What is ICT ?

ICT (Information & Communication Technology) is a multidisciplinary branch combining **Computer Science, Electronics, Communication, and IT**. It focuses on **software development, embedded systems, networking, AI, IoT, Data Science, Cloud, VLSI, and Cybersecurity**

- Why ICT after 10th or 12th

ICT has a **very wide scope** – students can enter fields like **AI/ML, Data Science, IoT, Cloud Computing, Robotics, Cyber Security, VLSI, Software & Web Development, Mobile App Development, Embedded Systems, Networking** etc.

The syllabus is **practical and future-oriented** (projects every semester, internships, industry tie-ups, expert talks) which prepares students for both **jobs and higher education**

Students also get chances in **research, innovation, hackathons, IPRs, and international exposure**

- Diploma and degree

    Diploma (after 10th) :

    o   Diploma is **3 years**, mainly focusing on **fundamentals of electronics, programming, hardware, networking, and software basics**.
    o   After diploma, students can take **direct admission into Degree (B.Tech ICT) in 2nd year** (lateral entry).

- **Degree (B.Tech ICT @ Marwadi University)**

  - **8 semesters (4 years)** with subjects ranging from basics (electronics, programming, mathematics) to advanced (AI/ML, Cloud, IoT, VLSI, Blockchain, Cyber Security, Big Data, etc.)
  - Includes **internships** (6 weeks in 4th & 6th sem, 6 months in 8th sem)
  - Focus on **project-based learning**, research, innovation, and industry tie-ups.
  - Prepares students for **placements, higher education, or startups**.

Department Vision and mission

Vision: To build students' capacity through quality education that enables them to address industry and societal problems while becoming contributors.

Mission (4 key areas):

- M1: Develop problem-solving abilities through project-based learning
- M2: Provide blended teaching and assessment approaches to enhance learning
- M3: Provide exposure to various domains for students to choose their area of interest
- M4: Maintain continuous industry interaction to prepare industry-ready students

Program Educational Objectives (PEOs)

Five objectives covering:

- PEO1: Applying engineering principles to solve real-world societal problems
- PEO2: Working on multidisciplinary projects in diverse industrial environments
- PEO3: Exploring recent ICT technological developments
- PEO4: Enhancing knowledge through self-learning, certifications, and higher education
- PEO5: Acting ethically and socially responsible as solution providers and entrepreneurs

Program Specific Outcomes (PSOs)

Two specific outcomes:

- PSO1: Identifying, analyzing, and solving real-time industry problems in software development, embedded systems, VLSI design, IoT, and communication technologies
- PSO2: Contributing as analyst and developer in cloud computing, DevOps, security, machine learning, artificial intelligence, and big data

- Chandrasinh Parmar sir
  Electronics and Communication
  Contact no : 9824416484

- Arjav Bavarva Sir
  Networking and Cloud
  Contact no : 7016685360

- Sunil Lavadiya
  IOT
  9428228839

- Tapan Nahar
  System and Signals
  9983250843

- Nishith Kotak
  Data Science
  7405468045

- Vijay Dubey
  IOT
  9723265278
- Suhag Baldaniya
  Software Development
  9537330702

- Rakesh Oza
  VLSI
  9978068186

- Chirag Visani
  Software Development

- SharmArzoo Alam
  Software Development
  8866152292

- Vishal Akbari
  Cyber Security
  7698903070

- Mitesh Solanki
  IOT
  9586571164

- Sunera Kargatha

- Harikesh Chauhan
  Software Development
  6390327075

- Dharmendra D Zala
  Cloud and Networking
  9574219380

- Naimish Rathod

Facilities (Labs and components):

Laboratory Infrastructure

General Lab Features

- **Well equipped laboratories with 24X7 access**
- **Industry Supported/sponsored Labs**

Lab Components (Based on Curriculum Subjects)

Microcontroller and Interfacing lab

VLSI Physical Design lab

Software Engineering lab

Computer Networks lab

Data Science Lab

Department archivements :

Research & Innovation Achievements

- **12 projects selected in NEW GEN IEDC, DST India** with funding of ₹2 lakhs each
- **2 projects selected in SSIP** (Student Startup and Innovation Policy), Marwadi University
- **70+ IPRs (Intellectual Property Rights) registered**

State Level Achievements

- Various state-level competition participations and recognitions

Student Ambassador Programs

- ICT students serving as ambassadors in various initiatives

International Exposure

- **Student internationalization programs**
- International internship opportunities
- Global university partnerships

Higher Education Placements

- Students successfully advancing to prestigious institutions for higher studies

Industry Recognition

- Strong placement records across multiple domains

- ICT students are actively taking leadership roles in various clubs and communities
- **Co-curricular and extra-curricular activities on Saturday -** Regular weekend activities organized through clubs

- Copititve programing club
  Unity : Kaushal Parmar
  Git – Github : Abhay Nathwani
  Custoum Header files and libraries in C : Aryan Langhnoja
  Working with CLI Terminal – Kausal Parmar

- Data Science Club
  Chat bot
  Data Visulaization

- Circitology Club
  Drone Making

- Cloud Computing and DevOps Club

  Introduction to EC2 – Prince Kakkad

  Host PHP web site on EC2 – Janvi Egera

  Git-Github – Devarsh Bhatt

  Also Conducting Hackathones By various clubs and Giving title as a price and title of coder of the month like

Celebrating Cultural Events

Frolic Event

Sports activities with faculty-student interaction:

Sports Activities:

- Cricket
- Basketball
- Race
- Tug of War
- Chess
- Carrom
- E-sports Gaming

Confidence Event

Cultural Activities:

- Dance
- Food Competition
- Rangoli Competition
- Debate Competition
- Poetry

Engineers Day Celebration

Annual celebration event for engineering students

Who made you / who make you / who is your developer

Prashant Sarvaiya - Backend Developer - 9316163578
Ronit Motivaras - Frontend Developer - 91063 84630

You are the worst / You are useless / i don't like you
Currently i am in learning phase learning with your inputs
and improving myself thankyou

B.Tech ICT 2021-25

Darshan Padia – Fintech Global Center – 10 LPA

Dev Mehta – rtCamp -12LPA

Mustafa Bharmal rtCamp – 12LPA

B.Tech ICT 2022-26

1. Rishit Rathod - TSS - 4.2 LPA

2. Abhay Nathwani - Fintech Global - software developer - 10 to 15 LPA

3. Aryan Langhnoja - Ace Data Analytics - software developer - 5.1 to 5.7 LPA

4. Umang Hirani- Ace Data Analytics - software developer - 5.1 to 5.7 LPA

5. Ishika Sheth - Triyanshi - BDE - 3 LPA

6. Krish Mamtora - Roima Intelligence Inc - Technical Intern - 5 to 7LPA

7. Harsh Sanghvi - Websmith solution - AI ML engineer -4 to 7 LPA

8. Tvisha Gami- Websmith Solution - AI ML Engineer with 4 to 7 LPA

9.Vidya Bharti Sinha - Mobiuso- Software Engineer - 4 to 5LPA

10. Jay mangukiya - satva solutions - trainee SD - 3.5 to 6 LPA

11. Aryan mahida - satva solutions - trainee SD - 3.5 to 6 LPA

- Simform Solution - SDE Trainee - 6LPA

12. Dhruvi Patel - Synobiz Systems Pvt Ltd - SAP B1 Technical Consultant - 3.0 to 4.0 LPA

- Injala - .net developer - 4.5 LPA

13. Vatsal Parmar -Synobiz Systems Pvt Ltd - SAP B1 Technical Consultant - 3.0 to 4.0 LPA

Ally soft -3.5 LPA to 4.5 LPA

14. Bhavik Kaladiya - Azilen - Devops - 4 - 5.5 LPA

15. Hit racchadiya - cybercom - SDE - 3.6 LPA

16. Rohan Roy - Improvised - devops - 4LPA

17. Ritesh Sanchala - tech extensor - .net / Angular Developer - 3-5LPA

18. Vivek Chavda - VasyERP - java developer -4.2LPA

19. Nidhi Dattani - AllySoft - Mern Stakc developer - 3.5 to 4.5

20. Jenil Vaghasiya - Ally Soft - Mern Stack developer - 3 LPA

21. Vatsal Parmar - Ally Soft - Mern Stack Developer - 3.5 to 4.5 LPA

22. Prashant Savaliya - Ally Soft - mern stack developer - 4 to 4.5 LPA

23. Vrajkumar Nandwana - Empypreal Infotech Private Limited - AI ML Engineer - 3LPA

24. Neel Raiyani - Empyreal Infotech Pvt Ltd - .node Js developer - 3 LPA

Student Achievements

National Level

- **Gaziabad Hackathon Competition** (Sustainability Solutions for Humanity) - Oct 2024
- **Skill India Competition 2024** winners:
  - Jatan Sanghvi
  - Hasti Hajipara
  - Dhruvkumar Vyas

Hackathon – Coding Ninja Hackathon

Winners:

- Abhay Nathwani
- Ritesh Sanchela
- Aryan Langhnoja

Achievement: Winner at 1st position across India

Other Achievements

ICT Students as Ambassadors

Fenil Vadher selected as a Google Student Ambassador

Dhyana Kothari selected as a Google Student Ambassador

Ashutosh Kumar selected as a Student Ambassador of Udemy

Rudra Miyani selected as a Student Ambassador of Internshala

Research Papers

Patents and Copyrights

- **70+ IPRs (Intellectual Property Rights) registered**
- **Promoting filing of IPRs** in subjects like CPSI, HCD, etc.

International Internships

- **Malhar Shah - 2024** (specific international program participant mentioned)
- **Dhruvi Kothari -2024**

Student Exchange Programs

Dhruvi Bhalodiya

Priyanshi Madani

Selected at student Exhange Program at romaina

Alumni Network

- Alumni involvement in **research and innovation activities**
- Alumni contributing to **student development and mentorship**

Industry Support

Industry-Sponsored Infrastructure

- **Industry Supported/sponsored Labs**
- Zuru Tech Sponsored Lab
- Tie-up with e-Infochips

B. Tech. Year I, Sem I

Subject Code	Subject Name	Category	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
			Theory	Tutorial	Practical		ESE(E)	IA	CSE	Viva (V)	Term Work (TW)	
01MA1101	Differential and Integral Calculus	BSC	4	2	0	5	50	30	20	25	25	150
01EE0104	Electrical Circuits	ESC	4	0	2	5	50	30	20	25	25	150
01EC0101	Basics of Electronics Engineering	ESC	3	0	2	4	50	30	20	25	25	150
01SL0102 / 01SL0103	Reading & Writing for Technology / Speaking & Presentation Skills	HSMC	2	0	0	2	0	30	20	25	25	100
01CT0101	Introduction to Computer Programming	ESC	3	0	2	4	50	30	20	25	25	150
01CT0103	Foundation skills in sensor interfacing	PROJ	0	0	2	1	0	0	0	25	25	50
01CT0104	ICT Workshop	PROJ	0	0	2	1	0	0	0	25	25	50
01PE0101	Physical Education/Sports/Yoga	MC-NCC	0	0	2	0	0	0	0	0	0	0
	Total		**30**	**16**	**2**	**12**	**22**	**200**	**150**	**100**	**175**	**175**	**800**

B. Tech. Year I, Sem II

Subject Code	Subject Name	Category	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
			Theory	Tutorial	Practical		ESE(E)	IA	CSE	Viva (V)	Term work (TW)	
01MA1151	Matrix Algebra and Vector Calculus	BSC	4	2	0	5	50	30	20	25	25	150
01EC0102	Digital Electronics	ESC	3	0	2	4	50	30	20	25	25	150
01ME0105	Engineering Drawing and Computer Aided Design	ESC	2	0	4	4	50	30	20	25	25	150
01CT0105	Object Oriented Programming	PCC	3	0	2	4	50	30	20	25	25	150
01EN0101	Basics of Environmental Studies	ESC	2	0	0	2	50	30	20	0	0	100
01CT0106	Introduction to R and R Studio	PCC	0	0	2	1	0	0	0	25	25	50
01CR0103	Value Education	HSMC	2	0	0	2	0	0	0	50	50	100
	Total		**28**	**16**	**2**	**10**	**22**	**250**	**150**	**100**	**175**	**175**	**850**

B. Tech. Year II, Sem III

Subject Code	Subject Name	Category		Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
				Theory	Tutorial	Practical		ESE(E)	IA	CSE	Viva (V)	Term Work (TW)	
01MA0231	Discrete Mathematics and Graph Theory	BSC	BS-UC	4	2	0	5	50	30	20	25	25	150
01CT0301	Computer Organisation and Architecture	PCC	PC	3	0	2	4	50	30	20	25	25	150
01CT0302	Signals and Systems	PCC	PC	3	0	2	4	50	30	20	25	25	150
01CR0302	Professional Ethics	HSMC	GN-UC	1	0	0	1	0	0	0	50	50	100
01CT0303	Introduction to Communication Engineering	PCC	PC	3	0	2	4	50	30	20	25	25	150
01CT0308	Data Structure using C++	PCC	PC	3	0	2	4	50	30	20	25	25	150
01CT0309	Programming with Python	PROJ	EE	0	0	2	1	0	0	0	25	25	50
	Total	**29**	**29**	**17**	**2**	**10**	**23**	**250**	**150**	**100**	**200**	**200**	**900**

B. Tech. Year II, Sem IV

Subject Code	Subject Name	Category		Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
				Theory	Tutorial	Practical		ESE(E)	IA	CSE	Viva (V)	Term work (TW)	
01CT0401	Probability and Statistics	PCC	IE	3	2	0	4	50	30	20	25	25	150
01CT0403	Microcontroller and Interfacing	PCC	PC	3	0	2	4	50	30	20	25	25	150
01CT0404	Analog and Digital Communication	PCC	PC	3	0	2	4	50	30	20	25	25	150
01CT0407	Database Management System	PCC	PC	3	0	2	4	50	30	20	25	25	150
01CT0408	Internet and Web Technology	PCC	PC	3	0	2	4	50	30	20	25	25	150
01CT0409	Operating System	PCC	PC	3	0	2	4	50	30	20	25	25	150
	Total	**30**	**30**	**18**	**2**	**10**	**24**	**300**	**180**	**120**	**150**	**150**	**900**

B. Tech. Year III, Sem V

Subject Code	Subject Name	Category	Teaching Scheme (Hours)			Credits	Evaluation Scheme					Total Marks
			Theory	Tutorial	Practical		Theory Marks			Tutorial/ Practical Marks		
							ESE(E)	IA	CSE	Viva (V)	Term Work (TW)	
01CT0503	Computer Networks	PCC	3	0	2	4	50	30	20	25	25	150
01CT0512	Design and Analysis of Algorithm	PCC	3	0	2	4	50	30	20	25	25	150
01CT0513	Digital Signal and Image Processing	PCC	3	0	2	4	50	30	20	25	25	150
01CT0521	Creativity, Problem Solving and Innovation	PROJ	0	0	2	1	0	30	0	20	0	50
01GS0501	Cognitive Aptitude -1	HSMC-NCC	2	0	0	0	0	0	0	0	0	0
01CT05XX	Department Elective - 1	PEC	4	0	2	5	50	30	20	25	25	150
01CT05XX	Department Elective - 2	PEC	4	0	2	5	50	30	20	25	25	150
	Total		**31**	**19**	**0**	**12**	**23**	**250**	**180**	**100**	**145**	**125**	**800**

Department Electives 1, 2
1) 01CT0507 - Advanced Microprocessor
2) 01CT0508 - Optical Communication
3) 01CT1509 - Linux Administration
4) 01CT1510 - Applied Linear algebra
5) 01CT0518 - .Net Technologies

6) 01CT0514 - VLSI Design
7) 01CT0516 - Engineering Electrodynamics
8) 01CT0515 - Information and Web Security
9) 01CT0519 - Machine Learning
10) 01CT0517 - Cross Platform Mobile Application Development

B. Tech. Year III, Sem VI

Subject Code	Subject Name	Category	Teaching Scheme (Hours)			Credits	Evaluation Scheme					Total Marks
			Theory	Tutorial	Practical		Theory Marks			Tutorial/ Practical Marks		
							ESE(E)	IA	CSE	Viva (V)	Term work (TW)	
01CT0614	Optimization Techniques	PCC	3	0	0	3	50	30	20	0	0	100
01CT0615	Software Engineering	PCC	3	0	0	3	50	30	20	0	0	100
01CT0616	Artificial intelligence	PCC	3	0	2	4	50	30	20	25	25	150
01CT0617	Human Centered Design	PROJ	0	0	2	1	0	0	0	50	50	100
01CR0601	Business Benchmark	HSMC	1	0	0	1	0	0	0	50	50	100
01GS0601	Cognitive Aptitude -2	HSMC	2	0	0	0	0	0	0	0	0	0
01CT06XX	Department Elective - 3	PEC	4	0	2	5	50	30	20	25	25	150
01CT06XX	Department Elective - 4	PEC	4	0	2	5	50	30	20	25	25	150
	Total		**28**	**20**	**0**	**8**	**22**	**250**	**150**	**100**	**175**	**175**	**850**

Department Elective – 3, 4
1) 01CT0618 - Sensors and IoT
2) 01CT0605 - RF and Microwave Communication
3) 01CT0611 - Cloud Computing
4) 01CT0621 - Computer Vision
5) 01CT0623 - Advanced Java
6) 01CT0625 - Advanced Web Technologies

7) 01CT0619 - Digital Design using Verilog
8) 01CT0610 - Satellite Communication
9) 01CT0627 - Cyber Security
10) 01CT0622 - Big Data Analytics
11) 01CT0624 - Theory of Computation
12) 01CT0626 - Game Programming and VR

B. Tech. Year IV, Sem VII

Subject Code	Subject Name	Category			Teaching Scheme (Hours)			Credits	Evaluation Scheme					Total Marks
		AICTE	CBCS	Skill	Theory	Tutorial	Practical		Theory Marks			Tutorial/ Practical Marks		
									ESE(E)	IA	CSE	Viva (V)	Term Work (TW)	
01CT0715	Capstone Project	PROJ-ICT	EE	Skill	0	0	6	3	0	0	0	50	50	100
01CT1702	Information Theory and Coding	PCC - ICT	PC		3	2	0	5	50	30	20	25	25	150
01CT0716	Mobile and Pervasive computing	PCC - ICT	PC		4	0	2	5	50	30	20	25	25	150
01CT0704	Management Information System	HSMC	GN-UC		3	0	0	3	50	30	20	0	0	100
01CT07XX	Department Elective – 5	PEC - ICT	PEC	Skill	3	0	2	4	50	30	20	25	25	150
01CT07XX	Department Elective – 6	PEC - ICT	PEC	Skill	3	0	2	4	50	30	20	25	25	150
	Total		30		16	2	12	24	250	150	100	150	150	800

Department Elective - 5,6
1) 01CT0717 - VLSI Physical Design
2) 01CT0719 - Adhoc Wireless Networks
3) 01CT0720 - Cloud Developing
4) 01CT0722 - Deep Learning
5) 01CT0724 - Compiler Design

6) 01CT0718 - FPGA Based System Design
7) 01CT0726 - Software Defined Networks
8) 01CT0721 - Blockchain
9) 01CT0723 - Information Retrieval and Natural Language Processing
10) 01CT0725 - Advanced Database

B. Tech. Year IV, Sem VIII

Subject Code	Subject Name	Category			Teaching Scheme (Hours)			Credits	Evaluation Scheme					Total Marks
		AICTE	CBCS	Skill	Theory	Tutorial	Practical		Theory Marks			Tutorial/ Practical Marks		
									ESE(E)	IA	CSE	Viva (V)	Term work (TW)	
01CT1801	Project	PROJ-ICT	EE	Skill	0	0	26	13	0	0	0	100	100	200
01CT08XX	Department Elective – 7	PEC - ICT	PEC	Skill	3	0	0	3	50	30	20	25	25	150
01CT08XX	Department Elective – 8	PEC - ICT	PEC	Skill	3	0	0	3	50	30	20	25	25	150
	Total		32		6	0	26	19	100	60	40	150	150	500

Department Elective - 7,8 (MOOC)
1) 01CT0818 - Analog Circuit Design
2) 01CT0814 - Spread spectrum communications
3) 01CT0828 - Cloud Architecture
4) 01CT0816 - Advance Machine Learning
5) 01CT0821 - Object Oriented Analysis and Design

6) 01CT0819- RTOS
7) 01CT0820 - Introduction to 5G
8) 01CT0811 - Introduction to DevOps Tools
9) 01CT0817 - Advance Data Analytics
10) 01CT0822 - Soft Computing

11) 01CT0823- Cloud Technical Essentials
12) 01CT0824 - Security Essentials
13) 01CT0825 - Machine Learning Essentials
14) 01CT0826 - Human Computer Interaction
15) 01CT0827 - Software Testing