllabus, schedule of classes and the course faculty shall be sent to the Dean (Academic Affairs) for approval. The students may also undergo the valued added courses offered by other departments with the consent of the Head of the Department offering the course.

These value added courses shall be specified in the consolidated mark sheet as additional courses pursued by the student over and above the curriculum during the period of study.

4.1.5 Industry Internship

The students shall undergo training for a period as specified in the curriculum during the summer vacation in any industry relevant to the field study.

The students are also permitted to undergo internship at research organizations / eminent academic institutions for the period prescribed in the curriculum during the summer vacation, in lieu of Industrial training.

In any case, the student shall obtain necessary approval from the Head of the Department / Dean of School and the training has to be taken up at a stretch.

4.1.6 Industrial Visit

The student shall undergo at least one industrial visit every year from the second year of the programme. The Heads of Departments / Deans of Schools shall ensure the same.

4.2 Each course is normally assigned certain number of credits:

- one credit per lecture period per week
- one credit per tutorial period per week
- one credit for two to three periods and two credits for four periods of laboratory or practical sessions per week
- one credit for two periods of seminar / project work per week
- one credit for two weeks of industrial training or 80 hours per semester.

4.3 Each semester curriculum shall normally have a blend of lecture courses, laboratory courses, laboratory integrated theory courses, etc.

4.5 The medium of instruction, examinations and project report shall be in English, except for courses in languages other than English.

5.0 DURATION OF THE PROGRAMME

5.1 A student is expected to complete the B.Tech. programme in eight semesters (six semesters in the case of lateral entry scheme), but in any case not more than 14 continuous semesters reckoned from the date of first admission (12 semesters in the case of lateral entry students).

5.2 Each semester shall consist of a minimum of 90 working days including the days of examinations.

5.3 The maximum duration for completion of the programme as mentioned in clause 5.1 shall also include period of break of study vide clause 7.1 so that the student may be eligible for the award of the degree.

6.0 REGISTRATION AND ENROLLMENT

6.1 The students of first semester shall register and enroll for courses at the time of admission by paying the prescribed fees. For the subsequent semesters registration for the courses shall be done by the student one week before the last working day of the previous semester.

6.2 Change of a Course

A student can change an enrolled course within 10 working days from the commencement of the course, with the approval of the Dean (Academic Affairs), on the recommendation of the Head of the Department of the student.

6.3 Withdrawal from a Course

A student can withdraw from an enrolled course at any time before the first continuous assessment test for genuine reasons, with the approval of the Dean (Academic Affairs), on the recommendation of the Head of the Department of the student.

7.0 BREAK OF STUDY FROM PROGRAMME

7.1 A student may be allowed / enforced to take a break of study for two semesters from the programme with the approval of Dean (Academic Affairs) for the following reasons:

7.1.1 Medical or other valid grounds
7.1.2 Award of 'I' grade in all the courses in a semester due to lack of attendance
7.1.3 Debarred due to any act of indiscipline

7.2 The total duration for completion of the programme shall not exceed the prescribed maximum number of semesters (vide clause 5.1).

7.3 A student who has availed a break of study in the current semester (odd/even) can rejoin only in the subsequent corresponding (odd/even) semester in the next academic year on approval from the Dean (Academic affairs).

7.4 During the break of study, the student shall not be allowed to attend any regular classes or participate in any activities of the Institution. However, he / she shall be permitted to enroll for the 'I' grade courses and appear for the arrear examinations.

8.0 CLASS ADVISOR AND FACULTY ADVISOR

8.1 Class Advisor

A faculty member shall be nominated by the Head of the Department as class advisor for the class throughout the period of study except first year.

The class advisor shall be responsible for maintaining the academic, curricular and co-curricular records of students of the class throughout their period of study.

However, for the first and second semester, the class advisors (first year class advisors) are nominated by the first year coordinator.

8.2 Faculty Advisor

To help the students in planning their courses of study and for general counseling, the Head of the Department of the students shall attach a maximum of 20 students to a faculty member of the department who shall

function as faculty advisor for the students throughout their period of study. Such faculty advisor shall guide the students in taking up the elective courses for registration and enrolment in every semester and also offer advice to the students on academic and related personal matters.

9.0 COURSE COMMITTEE

9.1 Each common theory course offered to more than one group of students shall have a "Course Committee" comprising all the course faculty teaching the common course with one of them nominated as a course coordinator. The nomination of the course coordinator shall be made by the Head of the Department / Dean (Academic Affairs) depending on whether all the course faculty teaching the common course belong to a single department or from several departments. The course committee shall ensure preparation of a common question paper and   scheme of evaluation for the tests and semester end examination.

10.0 CLASS COMMITTEE

A class committee is constituted branch wise and semester wise by the Head of the Department / Dean of the School shall normally comprise of faculty members handling the classes, student representatives and a senior faculty member not handling the courses as chairman.

10.1 The composition of class committees for first and second semester is as follows:
   i)   The first year coordinator shall be the chairman of the class committee
   ii) Faculty members of all individual courses of first / second semester
   iii) Six student representatives (male and female) of each class nominated by the first year coordinator
   iv) The class advisor and faculty advisors of the class

10.2 The composition of the class committee for each branch from 3rd to 8th semester is as follows:
   i)   One senior faculty member preferably not handling courses for the concerned semester appointed as chairman by the Head of the Department
   ii) All the faculty members handling courses of the semester
   iii) Six student representatives (male and female) of each class nominated by the Head of the Department in consultation with the relevant faculty advisors
   iv) All faculty advisors and the class advisors
   v)   Head of the Department

10.3 The class committee shall meet at least three times during the semester. The first meeting shall be held within two weeks from the date of commencement of classes, in which the components of continuous assessment for various courses and the weightages for each component of assessment shall be decided for the first and second assessment. The second meeting shall be held within a week after the date of first assessment report, to review the students' performance and for follow up action.

10.4 During these two meetings, the student members shall meaningfully interact and express opinions and suggestions to improve the effectiveness of the teaching-learning process, curriculum and syllabi, etc.

10.5 The third meeting of the class committee, excluding the student members, shall meet after the semester end examinations to analyse the performance of the students in all the components of assessments and decide their grades in each course. The grades for a common course shall be decided by the concerned course committee and shall be presented to the class committee(s) by the course faculty concerned.

11.0 CREDIT LIMIT FOR ENROLLMENT & MOVEMENT TO HIGHER SEMESTER

11.1 A student can enroll for a maximum of 32 credits during a semester including Redo / Predo courses.

11.2 The minimum credits earned by the student to move to 7th semester shall not be less than 60 credits (40 credits for lateral entry students).

12.0 ASSESSMENT PROCEDURE AND PERCENTAGE WEIGHTAGE OF MARKS

12.1 Every theory course shall have a total of three assessments during a semester as given below:

Assessments	Course Coverage in Weeks	Duration	Weightage of Marks
Assessment 1	1 to 6	1.5 hours	25%
Assessment 2	7 to 12	1.5 hours	25%
Semester End Examination	Full course	3 hours	50%

12.2 Theory Course

Appearing for semester end theory examination for each course is mandatory and a student shall secure a minimum of 40% marks in each course in

semester end examination for the successful completion of the course.

12.3 Laboratory Course

Every practical course shall have 60% weightage for continuous assessments and 40% for semester end examination. However, a student shall have secured a minimum of 50% marks in the semester end practical examination for the award of pass grade.

12.4 Laboratory Integrated Theory Courses

For laboratory integrated theory courses, the theory and practical components shall be assessed separately for 100 marks each and consolidated by assigning a weightage of 75% for theory component and 25% for practical component. Grading shall be done for this consolidated mark. Assessment of theory components shall have a total of three assessments with two continuous assessments carrying 25% weightage each and semester end examination carrying 50% weightage. The student shall secure a separate minimum of 40% in the semester end theory examination. The evaluation of practical components shall be through continuous assessment.

12.5 The components of continuous assessment for theory / practical / laboratory integrated theory courses shall be finalized in the first class committee meeting.

12.6 Industry Internship

In the case of industry internship, the student shall submit a report, which shall be evaluated along with an oral examination by a committee of faculty members constituted by the Head of the Department. The student shall also submit an internship completion certificate issued by the industry / research / academic organisation. The weightage of marks for industry internship report and viva voce examination shall be 60% and 40% respectively.

12.7 Project Work

In the case of project work, a committee of faculty members constituted by the Head of the Department / Dean of the School will carry out three periodic reviews. Based on the project report submitted by the students, an oral examination (viva voce) shall be conducted as semester end examination by an external examiner approved by the Controller of Examinations. The weightage for periodic reviews shall be 50%. Of the remaining 50%, 20% shall be for the project report and 30% for the viva voce examination.

12.8 Assessment of seminars and comprehension shall be carried out by a committee of faculty members constituted by the Head of the Department.

12.9 For the first attempt of the arrear theory examination, the internal assessment marks scored for a course during first appearance shall be used for grading

along with the marks scored in the arrear examination. From the subsequent appearance onwards, full weightage shall be assigned to the marks scored in the semester end examination and the internal assessment marks secured during the course of study shall become invalid.

In case of laboratory integrated theory courses, after one regular and one arrear appearance, the internal mark of theory component is invalid and full weightage shall be assigned to the marks scored in the semester end examination for theory component. There shall be no arrear or improvement examination for lab components.

13.0 SUBSTITUTE EXAMINATIONS

13.1 A student who is absent, for genuine reasons, may be permitted to write a substitute examination for any one of the two continuous assessment tests of a course by paying the prescribed substitute examination fee. However, permission to take up a substitute examination will be given under exceptional circumstances, such as accidents, admission to a hospital due to illness, etc. by a committee constituted by the Head of the Department / Dean of the School for that purpose. There is no substitute examination for semester end examinations.

13.2 A student shall apply for a substitute exam in the prescribed form to the Head of the Department / Dean of the School within a week from the date of assessment test. However, the substitute examination will be conducted only after the last instructional day of the semester.

14.0 ATTENDANCE REQUIREMENT AND SEMESTER / COURSE REPETITION

14.1 A student shall earn 100% attendance in the contact periods of every course, subject to a maximum relaxation of 25% to become eligible to appear for the semester end examination in that course, failing which the student shall be awarded "I" grade in that course.

14.2 The faculty member of each course shall cumulate the attendance details for the semester and furnish the names of the students who have not earned the required attendance in the concerned course to the class advisor. The class advisor shall consolidate and furnish the list of students who have earned less than 75% attendance, in various courses, to the Dean (Academic Affairs) through the Head of the Department / Dean of the School. Thereupon, the Dean (Academic Affairs) shall officially notify the names of such students prevented from writing the semester end examination in each course.

14.3 If a student secures attendance between 65% and less than 75% in any course in a semester, due to medical reasons (hospitalization / accident / specific illness) or due to participation in the institution approved events, the student shall be given exemption from the prescribed attendance requirement and the student shall be permitted to appear for the semester end examination of that course. In all such cases, the students shall submit the required documents immediately after joining the classes to the class advisor, which shall be approved by the Head of the Department / Dean of the School. The Vice Chancellor, based on the recommendation of the Dean (Academic Affairs) may approve the condonation of attendance.

14.4 A student who has obtained an "I" grade in all the courses in a semester is not permitted to move to the next higher semester. Such students shall repeat all the courses of the semester in the subsequent academic year.

14.5 The student awarded "I" grade, shall enroll and repeat the course when it is offered next. In case of "I" grade in an elective course either the same elective course may be repeated or a new elective course may be taken with the approval of the Head of the Department / Dean of the School.

14.6 A student who is awarded "U" grade in a course shall have the option to either write the semester end arrear examination at the end of the subsequent semesters, or to redo the course when the course is offered by the department. Marks scored in the continuous assessment in the redo course shall be considered for grading along with the marks scored in the semester end (redo) examination. If any student obtains "U" grade in the redo course, the marks scored in the continuous assessment test (redo) for that course shall be considered as internal mark for further appearance of arrear examination.

14.7 If a student with "U" grade, who prefers to redo any particular course, fails to earn the minimum 75% attendance while doing that course, then he / she is not permitted to write the semester end examination and his / her earlier "U" grade and continuous assessment marks shall continue.

15.0 REDO COURSES

15.1 A student can register for a maximum of three redo courses per semester without affecting the regular semester classes, whenever such courses are offered by the concerned department, based on the availability of faculty members and subject to a specified minimum number of students registering for each of such courses.

15.2 The number of contact hours and the assessment procedure for any redo

course shall be the same as regular courses, except there is no provision for any substitute examination and withdrawal from a redo course.

16.0 PASSING AND DECLARATION OF RESULTS AND GRADE SHEET

16.1 All assessments of a course shall be made on absolute marks basis. The class committee without the student members shall meet to analyse the performance of students in all assessments of a course and award letter grades following the relative grading system. The letter grades and the corresponding grade points are as follows:

Letter Grade	Grade Points
S	10
A	9
B	8
C	7
D	6
E	5
U	0
W	-
I	-

"W" - denotes withdrawal from the course

"I" - denotes inadequate attendance in the course and prevention from appearance of semester end examination

"U" - denotes unsuccessful performance in the course.

16.2 A student who earns a minimum of five grade points ('E' grade) in a course is declared to have successfully completed the course. Such a course cannot be repeated by the student for improvement of grade.

16.3 Upon awarding grades, the results shall be endorsed by the chairman of the class committee and Head of the Department / Dean of the School. The Controller of Examinations shall further approve and declare the results.

16.4 Within one week from the date of declaration of result, a student can apply for revaluation of his / her semester end theory examination answer scripts of one or more courses, on payment of prescribed fee, through proper application to the Controller of Examinations. Subsequently, the Head of the Department / Dean of the School offered the course shall constitute a revaluation committee consisting of chairman of the class committee as convener, the faculty member of the course and a senior faculty member having expertise in that course as members. The committee shall meet within a week to revalue the answer

scripts and submit its report to the Controller of Examinations for consideration and decision.

16.5 After results are declared, grade sheets shall be issued to each student, which contains the following details: a) list of courses enrolled during the semester including redo courses / arrear courses, if any; b) grades scored; c) Grade Point Average (GPA) for the semester and d) Cumulative Grade Point Average (CGPA) of all courses enrolled from the first semester onwards.

GPA is the ratio of the sum of the products of the number of credits of courses registered and the grade points corresponding to the grades scored in those courses, taken for all the courses, to the sum of the number of credits of all the courses in the semester.

If C_i, is the number of credits assigned for the ith course and GP_i is the Grade Point in the ith course,

$$GPA = \frac{\sum_{i=1}^{n}(C_i)(GP_i)}{\sum_{i=1}^{n} C_i}$$

Where n = number of courses

The Cumulative Grade Point Average (CGPA) is calculated in a similar manner, considering all the courses enrolled from first semester.

"I" and "W" grades are excluded for calculating GPA.

"U", "I" and **"W"** grades are excluded for calculating CGPA.

The formula for the conversion of CGPA to equivalent percentage of marks shall be as follows:

Percentage equivalent of marks = CGPA X 10

16.6 After successful completion of the programme, the degree shall be awarded to the students with the following classifications based on CGPA.

Classification	CGPA
First Class with Distinction	8.50 and above and passing all the courses in first appearance and completing the programme within the prescribed period of 8 semesters for all students (except lateral entry students) and 6 semesters for lateral entry students
First Class	6.50 and above and completing the programme within a maximum of 10 semesters for all students (except lateral entry students) and 8 semesters for lateral entry students
Second Class	Others

16.6.1 Eligibility for First Class with Distinction

- A student should not have obtained 'U' or 'I' grade in any course during his/her study
- A student should have completed the UG programme within the minimum prescribed period of study (except clause 7.1.1)

16.6.2 Eligibility for First Class

- A student should have passed the examination in all the courses not more than two semesters beyond the minimum prescribed period of study (except clause 7.1.1)

16.6.3 The students who do not satisfy clause 16.6.1 and clause 16.6.2 shall be classified as second class.

16.6.4 The CGPA shall be rounded to two decimal places for the purpose of classification. The CGPA shall be considered up to three decimal places for the purpose of comparison of performance of students and ranking.

17.0 SUPPLEMENTARY EXAMINATION

Final year students and passed out students can apply for supplementary examination for a maximum of three courses thus providing an opportunity to complete their degree programme. Likewise, students with less credits in VI semester can also apply for supplementary examination for a maximum of three courses to enable them to earn minimum credits to move to higher semester. The students can apply for supplementary examination within three weeks of the declaration of results in the even semester.

18.0 DISCIPLINE

18.1 Every student is expected to observe discipline and decorum both inside and outside the campus and not to indulge in any activity which tends to affect the reputation of the Institution.

18.2 Any act of indiscipline of a student, reported to the Dean (Student Affairs), through the Head of the Department / Dean of the School concerned shall be referred to a Discipline and Welfare Committee constituted by the Registrar for taking appropriate action. This committee shall also address the grievances related to the conduct of online classes.

19.0 ELIGIBILITY FOR THE AWARD OF DEGREE

19.1 A student shall be declared to be eligible for the award of B.Tech. degree provided the student has:

i) Successfully earned the required number of total credits as specified in the curriculum of the programme of study within a maximum period of 14 semesters (12 semesters for lateral entry) from the date of admission, including break of study.

ii) Successfully completed the requirements of the enrolled professional development activity.

iii) No dues to the Institution, Library, Hostel, etc.

iv) No disciplinary action pending against him/her.

19.2 The award of the degree must have been approved by the Institution.

20.0 MINOR DEGREE PROGRAMMES OFFERED FOR STUDENTS

20.1 The students admitted in the following B.Tech. programmes can graduate with a minor degree, which is optional, along with a major degree:

• Civil Engineering	• Mechanical Engineering
• Electronics and Communication Engineering	• Electrical and Electronics Engineering
• Automobile Engineering	• Aeronautical Engineering
• Polymer Engineering	• Biotechnology Engineering
• Electronics and Instrumentation Engineering	• Computer Science and Engineering
• Information Technology	• Artificial Intelligence and Data Science
• Computer Science and Engineering (IoT)	• Computer Science and Engineering(Cyber Security)

20.2 The eligibility for choosing the minor degree is given as below:

Sl. No.	Minor Degree	Eligible Major Degree Programmes (from other Departments)
1.	Artificial Intelligence and Machine Learning	Mechanical Engineering
2.	Block Chain	Aeronautical Engineering
3.	Cyber Security	Polymer Engineering
4.	Data Science	Automobile Engineering
5.	Internet of Things (IoT)	Civil Engineering
		Biotechnology
		Electrical and Electronics Engineering
		Electronics and Instrumentation Engineering
6.	Virtual and Augmented Reality	Mechanical Engineering
		Aeronautical Engineering
		Polymer Engineering
		Automobile Engineering

7.	Sensor Technology	Civil Engineering Biotechnology Electrical and Electronics Engineering Electronics and Instrumentation Engineering Electronics and Communication Engineering Mechanical Engineering Aeronautical Engineering Polymer Engineering Automobile Engineering Civil Engineering Biotechnology Electrical and Electronics Engineering
8.	Robotics	Artificial Intelligence and Data Science Computer Science and Engineering (Cyber Security) Computer Science and Engineering (IoT) Computer Science and Engineering Information and Technology Civil Engineering Biotechnology Electrical and Electronics Engineering Electronics and Instrumentation Engineering
9.	3D Printing	Artificial Intelligence and Data Science Computer Science and Engineering (Cyber Security) Computer Science and Engineering (IoT) Computer Science and Engineering Information and Technology Biotechnology Electrical and Electronics Engineering Electronics and Instrumentation Engineering Electronics and Communication Engineering
10.	Electric Vehicles	Artificial Intelligence and Data Science Computer Science and Engineering (Cyber Security) Computer Science and Engineering (IoT) Computer Science and Engineering Information and Technology Civil Engineering Biotechnology Electronics and Communication Engineering
11.	Industrial Automation	Artificial Intelligence and Data Science Computer Science Engineering (Cyber

		Security)
		Computer Science and Engineering (IoT)
		Computer Science and Engineering
		Information and Technology
		Mechanical Engineering
		Aeronautical Engineering
		Polymer Engineering
		Automobile Engineering
		Civil Engineering
		Biotechnology
		Electronics and Communication Engineering
12.	GIS and Remote Sensing	Artificial Intelligence and Data Science
		Computer Science and Engineering (Cyber Security)
		Computer Science and Engineering (IoT)
		Computer Science and Engineering
		Information and Technology
		Mechanical Engineering
		Aeronautical Engineering
		Polymer Engineering
		Automobile Engineering
		Biotechnology
		Electrical and Electronics Engineering
		Electronics and Instrumentation Engineering
		Electronics and Communication Engineering
13.	Computational Biology	Artificial Intelligence and Data Science
		Computer Science and Engineering (Cyber Security)
		Computer Science and Engineering (IoT)
		Computer Science and Engineering
		Information and Technology
		Mechanical Engineering
		Aeronautical Engineering
		Polymer Engineering
		Automobile Engineering
		Civil Engineering
		Electrical and Electronics Engineering
		Electronics and Instrumentation Engineering
		Electronics and Communication Engineering

20.3 A student shall earn an additional 18 to 20 credits for the award of a minor degree.

20.4 A student shall be awarded a minor degree only when he / she completes the requirements for the award of major degree stipulated in the respective programme.

21.0 POWER TO MODIFY

Notwithstanding all that has been stated above, the Academic Council has the right to modify the above regulations from time to time.

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