Academic Booklet

Academic Year 2024-25

Bachelor of Engineering in Computer Science & Engineering
(B.Tech. CSE)

Department of

Computer Science & Engineering

Parul Institute of Engineering & Technology Faculty of

Engineering & Technology

Parul University

About University

A multidisciplinary destination of learning and innovation, propelling quality in higher education with a record of being India's youngest private university to receive NAAC A++ accreditation in the first cycle. Situated in Vadodara, Gujarat, Parul University, is an embodiment of the nation's essence of cultural heritage blended with modern innovations and academic practices for student enrichment, while fostering national and global development. The University is an amalgamation of faculties and institutes that offer a plethora of diploma, undergraduate, postgraduate and doctoral programs in numerous disciplines. Through its uniquely structured, industry linked and field aligned programs, the University holds a noteworthy record of fulfilling the infinite dreams of students, by launching their lucrative careers towards high trajectories through start-up incubation and impeccable placement records. The 150+ acre eco-friendly campus is home to over50,000+ students from every State of India and over 3,500 international students from 75+ countries, making Parul University a truly culturally global destination. In addition to its NAAC A++ accreditation, the University holds global memberships in bodies such as the Association of Commonwealth Universities. The University's stamps of quality extend to its DSIR recognition for quality research, NABL accreditation for quality in clinical medical research, NABH accreditation for quality healthcare and ARIIA Top 50 ranking for innovation achievements nationwide. In recognition of Parul University's excellence in education it has been awarded for being the Best Private University in Western India by Praxis Media and Best University in Placements by ASSOCHAM. Recently PU achieved a significant milestone by receiving prestigious diamond rating in QS I-Gauge Indian University rating 2024-26.

Vision of University

To make successful academic quests through entrepreneurship, research, modernization and partnerships, thus making PU the finest educational destination.

Mission of Parul University

- Bridging the gap between academia and career, by paying emphasis on development programs for both students and staff.
- Promoting healthy relationships between PU's existing students, alumni, teachers and staff.
- Forming associations with other universities and corporate firms of the nation and the world.
- Presenting state of art infrastructure with high quality and energized work ethics

About the Institute

Parul Institute of Engineering and Technology (PIET) established in the year 2003, is a prominent educational institution located in Vadodara, Gujarat, India. It is part of Parul University and offers a range of undergraduate, postgraduate, doctoral programs and industry embedded programs in various engineering disciplines.

PIET is known for its modern infrastructure, state-of-the-art laboratories, and a strong emphasis on practical and industry-oriented education. The institute fosters innovation and research, providing students with opportunities to engage in projects and collaborations with industry partners. Additionally, PIET emphasizes holistic development through extracurricular activities, workshops, and seminars, aiming to produce well-rounded engineering professionals.

Reflecting its commitment towards academic excellence and overall development, Gujarat State Institute Ranking Framework (GSIRF) awarded Parul Institute of Engineering and Technology with 4 star ranking.

Vision of Institute

To be a centre par excellence for creating skilled professionals in Engineering.

Mission of Institute

To offer state-of-art education through undergraduate, postgraduate and doctoral programmes, for promoting entrepreneurship, enhancing employability, and engaging in research.

About the Department

VISION

To be a distinct hub of education that prepares skilled professional in the field of Computer Science and Engineering.

MISSION

• Enhance academic performance by adopting industry-oriented curriculum focusing on thrust area of computer education through integrated learning in collaboration with prominent industries.

• Preparing students to face challenges of real world through internships and project-based learning.

• Foster a research culture that results in sound knowledge base, high-quality publications, new products and IPR.

• Inculcate ethical consciousness in students so that they can achieve success in their professional endeavors and can become responsible citizens.

CODE OF CONDUCT FOR STUDENTS

- All students of Parul University shall compulsorily display their University ID cards by wearing it round their neck. If any student is found without an ID card on any day, he/she will be marked absent for that day.
- The university expects all the students to behave in a manner expected of a prudent person.
- The students shall be dressed in a presentable manner which does not invite criticism from any quarter.
- The students shall strictly adhere to the class timings and be punctual in attending all classes.
- The students shall display cordial, genial and respectful behaviour towards their teachers.
- The students should be polite, cooperative and respectful in dealing with the employees of the University.
- The students shall maintain the highest order of cleanliness in the classroom as well as in the college premises.
- The students should not indulge in boisterous behaviour at any place on the university campus.
- The students shall follow the directions issued in accessing common places such as library, canteen, sports fields, auditorium, gymnasium, swimming pool etc...
- The students shall strictly follow the schedules given by the class teacher regarding the assignments, class tests, examinations, practicals etc...and shall complete the assigned work within the duration specified by their teachers.
- The students shall follow the instructions given by the teacher during practicals in relation to the use of laboratory/workshops/implements/equipments...
- Whenever the student has queries regarding their performance from either the class teacher or from any office in the College/University, they should follow the procedures laid down for the same and approach the concerned with utmost respect to the Authority.
- The students shall pay all prescribed fees at the stipulated times and avoid being penalized for non-payment of fees.
- The students shall not indulge in unfair means during the conduct of class tests/ internal and external examinations.

- The students shall not indulge in unlawful assembly at any place in the campus.

- Any problem encountered by the students should be brought to the notice of the Authorities immediately available in the College/University.
- The students should never take law into their own hands and report any matter of lawlessness or harassment to the College Authorities immediately which, in turn, will initiate suitable action.
- The students shall participate in all national events such as Independence Day, Republic Day organized by the University.
- The students should not indulge in any of the activities which adversely affect the reputation of the University.
- The students shall not consume prohibited substances such as alcohol, narcotics, Marijuana, Heroin, Cocaine etc. and shall not keep in their custody/hostel premises illegal objects/ materials such as firearms, missiles, bombs, narcotics, alcohol or other intoxicants etc. Smoking and chewing of tobacco is strictly prohibited in the campus.

- UGC has directed all the universities to strictly implement anti-ragging measures in universities and colleges. It is also the responsibility of the institutions in the university to ensure safety of the newcomers and to protect them from any incidence which may harm either their physical or mental faculties. Any student, who has been found involved in the incident related to ragging, strict disciplinary action as enumerated in UGC Regulations on Curbing the Menace of Ragging in Higher Educational Institutions, 2009 will be initiated against the delinquent student.

- Any violation of the provisions mentioned above will be viewed as an Act of Misconduct and university, after conducting a thorough probe into such incidents, shall initiate strict disciplinary action against delinquent students.

CODE OF CONDUCT FOR FOREIGN STUDENTS WHILE RESIDING OUTSIDE THE UNIVERSITY CAMPUS:

- A number of foreign nationals are studying in the University under various degree programmes. Those foreign students who stay outside the campus will have to adhere to certain code of conduct as mentioned below.
- They have to enter into a Rent Agreement with the owners of the accommodation and submit a copy of the same to the ISAC in the University
- They shall inform the local police about their residence
- Boys and girls should necessarily stay in separate accommodation
- They shall not consume any narcotic substance such as Marijuana, Heroin, Cocaine etc. In case, they consume alcohol, they should necessarily have obtained permit for the same from competent authorities. Any violation would make them liable for disciplinary action from the concerned authorities.
- They should not play loud music in their accommodation which would serve as a nuisance to the neighbours. They should maintain cordial relations with their neighbours and shall live in harmony with them. Further, they should not indulge in any boisterous behavior such as getting into altercation with neighbours, causing disturbance to them etc. Moreover, they shall always maintain the social decorum by behaving politely, wearing appropriate attire so as to ensure the amicable living atmosphere with others.
- Whenever they leave town for any reason, they should necessarily inform the authorities in ISAC and also their counsellor.

Regulations for boarders residing in the university hostels:

GENERAL:

- All students shall conform to the rules of good conduct and shall respect the authorities of the university.
- Students shall put in efforts to protect the property of the university and make proper use of the facilities provided.
- No student shall deface or destroy any university or public property.

- Students shall maintain proper decorum in all places such as classrooms, hostels, laboratories, sports facilities, transport facilities etc...
- Students shall not disturb the normal work of the university by disorderly conduct, boisterous behaviour and unauthorized assembly.
- Ragging in any form is strictly prohibited.
- Consumption of alcohol or drunkenness or drug addiction or gambling on the campus is strictly prohibited.
- Students should not indulge in celebration of any festivals on days other than those notified by the university.
- Violation of any of the regulations will be treated as an act of indiscipline and shall be brought to the notice of the Hostel Superintendent by the concerned student.
- The Hostel Superintendent in consultation with the concerned Rectors shall enquire into the matter and may implement immediate measures such as giving a warning, imposing a fine or debarring from the hostel for a period not exceeding one month.
- In further cases of serious indiscipline, an Inquiry cum Disciplinary Committee may be formed comprising officials in the university and the said Committee shall inquire into acts of indiscipline and suggest punitive measures to the Higher Authorities in the University.
- The decision of the higher authorities in the university in all these matters shall be final and binding on all concerned.
- The Rector of each hostel shall hold weekly open meetings with the boarders on designated day and time to address the grievances of the boarders, if any.
- Similar open meetings will be held by the Hostel Superintendent with the boarders once a month on designated day and time to address the grievances of the boarders, if any.

ADMISSION TO THE HOSTELS:

- Any student admitted to any institution in the university is eligible to be admitted to the concerned hostel subject to the availability of accommodation.
- Preference will be given to the regular students of the university.
- Application may be made to the Rector of the hostel on payment of prescribed application fees.

- The Rector of the hostel in consultation with the Hostel Superintendent shall allot rooms to the applicants depending upon the availability.

PAYMENT OF HOSTEL FEES

- Every boarder in the hostel shall pay the prescribed fees from time to time.
- The Hostel Fees will be decided by the Management of the Trust running the hostels. In case, the prescribed fees are not paid in time, the boarder shall have to pay the fine as decided by the Management of the Trust

BEHAVIOUR OF BOARDERS IN THE HOSTEL

- The boarders shall not change the room allotted to them by the Rector without the permission of the Rector.
- The boarders shall keep their rooms neat and tidy and shall cooperate with the hostel management in safe upkeep of the common utilities provided to them.
- The boarders shall allow the Rector to inspect their rooms whenever demanded.
- The corridors, toilets, reading room, TV room, mess etc... are common utilities provided by the hostel and it is the responsibility of every boarder to use them appropriately without causing any damage.
- The boarders themselves are responsible for the safety of their belongings and are advised not to keep any valuable items in their rooms.
- The boarders shall not consume prohibited substances such as alcohol, narcotics,
- Marijuana, Heroin, Cocaine etc. and shall not keep in their custody/hostel premises illegal objects/ materials such as firearms, missiles, bombs, narcotics, alcohol or other intoxicants etc.
- Smoking and chewing of tobacco is strictly prohibited.
- Gambling in any form is strictly prohibited.
- Viewing prohibited material on personal computers, laptops, mobile and other electronics devices will be strictly viewed as an act of indiscipline.
- No person other than the boarders shall be allowed to enter the hostel premises without the permission of the Rector.

- Boarders shall not allow any guests to stay overnight in their rooms.
- No boarder shall stay outside the hostel after 9:00 PM without prior permission of the Rector. However, boarders in the Ladies' Hostel shall not remain outside the hostel beyond 7:30 PM without prior permission of the Rector. Any violation of this provision shall be viewed seriously and disciplinary proceedings will be initiated.
- Boarders shall treat all employees of the hostel with courtesy and respect.
- Boarders shall not hold any unauthorized meeting in the hostel premises.
- Boarders shall vacate the hostel during vacations to facilitate upkeep of the hostels.
- Boarders shall wear proper dresses when they visit the common room, dining hall or any public place on the university campus.
- Any complaint or grievances which the boarders have shall be reported to the Rector who in turn shall bring it to the notice of the Hostel Superintendent immediately for redressal.

HOSTEL MESS

- There shall be as many number of messes as is required in the university premises.
- All meals, breakfast etc... will be served only in the mess.
- Boarders shall have food only in that mess to which they are allotted.
- The mess charges shall be collected along with the hostel fees as determined by the Trust.
- Boarders shall treat all mess workers with courtesy and respect.
- Food will not be taken out of the mess for any reason.
- Any complaints regarding the quality of food shall be brought to the notice of the concerned Rectors and Hostel Superintendent.
- The boarders shall strictly adhere to the timings of the mess.
- The boarders will have to be properly dressed while coming to the mess.

PEO's, PO's & PSO's PEO's:

PEO 1 Apply computer science and engineering theories, principles, and skills to address societal challenges.

PEO 2 Display a lifelong learning mindset and adapt to quick technological developments in the sector.

PEO 3 Exhibit professionalism, collaboration, leadership abilities, and awareness of contemporary demands.

PO's:

PO 1 Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

PO 2 Problem analysis: Identify, formulate, review research literature, and analyse complex engineering problems reaching substantiated conclusions using the first principles of mathematics, natural sciences, and engineering sciences.

PO 3 Design/Development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for public health and safety, and cultural, societal, and environmental considerations.

PO 4 Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO 5 Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.

PO 6 The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO 7 Environment and sustainability: Understand the impact of professional engineering solutions in societal and environmental contexts and demonstrate the knowledge of, and need for sustainable development.

PO 8 Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO 9 Individual and teamwork: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO 10 Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO 11 Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO 12 Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PSO's:

PSO 1 Demand as per recent development: An ability to analyze, design, verify, validate, code and maintain the solution of given problem to derive execution of software system.

PSO 2 Software skill: An ability to understand, apply and work with one or more domain using knowledge of mathematical techniques and principles with relevant areas of computer science.

ACADEMIC CALENDAR

Faculty of Engineering & Technology

Parul® University — NAAC A++ ACCREDITED UNIVERSITY

Academic Calendar (ACY 2024-25) (Even Term)
Bachelor of Technolog/IEDP/M.Tech Courses (Reg Sem - IV, VI, VIII)

Week	MONDAY	Tuesday	Wednesday	Thursday	Friday	Saturday
01 Nov	25 Teaching Start	26	27	28	29	30
02 Dec	02	03	04	05	06	07
03	09	10	11	12	13	14
04	16	17	18	19	20	21 Weekly 1
05	23	24	25 Christmas	26	27	28 Weekly 2
06 Dec/Jan	30	31	01	02 Hackathon	03 Hackathon	04 Weekly 3
07	06	07	08	09	10	11 Weekly 4
08	13	14 Makar Sakranti	15 Sakranti - 2nd Day	16	17	18 Weekly 5
09	20	21	22	23	24	25 Weekly 6
10 Jan/Feb	27 Mid Sem Exam	28 Mid Sem Exam	29 Mid Sem Exam	30 Mid Sem Exam	31 Mid Sem Exam	01 Mid Sem Exam
11	03	04	05	06	07 Tech Expo	08 Tech Expo
12	10	11	12	13	14	15
13	17	18	19	20	21	22
14 Feb/Mar	24	25	26 Maha Shivratri	27	28	01
15	03	04	05	06	07	08
16	10 TW Submission	11 TW Submission	12 TW Submission	13 TW Submission	14 Dhuleti	15 TW Submission
17	17	18	19	20	21	22 Teaching End
18	24 ESE (Practical)	25 ESE (Practical)	26 ESE (Practical)	27 ESE (Practical)	28 ESE (Practical)	29 ESE (Practical)
19 Mar/Apr	31 Eid-ul-Fitra	01 ESE (Practical)	02 ESE (Practical)	03 ESE (Practical)	04 ESE (Practical)	05 ESE (Practical)
20	07 ESE (Theory)	08 ESE (Theory)	09 ESE (Theory)	10 Mahavir Janma Kalyanak	11 ESE (Theory)	12 ESE (Theory)
21	14 Baba Saheb Ambedkar Birthday	15 ESE (Theory)	16 ESE (Theory)	17 ESE (Theory)	18 ESE (Theory)	19 ESE (Theory)
22	21 ESE (Theory)	22 ESE (Theory)	23 ESE (Theory)	24 ESE (Theory)	25 ESE (Theory)	26 ESE (Theory)

Important Notes

1. Marks Locking date by HOD : 17th March, 2025
2. Marks Locking date by Principal and Dean : 18th March, 2025
3. End Sem Practical Dates : 24th - 5th April, 2025
4. End Sem Theory Dates : 7th - 26th Apr, 2025
5. End Sem Supplementary Exam Dates : 27th April, 2025 Onwards
6. Mid Sem-F2(Remedial) grade Exam Dates:17th Feb,2025
7. New Term (Even) Commencement : 2nd week of June, 2025 Onwards

J.m. Xavier

Dean - Faculty of Engg & Tech

TIME TABLES -4CSE1 to 4CSE16

PARUL UNIVERSITY
FACULTY NAME: FACULTY OF ENGINEERING & TECHNOLOGY
INSTITUTE NAME: PARUL INSTITUTE OF ENGINEERING & TECHNOLOGY

ACADEMIC YEAR: 2024-25 | **YEAR: 2nd YEAR**
SEMESTER: 4TH | **LEVEL: UG**
PROGRAM NAME: B.TECH COMPUTER SCIENCE ENGINEERING | **DIVISION: 4CSE1**

Parul® University NAAC GRADE A++

EFFECTIVE FROM: 25-11-2024

TIME	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
7:30 - 8:30	4CSE1:B2:CC:MKK:LAB-411 4CSE 1:B1:PPFD:AG:LAB- 412	4CSE3:CN:AP:D-320	4CSE1: B2:PPFD:AG:LAB-411 4CSE1:B1:CC:MKK:LAB- 412	CODECHEF	4CSE1:COMA-YDM:D-313	4CSE1:B2:CN:TV:LAB-401 4CSE1:B1:COMA:YDM:LAB-402
8:30 - 9:30		**4CSE1:PGPD:AB:D-320**			4CSE1:PPFD:AG:D-313	
9:30-9:45	**RECESS TIME: 09:30-09:45**					
09:45 - 10:45	4CSE1:B2:CC:MKK:LAB-411 4CSE1:B1:CN:AB:LAB- 412	4CSE1:B2:COMA:YDM:LAB-411 4CSE1: B1:OS:YF: LAB- 412	**LIBRARY**	CODECHEF	**4CSE1:PSNM:AAJ:D-313**	**4CSE1:PSNM:AAJ:D-302**
10:45 - 11:45					**4CSE1:PPFD:AG:D-313**	**4CSE1:PSNM:AAJ:D-302**
11:45 - 12:45	**RECESS TIME: 11:45 - 12:45**					
12:45 - 01:35	**4CSE1:OS:YF:D-313**	**4CSE1:OS:YF:D-302**	4CSE1:B1:CC:MKK: LAB-411 4CSE1:B2:OS:YF:LAB- 412	CODECHEF	**4CSE1:PSNM:AAJ:D-118**	**4CSE1:COMA-YDM:D-302**
01:35 - 02:25	**4CSE1:COMA-YDM:D-313**	**4CSE1:PPFD:AG:D-302**			**LIBRARY**	**4CSE1:OS:YF:D-302**

SUBJECT_CODE	SUBJECT_NAME	SHORT_NAME	FACULTY FULL_NAME	FACULTY SHORT NAME	EMAIL ID	MIS ID
303105251	OPERATING SYSTEM	OS	DR. YASSIR FAROOQUI	YF	yassir.farooqui270062@paruluniversity.ac.in	13801
303105252	OPERATING SYSTEM LABORATORY	OS LAB	DR. YASSIR FAROOQUI	YF	yassir.farooqui270062@paruluniversity.ac.in	13801
			DR. YASSIR FAROOQUI	YF	yassir.farooqui270062@paruluniversity.ac.in	13801
303105210	COMPUTER ORGANIZATION AND MICROPROCESSOR ARCHITECTURE	COMA	Yagnik D. Moga	YDM	yagnik.moga31793@paruluniversity.ac.in	31793
303105211	COMPUTER ORGANIZATION AND MICROPROCESSOR ARCHITECTURE LAB	COMA LAB	Yagnik D. Moga	YDM	yagnik.moga31793@paruluniversity.ac.in	31793
			Yagnik D. Moga	YDM	yagnik.moga31793@paruluniversity.ac.in	31793
303105255	COMPUTER NETWORK	CN	AKSHARA PRACHI	AP	akshara.jha29428@pauluniversity.ac.in	29428
303105256	COMPUTER NETWORK LABORATORY	CN LAB	TANDRA VENNELA	TV	vennela.tandra35379@paruluniversity.ac.in	35379
			APARAJITA BISWAL	AB	aparajita.biswal34355@paruluniversity.ac.in	34355
303105257	PROGRAMMING IN PYTHON WITH FULL STACK DEVELOPMENT	PPFD	AARSHI GUPTA	AG	aarshi@bytexl.in	32551
303105258	PROGRAMMING IN PYTHON WITH FULL STACK DEVELOPMENT LABORATORY	PPFD LAB	AARSHI GUPTA	AG	aarshi@bytexl.in	32551
			AARSHI GUPTA	AG	aarshi@bytexl.in	32551
303191251	PROBABILITY, STATISTICS AND NUMERICAL METHODS	PSNM	APEKSHA JOSHI	AAJ	apeksha.joshi19867@paruluniversity.ac.in	19867
303193252	PROFESSIONAL GROOMING AND PERSONALITY DEVELOPMENT	PGPD	APURVA BHAGHWAT	AB	apurva.bhagwat36002@paruluniversity.ac.in	36002
303105259	COMPETITIVE CODING	CC	MUDRIK KAUSHIK	MKK	mudrikkaushik@gmail.com	29393
CLASSROOM NO:		D-118,D-320DD-302,D-313				
LAB/ TUTORIAL LOCATION:		L-411,L412,L4-401,L-402			**FACULTY REPRESENTATIVE / MFT**	**Margi Manwar**
	SIGN		**SIGN & SEAL**		**SIGN & SEAL**	
	PROF.SHREYA DHOLARIYA		**DR.AMIT BARVE**		**Dr. Vipul Vekariya**	
	Time Table Coordinator		**Head of Department**		**Principal / Dean**	

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INSTITUTE NAME: PARUL INSTITUTE OF ENGINEERING & TECHNOLOGY

ACADEMIC YEAR: 2024-25 | **YEAR: 2nd YEAR**

SEMESTER: 4TH | **LEVEL: UG**

PROGRAM NAME: B.TECH COMPUTER SCIENCE ENGINEERING | **DIVISION: 4CSE2**

Parul® University NAAC GRADE A++

EFFECTIVE FROM: 25-11-2024

TIME	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
7:30 - 8:30	4CSE2:B2:CN:GS:LAB-409 4CSE2:B1:PPFD:NH:LAB-410	4CSE2:B1:CN:AB:LAB-411 4CSE2:B2:CC:PPR:LAB-412	4CSE2:B1:COMA:YDM:LAB-409 4CSE2:B2:CC:PPR:LAB-410	**4CSE2:CN:GS:D-425**	CODECHEF	4CSE2:B2:PPFD:NH:LAB-409 4CSE2:B1:CC:PPR:LAB-410
8:30 - 9:30				LIBRARY		
9:30-9:45	**RECESS TIME: 09:30-09:45**					
09:45 - 10:45	**4CSE2:PSNM:AAJ:D-313**	4CSE2:B2:OS:YS:LAB-409 4CSE2:B1:CC:PPR:LAB-410	**4CSE2:PSNM:AAJ:D-313**	4CSE2:B1:OS:YF:LAB-409 4CSE2:B2:COMA:YDM:LAB-410	CODECHEF	**4CSE2:OS:YF:D-313**
10:45 - 11:45	**4CSE2:PSNM:AAJ:D-313**		**4CSE2:PSNM:AAJ:D-313**			**4CSE2:PGPD:AR:D-313**
11:45 - 12:45	**RECESS TIME: 11:45 - 12:45**					
12:45 - 01:35	**4CSE2:PPFD:NH:D-302**	**4CSE2:PPFD:NH:D-313**	**4CSE2:COMA-YDM:D-313**	**4CSE2:OS:YF:D-313**	CODECHEF	LIBRARY
01:35 - 02:25	**4CSE2:OS:YF:D-302**	**4CSE2:PPFD:NH:D-313**	**4CSE2:COMA-YDM:D-313**	LIBRARY		**4CSE2:COMA-YDM:D-216**

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303105251	OPERATING SYSTEM	OS	DR. YASSIR FAROOQUI	YF	yassir.farooqui270062@paruluniversity.ac.in	13801
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			Prof. YATIN SHUKLA	YS	yatinkumar.shukla18611@paruluniversity.	18611
303105210	COMPUTER ORGANIZATION AND	COMA	Yagnik D. Moga	YDM	yagnik.moga31793@paruluniversity.ac.in	31793
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303105255	COMPUTER NETWORK	CN	GARIMA SHARMA		garima.sharma35514@paruluniversity.ac.in	35514
303105256	COMPUTER NETWORK LABORATORY	CN LAB	GARIMA SHARMA		garima.sharma35514@paruluniversity.ac.in	35514
			APARAJITA BISWAL	AB	aparajita.biswal34355@paruluniversity.ac.in	34355
303105257	PROGRAMMING IN PYTHON WITH FULL	PPFD	NASRULLAH HUSAMI	NH	husamisk@gmail.com	32898
303105258	PROGRAMMING IN PYTHON WITH FULL STACK DEVELOPMENT LABORATORY	PPFD LAB	NASRULLAH HUSAMI	NH	husamisk@gmail.com	32898
			NASRULLAH HUSAMI	NH	husamisk@gmail.com	32898
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303105259	COMPETITIVE CODING	CC	P PAVANI REDDY	PPR	pavanihannah03@gmail.com	29373

CLASSROOM NO:	D-302,D-313,D-216,D-425		
LAB/ TUTORIAL LOCATION:	L-409,L410,L-411,L-412	**FACULTY REPRESENTATIVE / MFT**	**Kunta M Suthar**

	SIGN		**SIGN & SEAL**		**SIGN & SEAL**	
						
	PROF.SHREYA DHOLARIYA		**DR.AMIT BARVE**		**Dr. Vipul Vekariya**	
	Time Table Coordinator		**Head of Department**		**Principal / Dean**	

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FACULTY NAME: FACULTY OF ENGINEERING & TECHNOLOGY

INSTITUTE NAME: PARUL INSTITUTE OF ENGINEERING & TECHNOLOGY

ACADEMIC YEAR: 2024-25 | **YEAR: 2nd YEAR**

SEMESTER: 4th | **LEVEL: UG**

PROGRAM NAME: B.TECH COMPUTER SCIENCE ENGINEERING | **DIVISION: 4CSE3**

EFFECTIVE FROM: 25-11-2024

TIME	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
7:30 - 8:30	**4CSE3:CN:IR:D-425**	4CSE3:B2:PPFD:NH:LAB-409 4CSE3:B1:CN:IR:LAB-410	**4CSE3:PSNM:MK:D-425**	4CSE3:B1:PPFD:NH:LAB-409 4CSE3:B2:CC:PPR:LAB-410	4CSE3:B1:CC:PPR:LAB-409 4CSE3:B2:COMA:MSY:LAB-410	CODECHEF
8:30 - 9:30	**4CSE3:COMA:MSY:D-425**		**4CSE3:PSNM:MK:D-425**			
9:30-9:45	**RECESS TIME: 09:30-09:45**					
09:45 - 10:45	LIBRARY	**4CSE3:COMA:MSY:D-320**	4CSE3:B2:OS:YS:LAB-409 4CSE3:B1:COMA:MSY:LAB-410	LIBRARY	**4CSE3:PSNM:MK:D-302**	CODECHEF
10:45 - 11:45		**4CSE3:PGPD:RP:D-320**		**4CSE3:COMA:MSY:D-313**	**4CSE3:PSNM:MK:D-302**	
11:45 - 12:45	**RECESS TIME: 11:45 - 12:45**					
12:45 - 01:35	**4CSE3:OS:YS:A-224**	4CSE3:B1:OS:YS:LAB-411 4CSE3:B2:CC:PPR:LAB-412	**4CSE3:OS:YS:D-302**	**4CSE3:PPFD:NH:D-302**	4CSE3:B1:CC:PPR:LAB-409 4CSE3:B2:CN:IR:LAB-410	CODECHEF
01:35 - 02:25	**4CSE3:OS:YS:A-224**		**4CSE3:PPFD:NH:D-302**	**4CSE3:PPFD:NH:D-302**		

SUBJECT_CODE	SUBJECT_NAME	SHORT_NAME	FACULTY FULL_NAME	FACULTY SHORT NAME	EMAIL ID	MIS ID
303105251	OPERATING SYSTEM	OS	Prof. YATIN SHUKLA	YS	yatinkumar.shukla18611@paruluniversity.ac.	18611
303105252	OPERATING SYSTEM LABORATORY	OS LAB	Prof. YATIN SHUKLA	YS	yatinkumar.shukla18611@paruluniversity.ac.	18611
			Prof. YATIN SHUKLA	YS	yatinkumar.shukla18611@paruluniversity.ac.	18611
303105210	COMPUTER ORGANIZATION AND MICROPROCESSOR ARCHITECTURE	COMA	Mithilesh S. Yadav	MSY	mithilesh.yadav36158@paruluniversity.ac.in	36158
303105211	COMPUTER ORGANIZATION AND MICROPROCESSOR ARCHITECTURE LAB	COMA LAB	Mithilesh S. Yadav	MSY	mithilesh.yadav36158@paruluniversity.ac.in	36158
			Mithilesh S. Yadav	MSY	mithilesh.yadav36158@paruluniversity.ac.in	36158
303105255	COMPUTER NETWORK	CN	ER. ISHWARLAL RATHOD	IR	ishwarlal.rathod34715@paruluniversity.ac.in	34715
303105256	COMPUTER NETWORK LABORATORY	CN LAB	ER. ISHWARLAL RATHOD	IR	ishwarlal.rathod34715@paruluniversity.ac.in	34715
			ER. ISHWARLAL RATHOD	IR	ishwarlal.rathod34715@paruluniversity.ac.in	34715
303105257	PROGRAMMING IN PYTHON WITH	PPFD	NASRULLAH HUSAMI	NH	husamisk@gmail.com	32898
303105258	PROGRAMMING IN PYTHON WITH FULL STACK DEVELOPMENT LABORATORY	PPFD LAB	NASRULLAH HUSAMI	NH	husamisk@gmail.com	32898
			NASRULLAH HUSAMI	NH	husamisk@gmail.com	32898
303191251	NUMERICALM ETHODS	PSNM	Dr. Mohd Kashif	MK	kashif.mohd36303@paruluniversity.ac.in	36303
303193252	PROFESSIONAL GROOMING AND	PGPD	RIDHHI PANDYA	RP	riddhi.pandya20062@paruluniversity.ac.in	20062
303105259	COMPETITIVE CODING	CC	P PAVANI REDDY	PPR	pavanihannah03@gmail.com	29373

CLASSROOM NO:

LAB/ TUTORIAL LOCATION:

FACULTY REPRESENTATIVE / MFT **Shreya K Pandya**

SIGN	SIGN & SEAL	SIGN & SEAL
PROF.SHREYA DHOLARIYA	**DR.AMIT BARVE**	**Dr. Vipul Vekariya**
Time Table Coordinator	**Head of Department**	**Principal / Dean**

PARUL UNIVERSITY

FACULTY NAME: FACULTY OF ENGINEERING & TECHNOLOGY

INSTITUTE NAME: PARUL INSTITUTE OF ENGINEERING & TECHNOLOGY

ACADEMIC YEAR: 2024-25 | **YEAR: 2nd YEAR**

SEMESTER: 4th | **LEVEL: UG**

PROGRAM NAME: B.TECH COMPUTER SCIENCE ENGINEERING | **DIVISION: 4CSE4**

Parul® University NAAC GRADE A++

EFFECTIVE FROM: 25-11-2024

TIME	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
7:30 - 8:30	CODECHEF	4CSE4:B1:OS:SD:LAB-413 4CSE:B2:COMA:MSY:LAB-804	4CSE4:B1:PPFD:NH:LAB-413 4CSE4:B2:CN:IR:LAB-804	4CSE4:B2:OS:SD:LAB-411 CSE 4CSE4:B1:COMA:MSY:LAB-412	**4CSE4:PSNM:SC:D-425**	**4CSE4:PSNM:SC:D-425**
8:30 - 9:30					**4CSE4:PSNM:SC:D-425**	**4CSE4:PSNM:SC:D-425**
9:30-9:45	**RECESS TIME: 09:30-09:45**					
09:45 - 10:45	CODECHEF	**4CSE4:IR:CN:D-313**	LIBRARY	**4CSE4:PPFD:NH:D-302**	4CSE4:B2:PPFD:NH:LAB-409 4CSE4:B1:CC:PPR:LAB-410	LIBRARY
10:45 - 11:45		**4CSE4:OS:SD:D-313**	**4CSE4:PGPD:AZ: A 224**	**4CSE4:PPFD:NH:D-302**		
11:45 - 12:45	**RECESS TIME: 11:45 - 12:45**					
12:45 - 01:35	CODECHEF	**4CSE4:COMA:MSY:D-309**	**4CSE4:OS:SD:D-309**	4CSE4:B2:CC:NHY:LAB-409 4CSE4:B1:CN:IR:LAB-410	**4CSE4:OS:SD:D-313**	4CSE4:B1:CC:PPR:LAB-409 4CSE4:B2:CC:NHY:LAB-410
01:35 - 02:25		**4CSE4:COMA:MSY:D-309**	**4CSE4:COMA:MSY:D-309**		**4CSE4:PPFD:NH:D-313**	

SUBJECT_CODE	SUBJECT_NAME	SHORT_NAME	FACULTY FULL_NAME	FACULTY SHORT NAME	EMAIL ID	MIS ID
303105251	OPERATING SYSTEM	OS	SHREYA DHOLARIYA	SD	shreya.dholariya20083@paruluniversity.ac.in	20083
303105252	OPERATING SYSTEM LABORATORY	OS LAB	SHREYA DHOLARIYA	SD	shreya.dholariya20083@paruluniversity.ac.in	20083
			SHREYA DHOLARIYA	SD	shreya.dholariya20083@paruluniversity.ac.in	20083
303105210	COMPUTER ORGANIZATION AND MICROPROCESSOR ARCHITECTURE	COMA	Mithilesh S. Yadav	MSY	mithilesh.yadav36158@paruluniversity.ac.in	36158
303105211	MICROPROCESSOR ARCHITECTURE LAB	COMA LAB	Mithilesh S. Yadav	MSY	mithilesh.yadav36158@paruluniversity.ac.in	36158
			Mithilesh S. Yadav	MSY	mithilesh.yadav36158@paruluniversity.ac.in	36158
303105255	COMPUTER NETWORK	CN	ER. ISHWARLAL RATHOD	IR	ishwarlal.rathod34715@paruluniversity.ac.in	34715
303105256	COMPUTER NETWORK LABORATORY	CN LAB	ER. ISHWARLAL RATHOD	IR	ishwarlal.rathod34715@paruluniversity.ac.in	34715
			ER. ISHWARLAL RATHOD	IR	ishwarlal.rathod34715@paruluniversity.ac.in	34715
303105257	PROGRAMMING IN PYTHON WITH	PPFD	NASRULLAH HUSAMI	NH	husamisk@gmail.com	32898
303105258	PROGRAMMING IN PYTHON WITH FULL STACK DEVELOPMENT LABORATORY	PPFD LAB	NASRULLAH HUSAMI	NH	husamisk@gmail.com	32898
			NASRULLAH HUSAMI	NH	husamisk@gmail.com	32898
303191251	PROBABILITY, STATISTICS AND	PSNM	Dr. Soumitra Chowdhury	SC	**Soumitra.**	36490
303193252	PROFESSIONAL GROOMING AND PERSONALITY DEVELOPMENT	PGPD	DR. ALIZEHRA RAZA	AZ	alizehra.raza19436@paruluniversity.ac.in	19436
303105259	COMPETITIVE CODING	CC (B1)	P PAVANI REDDY	PPR	pavanihannah03@gmail.com	29373
		CC (B2)	NAKUL H Y	NHY	nakul.hy@gmail.com	32913

CLASSROOM NO:

LAB/ TUTORIAL LOCATION:

FACULTY REPRESENTATIVE / MFT — **Harsh Pateliya**

SIGN	SIGN & SEAL	SIGN & SEAL
		
PROF.SHREYA DHOLARIYA	**DR.AMIT BARVE**	**Dr. Vipul Vekariya**
Time Table Coordinator	**Head of Department**	**Principal / Dean**

PARUL UNIVERSITY

FACULTY NAME: FACULTY OF ENGINEERING & TECHNOLOGY

INSTITUTE NAME: PARUL INSTITUTE OF ENGINEERING & TECHNOLOGY

ACADEMIC YEAR: 2024-25 | **YEAR: 2nd YEAR**

SEMESTER: 4TH | **LEVEL: UG**

PROGRAM NAME: B.TECH COMPUTER SCIENCE ENGINEERING | **DIVISION: 4CSE5**

Parul® University — NAAC GRADE A++

EFFECTIVE FROM: 25-11-2024

TIME	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
7:30 - 8:30	4CSE5:B1:CC:PPR:LAB-413 4CSE5:B2:OS:SD:LAB-804	CODECHEF	4CSE5:B1:PPFD:SRK:LAB-806 4CSE5:B2:COMA:AVD:LAB-807	**4CSE5:PSNM:SC:D-420**	4CSE5:B2:CC:NHY:LAB-411 4CSE5:B1:CN:IR:LAB-412	**4CSE5:PPFD:SRK:D-420**
8:30 - 9:30				**4CSE5:PSNM:SC:D-420**		**4CSE5:COMA:AVD:D-420**
9:30-9:45	**RECESS TIME: 09:30-09:45**					
09:45 - 10:45	**4CSE5:PSNM:SC:D-302**	CODECHEF	4CSE5:B1:CC:PPR:LAB-411 4CSE5:B2:PPFD:SRK:LAB-412	**4CSE5:COMA:AVD:A-316**	4CSE5:B1:COMA:AVD:LAB-411 4CSE5:B2:CC:NHY: LAB-412	**LIBRARY**
10:45 - 11:45	**4CSE5:PSNM:SC:D-302**			4CSE5:PPFD:SRK:A-226		
11:45 - 12:45	**RECESS TIME: 11:45 - 12:45**					
12:45 - 01:35	4CSE5:B1:OS:SD:LAB-411 4CSE5:B2:CN:AK:LAB-412	CODECHEF	**4CSE5:PGPD:KT:D-303**	**4CSE5:OS:SD:D-303**	**4CSE5:COMA:AVD:D-302**	**4CSE5:IR:CN:D-309**
01:35 - 02:25			**4CSE5:OS:SD:D-303**	**4CSE5:PPFD:SRK:D-303**	**4CSE5:OS:SD:D-302**	**LIBRARY**

SUBJECT_CODE	SUBJECT_NAME	SHORT_NAME	FACULTY FULL_NAME	FACULTY SHORT NAME	EMAIL ID	MIS ID
303105251	OPERATING SYSTEM	OS	SHREYA DHOLARIYA	SD	shreya.dholariya20083@paruluniversity.ac.in	20083
303105252	OPERATING SYSTEM LABORATORY	OS LAB	SHREYA DHOLARIYA	SD	shreya.dholariya20083@paruluniversity.ac.in	20083
			SHREYA DHOLARIYA	SD	shreya.dholariya20083@paruluniversity.ac.in	20083
303105210	COMPUTER ORGANIZATION AND	COMA	Archana V. Dubey	AVD	archana.dubey17511@paruluniversity.ac.in	17511
303105211	COMPUTER ORGANIZATION AND MICROPROCESSOR ARCHITECTURE LAB	COMA LAB	Archana V. Dubey	AVD	archana.dubey17511@paruluniversity.ac.in	17511
			Archana V. Dubey	AVD	archana.dubey17511@paruluniversity.ac.in	17511
303105255	COMPUTER NETWORK	CN	ER. ISHWARLAL RATHOD	IR	ishwarlal.rathod34715@paruluniversity.ac.in	34715
303105256	COMPUTER NETWORK LABORATORY	CN LAB	ER. ISHWARLAL RATHOD	IR	ishwarlal.rathod34715@paruluniversity.ac.in	34715
			AMIT KUMAR	AK	amitkumar.rajpoot33412@paruluniversity.ac.in	33412
303105257	PROGRAMMING IN PYTHON WITH FULL	PPFD	SABARISH RAMESH KUMAR	SRK	sabarishrkb@gmail.com	29867
303105258	PROGRAMMING IN PYTHON WITH FULL STACK DEVELOPMENT LABORATORY	PPFD LAB	SABARISH RAMESH KUMAR	SRK	sabarishrkb@gmail.com	29867
			SABARISH RAMESH KUMAR	SRK	sabarishrkb@gmail.com	29867
303191251	PRO BABILITY , STATISTICS AND NUMERICAL METHODS	PSNM				
303193252	PROFESSIONAL GROOMING AND PERSONALITY DEVELOPMENT	PGPD	KARMESH THAKKAR	KT	karmesh.thakkar27107@paruluniversity.ac.in	27107
303105259	COMPETITIVE CODING	CC (B1)	P PAVANI REDDY	PPR	pavanithannah03@gmail.com	29373
		CC (B2)	NAKUL H Y	NHY	nakul.hy@gmail.com	32913

CLASSROOM NO:

LAB/ TUTORIAL LOCATION:

FACULTY REPRESENTATIVE / MFT — **Aakanksha S. Taliwal**

SIGN	SIGN & SEAL	SIGN & SEAL
PROF.SHREYA DHOLARIYA	**DR.AMIT BARVE**	**Dr. Vipul Vekariya**
Time Table Coordinator	**Head of Department**	**Principal / Dean**

PARUL UNIVERSITY

FACULTY NAME: FACULTY OF ENGINEERING & TECHNOLOGY

INSTITUTE NAME: PARUL INSTITUTE OF ENGINEERING & TECHNOLOGY

ACADEMIC YEAR: 2024-25 | **YEAR: 2nd YEAR**

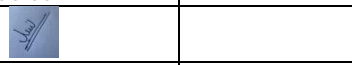
SEMESTER: 4th | **LEVEL: UG**

PROGRAM NAME: B.TECH COMPUTER SCIENCE ENGINEERING | **DIVISION: 4CSE6**

Parul® University — NAAC GRADE A++

EFFECTIVE FROM: 25-11-2024

TIME	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
7:30 - 8:30	4CSE6:1:PPFD:SRK:L-805 4CSE6:2:CN:SU:L-806	4CSE6:2:COMA:AVD:L-805 4CSE6:1:CN:KD:L-806	CODECHEF	4CSE6:1:COMA:AVD:L-413 4CSE6:2:CC:NHY:L-804	**4CSE6:PSNM:ASB:D-420**	**4CSE6:PSNM:ASB:D-419**
8:30 - 9:30					**4CSE6:PSNM:ASB:D-420**	**4CSE6:PSNM:ASB:D-419**
9:30-9:45	**RECESS TIME: 09:30-09:45**					
09:45 - 10:45	4CSE6:1:OS:YS:L-413 4CSE6:2:CC:NHY:L-409	**4CSE6:PPFD:SRK:D-302**	CODECHEF	4CSE6:2:OS:YS:L-411 4CSE6:1:CC:NHY:L-412	LIBRARY	**4CSE6:COMA:AVD:D-303**
10:45 - 11:45		**4CSE6:PPFD:SRK:D-302**				**LIBRARY**
11:45 - 12:45	**RECESS TIME: 11:45 - 12:45**					
12:45 - 01:35	**4CSE6:PPFD:SRK:D-303**	**4CSE6:COMA:AVD:D-303**	CODECHEF	**4CSE6:OS:YS:D-303**	4CSE6:2:PPFD:SRK:L-411 4CSE6:1:CC:NHY:L-412	**4CSE6:COMA:AVD::D-303**
01:35 - 02:25	**4CSE6:PGPD:RP:D-303**	**4CSE6:SU:CN:D-303**		**4CSE6:OS:YS:D-303**		**4CSE6:OS:YS:D-303**

SUBJECT_CODE	SUBJECT_NAME	SHORT_NAME	FACULTY FULL_NAME	FACULTY SHORT NAME	EMAIL ID	MIS ID
303105251	OPERATING SYSTEM	OS	Prof. YATIN SHUKLA	YS	yatinkumar.shukla18611@paruluniversity.ac.in	18611
303105252	OPERATING SYSTEM LABORATORY	OS LAB	Prof. YATIN SHUKLA	YS	yatinkumar.shukla18611@paruluniversity.ac.in	18611
			Prof. YATIN SHUKLA	YS	yatinkumar.shukla18611@paruluniversity.ac.in	18611
303105210	COMPUTER ORGANIZATION AND	COMA	Archana V. Dubey	AVD	archana.dubey17511@paruluniversity.ac.in	17511
303105211	COMPUTER ORGANIZATION AND MICROPROCESSOR ARCHITECTURE LAB	COMA LAB	Archana V. Dubey	AVD	archana.dubey17511@paruluniversity.ac.in	17511
			Archana V. Dubey	AVD	archana.dubey17511@paruluniversity.ac.in	17511
303105255	COMPUTER NETWORK	CN	SHUBHAM UPADHYAY	SU	shubham.upadhyay33477@paruluniversity.ac.in	33477
303105256	COMPUTER NETWORK LABORATORY	CN LAB		SU		
			KRUPALI DAVE	KD	krupali.dave23721@paruluniversity.ac.in	23721
303105257	PROGRAMMING IN PYTHON WITH FULL	PPFD	SABARISH RAMESH KUMAR	SRK	sabarishrkb@gmail.com	29867
303105258	PROGRAMMING IN PYTHON WITH FULL STACK DEVELOPMENT LABORATORY	PPFD LAB	SABARISH RAMESH KUMAR	SRK	sabarishrkb@gmail.com	29867
			SABARISH RAMESH KUMAR	SRK	sabarishrkb@gmail.com	29867
303191251	PROBABILITY, STATISTICS AND NUMERICAL	PSNM	Bhagaliya Abrarahmed Shoeb	ASB	abrarahmed.bhagaliya31174@paruluniversity.ac.in	31174
303193252	PROFESSIONAL GROOMING AND PERSONALITY DEVELOPMENT	PGPD	RIDHHI PANDYA	RP	riddhi.pandya20062@paruluniversity.ac.in	20062
303105259	COMPETITIVE CODING	CC	NAKUL H Y	NHY	nakul.hy@gmail.com	32913
CLASSROOM NO:					**FACULTY REPRESENTATIVE / MFT**	**Dr. Vineet Kumar**
LAB/ TUTORIAL LOCATION:						
	SIGN		**SIGN & SEAL**		**SIGN & SEAL**	
						
	PROF.SHREYA DHOLARIYA		**DR.AMIT BARVE**		**Dr. Vipul Vekariya**	
	Time Table Coordinator		**Head of Department**		**Principal / Dean**	

PARUL UNIVERSITY

FACULTY NAME: FACULTY OF ENGINEERING & TECHNOLOGY

INSTITUTE NAME: PARUL INSTITUTE OF ENGINEERING & TECHNOLOGY

ACADEMIC YEAR: 2024-25 | **YEAR: 2nd YEAR**

SEMESTER: 4TH | **LEVEL: UG**

PROGRAM NAME: B.TECH COMPUTER SCIENCE ENGINEERING | **DIVISION: 4CSE7**

Parul® University — NAAC GRADE A++

EFFECTIVE FROM: 25-11-2024

TIME	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
7:30 - 8:30	4CSE7:1:OS:MP:L-802 4CSE7:2:CC:NHY:L-803	4CSE7:1:COMA:MVS:L-802 4CSE7:2:CC:NHY:L-803	**4CSE7:PSNM:ASB:D-420**	CODECHEF	4CSE7:2:COMA:MVS:L-413 4CSE7:1:CN:AKS:L-804	**4CSE7:OS:MP:D-403**
8:30 - 9:30			**4CSE7:PSNM:ASB:D-420**			**4CSE7:COMA:MVS:D-403**
9:30-9:45	**RECESS TIME: 09:30-09:45**					
09:45 - 10:45	**4CSE7:PSNM:ASB:D-309**	**4CSE7:OS:MP:A-221**	LIBRARY	CODECHEF	**4CSE7:PPFD:SRK:A-221**	4CSE7:2:PPFD:SRK:L-412 4CSE7:1:CC:NHY:L-411
10:45 - 11:45	**4CSE7:PPFD:SRK:D-309**	**4CSE7:AKS:CN:A-221**			LIBRARY	
11:45 - 12:45	**RECESS TIME: 11:45 - 12:45**					
12:45 - 01:35	4CSE7:2:OS:MP:L-413 4CSE7:1:CC:NHY:L-409	**4CSE7:PSNM:ASB:A-221**	**4CSE7:PPFD:SRK:D-201**	CODECHEF	**4CSE7:OS:MP:A-221**	4CSE7:1:PPFD:SRK:L-412 4CSE7:2:CN:AKS:L-411
01:35 - 02:25		**4CSE7:COMA:MVS:A-221**	**4CSE7:COMA:MVS:D-201**		**4PGPD:AN:A-221**	

SUBJECT_CODE	SUBJECT_NAME	SHORT_NAME	FACULTY FULL_NAME	FACULTY SHORT NAME	EMAIL ID	MIS ID
303105251	OPERATING SYSTEM	OS	MEENAKSHI PRAJAPATI	MP	meenakshi.prajapati33418@paruluniversity.ac.in	33418
303105252	OPERATING SYSTEM LABORATORY	OS LAB	MEENAKSHI PRAJAPATI	MP	meenakshi.prajapati33418@paruluniversity.ac.in	33418
			Prof. YATIN SHUKLA	YS	yatinkumar.shukla18611@paruluniversity.ac.in	18611
303105210	COMPUTER ORGANIZATION AND	COMA	Miksha V. Solanki	MVS	miksha.solanki21591@paruluniversity.ac.in	21591
303105211	COMPUTER ORGANIZATION AND MICROPROCESSOR ARCHITECTURE LAB	COMA LAB	Miksha V. Solanki	MVS	miksha.solanki21591@paruluniversity.ac.in	21591
			Miksha V. Solanki	MVS	miksha.solanki21591@paruluniversity.ac.in	21591
303105255	COMPUTER NETWORK	CN	MR.ANAND KUMAR SINGH	AKS	anand.singh33863@paruluniversity.ac.in	33863
303105256	COMPUTER NETWORK LABORATORY	CN LAB	MR.ANAND KUMAR SINGH	AKS	anand.singh33863@paruluniversity.ac.in	33863
			MR.ANAND KUMAR SINGH	AKS	anand.singh33863@paruluniversity.ac.in	33863
303105257	PROGRAMMING IN PYTHON WITH FULL STACK DEVELOPMENT	PPFD	SABARISH RAMESH KUMAR	SRK	sabarishrkb@gmail.com	29867
303105258	PROGRAMMING IN PYTHON WITH FULL STACK DEVELOPMENT LABORATORY	PPFD LAB	SABARISH RAMESH KUMAR	SRK	sabarishrkb@gmail.com	29867
			SABARISH RAMESH KUMAR	SRK	sabarishrkb@gmail.com	29867
303191251	PROBABILITY, STATISTICS AND	PSNM	Bhagaliya Abrarahmed Shoeb	ASB	abrarahmed.bhagaliya31174@paruluniversity.ac.	31174
303193252	PROFESSIONAL GROOMING AND	PGPD	AMRITHA NAIR	AN	amritha.nair21543@paruluniversity.ac.in	21543
303105259	COMPETITIVE CODING	CC	NAKUL H Y	NHY	nakul.hy@gmail.com	32913

CLASSROOM NO:

LAB/ TUTORIAL LOCATION:

FACULTY REPRESENTATIVE / MFT — **Mr. Nikhil Menon**

SIGN	SIGN & SEAL	SIGN & SEAL
PROF.SHREYA DHOLARIYA	**DR.AMIT BARVE**	**Dr. Vipul Vekariya**
Time Table Coordinator	**Head of Department**	**Principal / Dean**

PARUL UNIVERSITY

FACULTY NAME: FACULTY OF ENGINEERING & TECHNOLOGY

INSTITUTE NAME: PARUL INSTITUTE OF ENGINEERING & TECHNOLOGY

ACADEMIC YEAR: 2024-25 | **YEAR: 2nd YEAR**

SEMESTER: 4TH | **LEVEL: UG**

PROGRAM NAME: B.TECH COMPUTER SCIENCE ENGINEERING | **DIVISION: 4CSE8**

Parul® University — NAAC GRADE A++

EFFECTIVE FROM: 25-11-2024

TIME	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
7:30 - 8:30	4CSE8:1:COMA:MVS:L-401 4CSE8:2:CC:SM:L-402	**LIBRARY**	**4CSE9:OS:MP:D-419**	**4CSE7:PSNM:ASB:D-118**	CODECHEF	4CSE8:2:PPFD:AD:L-413 4CSE8:1:CC:SM:L-804
8:30 - 9:30		**4CSE7:PSNM:ASB:D-425**	**4CSE9:OS:MP:D-419**	**4CSE8:OS:MP:D-118**		
9:30-9:45	**RECESS TIME: 09:30-09:45**					
09:45 - 10:45	4CSE8:1:OS:SD:L-410 4CSE8:2:CC:SM:L-804	**4CSE9:CN:AKS:D-309**	4CSE8:2:OS:HP:L-805 4CSE8:1:CC:SM:L-806	4CSE8:1:PPFD:AD:L-413 4CSE8:2:CN:AKS:L-804	CODECHEF	**LIBRARY**
10:45 - 11:45		**4CSE8:COMA:MVS:D-309**				**4CSE8:COMA:MVS:A-222**
11:45 - 12:45	**RECESS TIME: 11:45 - 12:45**					
12:45 - 01:35	**4CSE8:PGPD:AR:D-201**	**4CSE8:PPFD:AD:D-201**	**4CSE8:COMA:MVS:A-316**	4CSE8:2:COMA:MVS:L-411 4CSE8:1:CN:AK:L-412	CODECHEF	**4CS8:PSNM:ASB:D-201**
01:35 - 02:25	**4CSE8:PPFD:AD:D-201**	**4CSE8:PPFD:AD:D-201**	**4CS8:PSNM:ASB:A-316**			**LIBRARY**

SUBJECT_CODE	SUBJECT_NAME	SHORT_NAME	FACULTY FULL_NAME	FACULTY SHORT NAME	EMAIL ID	MIS ID
303105251	OPERATING SYSTEM	OS	MEENAKSHI PRAJAPATI	MP	meenakshi.prajapati33418@paruluniversity.	33418
303105252	OPERATING SYSTEM LABORATORY	OS LAB	SHREYA DHOLARIYA	SD	shreya.dholariya20083@paruluniversity.ac.	20083
			HARSH PATELIYA	HP	harsh.pateliya36741@paruluniversity.ac.in	36741
303105210	COMPUTER ORGANIZATION AND	COMA	Miksha V. Solanki	MVS	miksha.solanki21591@paruluniversity.ac.in	21591
303105211	COMPUTER ORGANIZATION AND MICROPROCESSOR ARCHITECTURE LAB	COMA LAB	Miksha V. Solanki	MVS	miksha.solanki21591@paruluniversity.ac.in	21591
			Miksha V. Solanki	MVS	miksha.solanki21591@paruluniversity.ac.in	21591
303105255	COMPUTER NETWORK	CN	MR.ANAND KUMAR SINGH	AKS	anand.singh33863@paruluniversity.ac.in	33863
303105256	COMPUTER NETWORK LABORATORY	CN LAB	MR.ANAND KUMAR SINGH	AKS	anand.singh33863@paruluniversity.ac.in	33863
			MR.ANAND KUMAR SINGH	AKS	anand.singh33863@paruluniversity.ac.in	33863
303105257	PROGRAMMING IN PYTHON WITH FULL STACK DEVELOPMENT	PPFD	AYUSHMAN DUBEY	AD	ayushmandubey555@gmail.com	29766
303105258	PROGRAMMING IN PYTHON WITH FULL STACK DEVELOPMENT LABORATORY	PPFD LAB	AYUSHMAN DUBEY	AD	ayushmandubey555@gmail.com	29766
			AYUSHMAN DUBEY	AD	ayushmandubey555@gmail.com	29766
303191251	PROBABILITY, STATISTICS AND	PSNM	Bhagaliya Abrarahmed Shoeb	ASB	abrarahmed.	31174
303193252	PROFESSIONAL GROOMING AND	PGPD	ARVIND ROHIT	AR	arvindbhai.rohit20036@paruluniversity.ac.in	20036
303105259	COMPETITIVE CODING	CC	SURAJ MOURYA	SM	surajmourya1805@gmail.com	29749
CLASSROOM NO:					FACULTY REPRESENTATIVE / MFT	Poonam Thakkar
LAB/ TUTORIAL LOCATION:						

SIGN	SIGN & SEAL	SIGN & SEAL
		
PROF.SHREYA DHOLARIYA	DR.AMIT BARVE	Dr. Vipul Vekariya
Time Table Coordinator	Head of Department	Principal / Dean

PARUL UNIVERSITY

FACULTY NAME: FACULTY OF ENGINEERING & TECHNOLOGY

INSTITUTE NAME: PARUL INSTITUTE OF ENGINEERING & TECHNOLOGY

ACADEMIC YEAR: 2024-25 | **YEAR: 2nd YEAR**

SEMESTER: 4TH | **LEVEL: UG**

PROGRAM NAME: B.TECH COMPUTER SCIENCE ENGINEERING | **DIVISION: 4CSE9**

Parul® University — NAAC GRADE A++

EFFECTIVE FROM: 25-11-2024

TIME	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
7:30 - 8:30	4CSE9:PPFD:MG:D-419	4CSE9:2:COMA:PBP:L-401 4CSE9:1:CN:AKS:L-402	4CSE9:1:COMA:PBP:L-401 4CSE9:2:CC:SM:L-402	LIBRARY	4CSE9:2:PPFD:MG:L-401 4CSE9:1:CC:SM:L-402	CODECHEF
8:30 - 9:30	4CSE9:PPFD:MG:D-419			4CSE9:CN:AKS:D-419		
9:30-9:45	**RECESS TIME: 09:30-09:45**					
09:45 - 10:45	4CSE9:OS:AFS:D-303	4CSE9:COMA:PBP:A-215	4CSE9:PSNM:MAM:D-309	4CSE9:2:OS:AFS:L-805 4CSE9:1:PPFD:MG:L-806	4CSE9:1:CC:SM:L-413 4CSE9:2:CN:AKS:L-804	CODECHEF
10:45 - 11:45	4CSE9:PGPD:SB:D-303	LIBRARY	4CSE9:COMA:PBP:D-309			
11:45 - 12:45	**RECESS TIME: 11:45 - 12:45**					
12:45 - 01:35	4CSE9:PSNM:MAM:D-216	4CSE9:1:OS:MP:L-409 4CSE9:2:CC:SM:L-410	4CSE9:OS:AFS:D-216	4CSE9:OS:AFS:D-201	4CSE9:PSNM:MAM:D-309	CODECHEF
01:35 - 02:25	LIBRARY		4CSE9:PSNM:MAM:D-216	4CSE9:COMA:PBP:D-201	4CSE9:PPFD:MG:D-309	

SUBJECT_CODE	SUBJECT_NAME	SHORT_NAME	FACULTY FULL_NAME	FACULTY SHORT NAME	EMAIL ID	MIS ID
303105251	OPERATING SYSTEM	OS	AMIN F SHAIKH	AFS	amin.shaikh19068@paruluniversity.ac.in	19068
303105252	OPERATING SYSTEM LABORATORY	OS LAB	MEENAKSHI PRAJAPATI	MP	meenakshi.prajapati33418@paruluniversity.ac.in	33418
			AMIN F SHAIKH	AFS	amin.shaikh19068@paruluniversity.ac.in	19068
303105210	COMPUTER ORGANIZATION AND	COMA	Payal B. Patel	PBP	payal.patel25964@paruluniversity.ac.in	25964
303105211	COMPUTER ORGANIZATION AND MICROPROCESSOR ARCHITECTURE LAB	COMA LAB	Payal B. Patel	PBP	payal.patel25964@paruluniversity.ac.in	25964
			Payal B. Patel	PBP	payal.patel25964@paruluniversity.ac.in	25964
303105255	COMPUTER NETWORK	CN	MR.ANAND KUMAR SINGH	AKS	anand.singh33863@paruluniversity.ac.in	33863
303105256	COMPUTER NETWORK LABORATORY	CN LAB	MR.ANAND KUMAR SINGH	AKS	anand.singh33863@paruluniversity.ac.in	33863
			MR.ANAND KUMAR SINGH	AKS	anand.singh33863@paruluniversity.ac.in	33863
303105257	PROGRAMMING IN PYTHON WITH FULL STACK DEVELOPMENT	PPFD	MOUNESH GOUDA	MG	mouneshpatil001@gmail.com	31472
303105258	PROGRAMMING IN PYTHON WITH FULL STACK DEVELOPMENT LABORATORY	PPFD LAB	MOUNESH GOUDA	MG	mouneshpatil001@gmail.com	31472
			MOUNESH GOUDA	MG	mouneshpatil001@gmail.com	31472
303191251	PROBABILITY, STATISTICS AND NUMERICAL METHODS	PSNM				
303193252	PROFESSIONAL GROOMING AND PERSONALITY DEVELOPMENT	PGPD	SANTOSH BHAGAT	SB	santosh.bhagat24268@paruluniversity.ac.in	24268
303105259	COMPETITIVE CODING	CC	SURAJ MOURYA	SM	surajmourya1805@gmail.com	29749
CLASSROOM NO:						
LAB/ TUTORIAL LOCATION:					**FACULTY REPRESENTATIVE / MFT**	**Karan Chauhan**

SIGN		SIGN & SEAL		SIGN & SEAL	
					
PROF.SHREYA DHOLARIYA		**DR.AMIT BARVE**		**Dr. Vipul Vekariya**	
Time Table Coordinator		**Head of Department**		**Principal / Dean**	

Dr. Vipul Vekariya

Time Table Coordinator | **Head of Department** | **Principal / Dean**

PARUL UNIVERSITY

FACULTY NAME: FACULTY OF ENGINEERING & TECHNOLOGY

INSTITUTE NAME: PARUL INSTITUTE OF ENGINEERING & TECHNOLOGY

ACADEMIC YEAR: 2024-25 | **YEAR: 2nd YEAR**

SEMESTER: 4TH | **LEVEL: UG**

PROGRAM NAME: B.TECH COMPUTER SCIENCE ENGINEERING | **DIVISION: 4CSE11**

EFFECTIVE FROM: 25-11-2024

TIME	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
7:30 - 8:30	4CSE11:1:PPFD:AJ:L-403 4CSE11:2:CN:ASK:L-406	CODECHEF	**4CSE11:OS:HP:D-402**	4CSE11:1:COMA:MVS:L-401 4CSE11:2:PPFD:AJ:L-402	4CSE11:2:OS:HP:L-403 4CSE11:1:CC:APS:L-404	4CSE11:2:CC:MP:L-401 4CSE11:1:CN:ASK:L-402
8:30 - 9:30			**4CSE11:CN:AKS:D-402**			
9:30-9:45	**RECESS TIME: 09:30-09:45**					
09:45 - 10:45	4CSE11:2:COMA:PMS:L-805 4CSE11:1:CC:APS:L-806	CODECHEF	LIBRARY	**4CSE11:PSNM:PKP:D-309**	**4CSE11:PSNM:PKP:D-309**	**4CSE11:PPFD:AJ:D-216**
10:45 - 11:45				**4CSE11:COMA:PBP:D-309**	**4CSE11:OS:HP:D-309**	**4CSE11:PSNM:PKP:D-216**
11:45 - 12:45	**RECESS TIME: 11:45 - 12:45**					
12:45 - 01:35	**4CSE11:COMA:PBP:D-118**	CODECHEF	4CSE11:1:OS:HP:L-409 4CSE11:2:CC:MP:L-410	**4CSE11:PPFD:AJ:D-216**	**4CSE11:PPFD:AJ:D-201**	**4CSE11:OS:HP:D-118**
01:35 - 02:25	**4CSE11:PSNM:PKP:D-118**			LIBRARY	**4CSE11:PGPD:GK:D-201**	**4CSE11:COMA:PBP:D-118**

SUBJECT_CODE	SUBJECT_NAME	SHORT_NAME	FACULTY FULL_NAME	FACULTY SHORT NAME	EMAIL ID	MIS ID
303105251	OPERATING SYSTEM	OS	HARSH PATELIYA	HP	harsh.pateliya36741@paruluniversity.ac.in	36741
303105252	OPERATING SYSTEM LABORATORY	OS LAB	HARSH PATELIYA	HP	harsh.pateliya36741@paruluniversity.ac.in	36741
			HARSH PATELIYA	HP	harsh.pateliya36741@paruluniversity.ac.in	36741
303105210	COMPUTER ORGANIZATION AND	COMA	Payal B. Patel	PBP	payal.patel25964@paruluniversity.ac.in	25964
303105211	COMPUTER ORGANIZATION AND MICROPROCESSOR ARCHITECTURE LAB	COMA LAB	Miksha V. Solanki	MVS	miksha.solanki21591@paruluniversity.ac.in	21591
			Priyanka M. Shah	PMS	priyanka.shah8278@paruluniversity.ac.in	33600
303105255	COMPUTER NETWORK	CN	ALOK SINGH KUSHWAHA	ASK	aok.kushwaha35214@paruluniversity.ac.in	35214
303105256	COMPUTER NETWORK LABORATORY	CN LAB	ALOK SINGH KUSHWAHA	ASK	aok.kushwaha35214@paruluniversity.ac.in	35214
			ALOK SINGH KUSHWAHA	ASK	aok.kushwaha35214@paruluniversity.ac.in	35214
303105257	PROGRAMMING IN PYTHON WITH FULL	PPFD	MR. ANAND JAWDEKAR	AJ	anand.jawdekar35064@paruluniversity.ac.in	35064
303105258	PROGRAMMING IN PYTHON WITH FULL STACK DEVELOPMENT LABORATORY	PPFD LAB	MR. ANAND JAWDEKAR	AJ	anand.jawdekar35064@paruluniversity.ac.in	35064
			MR. ANAND JAWDEKAR	AJ	anand.jawdekar35064@paruluniversity.ac.in	35064
303191251	PROBABILITY, STATISTICS AND	PSNM	POLA K PARTH	PKP	parth.pola21273@paruluniversity.ac.in	21273
303193252	PROFESSIONAL GROOMING AND	PGPD	GAURAV CHAUDHRI	GK	GAURAV.CHAUDHARI31183@PARULUNIVERSITY.AC.IN	31183
303105259	COMPETITIVE CODING	CC	MEENAKSHI PRAJAPATI	MP	meenakshi.prajapati33418@paruluniversity.ac.in	33418
			ARUNESH PRATAP SINGH	APS	arunesh.singh32826@paruluniversity.ac.in	32826

CLASSROOM NO:

LAB/ TUTORIAL LOCATION:

FACULTY REPRESENTATIVE / MFT — **Kunta M Suthar**

	SIGN		SIGN & SEAL		SIGN & SEAL	
						
	PROF.SHREYA DHOLARIYA		**DR.AMIT BARVE**		**Dr. Vipul Vekariya**	
	Time Table Coordinator		**Head of Department**		**Principal / Dean**	

PARUL UNIVERSITY

FACULTY NAME: FACULTY OF ENGINEERING & TECHNOLOGY

INSTITUTE NAME: PARUL INSTITUTE OF ENGINEERING & TECHNOLOGY

ACADEMIC YEAR: 2024-25 | **YEAR: 2nd YEAR**

SEMESTER: 4TH | **LEVEL: UG**

PROGRAM NAME: B.TECH COMPUTER SCIENCE ENGINEERING | **DIVISION: 4CSE12**

Parul® University NAAC GRADE A++

EFFECTIVE FROM: 25-11-2024

TIME	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
7:30 - 8:30	4CSE12:CN:AKS:D-403	4CSE12:1:PPFD:AJ:L-405 4CSE12:2:CN:ASK:L-406	CODECHEF	4CSE12:OS:HP:D-402	4CSE12:PPFD:AJ:D-402	4CSE12:2:COMA:MSY:L-405 4CSE12:1:OS:HP:L-406
8:30 - 9:30	4CSE12:COMA:YDM:D-403			4CSE12:COMA:YDM:D-402	4CSE12:PPFD:AJ:D-402	
9:30-9:45	**RECESS TIME: 09:30-09:45**					
09:45 - 10:45	4CSE12:OS:HP:D-201	4CSE12:PSNM:PKP:D-201	CODECHEF	4CSE12:2:PPFD:AJ:L-807 4CSE12:1:CC:JRS:L-813	4CSE12:OS:HP:D-303	4CSE12:2:OS:YS:L-413 4CSE12:1:CC:JRS:L-804
10:45 - 11:45	4CSE12:PPFD:AJ:D-201	4CSE12:PSNM:PKP:D-201			4CSE12:PSNM:PKP:D-303	
11:45 - 12:45	**RECESS TIME: 11:45 - 12:45**					
12:45 - 01:35	LIBRARY	4CSE12:1:CN:ASK:L-413 4CSE12:2:CC:JRS:L-804	CODECHEF	LIBRARY	4CSE12:1:COMA:PMS:L-413 4CSE12:2:CC:JRS:L-804	4CSE12:PGPD:MC:A-221
01:35 - 02:25				4CSE12:COMA:YDM:D-216		4CSE12:PSNM:PKP:A-221

SUBJECT_CODE	SUBJECT_NAME	SHORT_NAME	FACULTY FULL_NAME	FACULTY SHORT NAME	EMAIL ID	MIS ID
303105251	OPERATING SYSTEM	OS	HARSH PATELIYA	HP	harsh.pateliya36741@paruluniversity.ac.in	36741
303105252	OPERATING SYSTEM LABORATORY	OS LAB	HARSH PATELIYA	HP	harsh.pateliya36741@paruluniversity.ac.in	36741
			Prof. YATIN SHUKLA	YS	yatinkumar.shukla18611@paruluniversity.	18611
303105210	COMPUTER ORGANIZATION AND	COMA	Yagnik D. Moga	YDM	yagnik.moga31793@paruluniversity.ac.in	31793
303105211	COMPUTER ORGANIZATION AND MICROPROCESSOR ARCHITECTURE LAB	COMA LAB	Priyanka M. Shah	PMS	priyanka.shah8278@paruluniversity.ac.in	33600
			Mithilesh S. Yadav	MSY	mithilesh.yadav36158@paruluniversity.ac.	36158
303105255	COMPUTER NETWORK	CN	ALOK SINGH KUSHWAHA	ASK	aok.kushwaha35214@paruluniversity.ac.in	35214
303105256	COMPUTER NETWORK LABORATORY	CN LAB	ALOK SINGH KUSHWAHA	ASK	aok.kushwaha35214@paruluniversity.ac.in	35214
			ALOK SINGH KUSHWAHA	ASK	aok.kushwaha35214@paruluniversity.ac.in	35214
303105257	PROGRAMMING IN PYTHON WITH FULL	PPFD	MR. ANAND JAWDEKAR	AJ	anand.jawdekar35064@paruluniversity.ac.	35064
303105258	PROGRAMMING IN PYTHON WITH FULL STACK DEVELOPMENT LABORATORY	PPFD LAB	MR. ANAND JAWDEKAR	AJ	anand.jawdekar35064@paruluniversity.ac.	35064
			MR. ANAND JAWDEKAR	AJ	anand.jawdekar35064@paruluniversity.ac.in	35064
303191251	PROBABILITY, STATISTICS AND	PSNM	POLA K PARTH	PKP	parth.pola21273@paruluniversity.ac.in	21273
303193252	PROFESSIONAL GROOMING AND PERSONALITY DEVELOPMENT	PGPD	MEHUL CHAUHAN	MC	mehulkumar.chauhan24701@paruluniversity.ac.in	24701
303105259	COMPETITIVE CODING	CC	JIGARKUMAR R SAPKALE	JRS	jigar.sapkale33837@paruluniversity.ac.in	33837
			JIGARKUMAR R SAPKALE	JRS	jigar.sapkale33837@paruluniversity.ac.in	33837

CLASSROOM NO:

LAB/ TUTORIAL LOCATION:

FACULTY REPRESENTATIVE / MFT — **Priyanka Mehta**

SIGN		SIGN & SEAL		SIGN & SEAL	
					
PROF.SHREYA DHOLARIYA		**DR.AMIT BARVE**		**Dr. Vipul Vekariya**	
Time Table Coordinator		**Head of Department**		**Principal / Dean**	

PARUL UNIVERSITY

FACULTY NAME: FACULTY OF ENGINEERING & TECHNOLOGY

INSTITUTE NAME: PARUL INSTITUTE OF ENGINEERING & TECHNOLOGY

ACADEMIC YEAR: 2024-25 | **YEAR: 2nd YEAR**

SEMESTER: 4TH | **LEVEL: UG**

PROGRAM NAME: B.TECH COMPUTER SCIENCE ENGINEERING | **DIVISION: 4CSE13**

Parul® University — NAAC GRADE A++

EFFECTIVE FROM: 25-11-2024

TIME	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
7:30 - 8:30	4CSE13:2:COMA:SPB:L-212 4CSE13:2:CN:HP:L-213	**4CSE13:PSNM:DS:D-403**	CODECHEF	4CSE13:1:PPFD:APS:L-802 4CSE13:2:CC:SBT:L-803	4CSE13:1:OS:VT:L-802 4CSE13:2:CC:SBT:L-803	4CSE13:2:PPFD:APS:L-802 4CSE13:1:COMA:SPB:L-803
8:30 - 9:30		**4CSE13:PSNM:DS:D-403**				
9:30-9:45	**RECESS TIME: 09:30-09:45**					
09:45 - 10:45	**4CSE13:PSNM:DS:D-216**	4CSE13:1:CN:HP:L-807 4CSE13:1:CC:SBT:L-813	CODECHEF	**4CSE13:CN:HP:D-303**	**4CSE13:PPFD:APS:D-201**	**4CSE13:OS:VT:D-201D-118**
10:45 - 11:45	**4CSE13:PGPD:PT:D-216**			**4CSE13:PPFD:APS:D-303**	**4CSE13:OS:VT:D-201**	**4CSE13:PPFD:APS:D-118**
11:45 - 12:45	**RECESS TIME: 11:45 - 12:45**					
12:45 - 01:35	4CSE13:2:OS:VT:L-807 4CSE13:1:CC:SBT:L-813	**4CSE13:OS:VT:D-118**	CODECHEF	**4CSE13:COMA:SPB:D-118**	**4CSE13:COMA:SPB:A-222**	**LIBRARY**
01:35 - 02:25		**4CSE13:COMA:SPB:D-118**		**4CSE13:PSNM:DS:D-118**	**LIBRARY**	

SUBJECT_CODE	SUBJECT_NAME	SHORT_NAME	FACULTY FULL_NAME	FACULTY SHORT NAME	EMAIL ID	MIS ID
303105251	OPERATING SYSTEM	OS	VRUTI TANDEL	VT	vrutti.tandel33581@paruluniversity.ac.in	33422
303105252	OPERATING SYSTEM LABORATORY	OS LAB	VRUTI TANDEL	VT	vrutti.tandel33581@paruluniversity.ac.in	33422
			VRUTI TANDEL	VT	vrutti.tandel33581@paruluniversity.ac.in	33422
303105210	COMPUTER ORGANIZATION AND	COMA	Saurav P. Bharadwaj	SPB	saurav.bharadwaj33162@paruluniversity.	33162
303105211	COMPUTER ORGANIZATION AND MICROPROCESSOR ARCHITECTURE LAB	COMA LAB	Saurav P. Bharadwaj	SPB	saurav.bharadwaj33162@paruluniversity.	33162
			Saurav P. Bharadwaj	SPB	saurav.bharadwaj33162@paruluniversity.	33162
303105255	COMPUTER NETWORK	CN	HARSH PATELIYA	HP	harsh.pateliya36741@paruluniversity.ac.in	36741
303105256	COMPUTER NETWORK LABORATORY	CN LAB	HARSH PATELIYA	HP	harsh.pateliya36741@paruluniversity.ac.in	36741
			CHARMI PUROHIT	CP	charmi.purohit20973@paruluniversity.ac.in	20973
303105257	PROGRAMMING IN PYTHON WITH FULL	PPFD	ARUNESH PRATAP SINGH	APS	arunesh.singh32826@paruluniversity.ac.in	32826
303105258	PROGRAMMING IN PYTHON WITH FULL STACK DEVELOPMENT LABORATORY	PPFD LAB	ARUNESH PRATAP SINGH	APS	arunesh.singh32826@paruluniversity.ac.in	32826
			ARUNESH PRATAP SINGH	APS	arunesh.singh32826@paruluniversity.ac.in	32826
303191251	PROBABILITY, STATISTICS AND	PSNM	Dhananjay Shahani	DS	dhananjay.sahani36616@paruluniversity.ac.	36616
303193252	PROFESSIONAL GROOMING AND PERSONALITY DEVELOPMENT	PGPD	POONAM THAKER	PT	poonam.thaker26707@paruluniversity.ac.in	26707
303105259	COMPETITIVE CODING	CC	SHALU B THAKUR	SBT	shalu.thakur31684@paruluniversity.ac.in	31684

CLASSROOM NO:

LAB/ TUTORIAL LOCATION:

FACULTY REPRESENTATIVE / MFT — **Rajvee R. Sakariya**

SIGN	SIGN & SEAL	SIGN & SEAL
PROF.SHREYA DHOLARIYA	**DR.AMIT BARVE**	**Dr. Vipul Vekariya**
Time Table Coordinator	**Head of Department**	**Principal / Dean**

LIST OF HOLIDAYS

PARUL UNIVERSITY

Office of the Registrar
November 21, 2024

R/Circular-945/2024-25

CIRCULAR

Sub: List of Holidays for the Calendar Year-2025
Ref: Orders of the President
The following is the list of General Holidays for the year 2025.

Sr.No.	Name of Public Holiday	Date	Day
1	Makar Sakranti - Uttarayan	14.01.2025	Tuesday
2	Vaasi Uttrayan	15.01.2025	Wednesday
3	Maha Shivratri (Maha Vad-14)*	26.02.2025	Wednesday
***The holiday denoted for Wednesday, 26th February 2025, has been rescheduled to Monday, 13th January 2025, to allow staff to benefit from linked holiday(s). On Wednesday, 26th February 2025, the university will operate as per its routine timings**			
4	Holi 2nd Day - Dhuleti	14.03.2025	Friday
5	Ramjan Eid (Eid-Ul-Fitra)	31.03.2025	Monday
6	Dr. Babasaheb Ambedkar Birthday	14.04.2025	Monday
7	Good Friday	18.04.2025	Friday
8	Raksha Bandhan	09.08.2025	Saturday
9	Independence Day/ Parsi New Year	15.08.2025	Friday
10	Janmashtami (Shravan Vad-8)	16.08.2025	Saturday
11	Samvatsari (Chaturthi Paksha)	27.08.2025	Wednesday
12	Mahatma Gandhi's Birthday / Dussehra (Vijayadashami)	02.10.2025	Thursday
13	Diwali	20.10.2025	Monday
14	Vikram Samvat New Year's Day	22.10.2025	Wednesday
15	Bhai Dooj	23.10.2025	Thursday
16	Sardar Vallabhbhai Patel's Birthday	31.10.2025	Friday
17	Christmas	25.12.2025	Thursday
Not Declared as Holiday due to Sunday			
1	Republic Day	26.01.2025	Sunday
2	Shree Ram Navami	06.04.2025	Sunday

Weekly / Mid Semester / Exam Schedule or Information

Weekly Exam Dates	Weekly Exam
21/12/24	Weekly - 1
28/12/24	Weekly - 2
04/01/25	Weekly - 3
11/01/25	Weekly - 4
18/01/25	Weekly - 5
25/01/25	Weekly - 6

Exam	Dates
Mid Exam	27/01/25 to 01/02/25
Term work submission	10/03/25 to 15/03/25
Practical exam	24/03/25 to 05/04/25
External Sem Exam	07/04/25 to 26/04/25

MFT DETAILS

Sr. No.	Academic Head	Division	Name of FR/MFT	Mobile
1		4CSE1	Margi Manwar	812869087
2		4CSE2	Shalu Thakur	851100421
3		4CSE3	Priyanka Mehta	901647836
4		4CSE4	Hiral Vyas	940880433
5		4CSE5	Sanjay Pagare	900974400
6		4CSE6	Sanjay Pagare	900974400
7		4CSE7	Salman Mohammedhanif Buddha	972338055
8		4CSE8	Salman Mohammedhanif Buddha	972338055
9		4CSE9	Harsh Pateliya	701696249
10		4CSE10	Harsh Pateliya	701696249
11		4CSE11	Kunta M Suthar	940889882
12		4CSE12	Kunta M Suthar	940889882
13		4CSE13	Rajvee R. Sakariya	815483234
14		4CSE14	Rajvee R. Sakariya	815483234

Concerned Faculty List with Contact Detail

Sr	Name of Faculty	Subject	Mobile
1	Dr. Yassir Farooqui	Operating System	9821763324
	Shreya Dholaria		9429514751
2	Dr.K. Himabindu	Software Engineering	9494253410
3	Akshara Prachi	Computer Network	8434036434
	Shubham Upadhyay		8340622068
4	Mr. Anand Jawdekar	Programming in Python with Full Stack Development	9425726540
5	Jigarkumar R. Sapkale	Competitive Coding	6352303987
6	Krunal Patel	Computer Organization and Microprocessor	96622 62460
7	Hardik Gupta	Probability, Statistics and Numerical Methods	9953863404
	Dr. Mohd. Kashif		
8	Apurva Bhagat	Professional Grooming and Personality Development	
	Mr. Mahir Pari Goswami		

योगः कर्मसु कौशलम्
PARUL UNIVERSITY
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Subject Teaching & Examination Scheme

ENGG & TECH - BTech - CSE - 2023 - 24

Semester - 4

						Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
Code	**Subject**	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int. + Ext.	Int. + Ext.	
303105210	Computer Organization and Microprocessor	3.00	3	0	0	20	-	20	60	-	40	-	100
303105211	Computer Organization and Microprocessor Laboratory	1.00	0	2	0	-	20	-	-	30	-	25	50
303105251	Operating System	3.00	3	0	0	20	-	20	60	-	40	-	100
303105252	Operating System Laboratory	1.00	0	2	0	-	20	-	-	30	-	25	50
303105255	Computer Network	3.00	3	0	0	20	-	20	60	-	40	-	100
303105256	Computer Network Laboratory	1.00	0	2	0	-	20	-	-	30	-	25	50
303105257	Programming in Python with Full Stack Development	3.00	3	0	0	20	-	20	60	-	40	-	100
303105258	Programming in Python with Full Stack Development Laboratory	1.00	0	2	0	-	20	-	-	30	-	25	50
303105259	Competitive Coding	2.00	-	4	-	-	20	-	-	30	-	25	50
303191251	Probability, Statistics and Numerical Methods	4.00	4	-	-	20	-	20	60	-	40	-	100
303193252	Professional Grooming and Personality Development	1.00	-	-	1	-	-	100	-	-	40	-	100
	Total	23.00	16	12	1								850

Lect - Lecture, **Tut** - Tutorial, **Lab** - Lab, **T** - Theory, **P** - Practical, **CE** - CE, **T** - Theory, **P** - Practical
Theory Passing % : 40 **Practical Passing % :** 50

303105210 - Computer Organization and Microprocessor

Course	Bachelor of Technology (BTech)	**Semester – 4**
Type of Course	-	
Prerequisite	Basic understanding of computer system	
Course Objective	This course provides detail of computer system's functional components, their characteristics, performance and interactions including system bus, different types of memory and input/output organization and CPU. This course also covers the architectural issues such as instruction set program and data types	

Teaching and Examination Scheme

Teaching Scheme					Examination Scheme					Total
					Internal Marks			External Marks		
Lecture Hrs/Week	Tutorial Hrs/Week	Lab Hrs/Week	Hrs/Week	Credit	T	CE	P	T	P	
3	0	0	0	3	20	20	-	60	-	100

SEE - Semester End Examination, **CIA** - Continuous Internal Assessment (It consists of Assignments/Seminars/Presentations/MCQ Tests, etc.)

Course Content

W - Weightage (%) , **T** - Teaching hours

Sr.	Topics	W	T
1	**Introduction to Microprocessor 8085**Microprocessor, Instruction set and computer languages, 8085 Programming Model, Instruction Data Format and storage.	10	4
2	**Microprocessor architecture and interfacing**Microprocessor architecture and its operations, Memory and I/O devices, Memory interfacing, Interfacing I/O devices	20	8
3	**Programming methods with Instructions**8085 Instructions, Looping, Counting and Indexing, Logic operations Rotate and Compare	15	5
4	**Additional Programming techniques**Counter, time delay, Stack & Subroutines, Restart, Call and Return Instruction, Code conversion	15	8
5	**8085 Interrupts**Interrupt structure of 8085 microprocessor, processing of vectored and non-vectored interrupts, latency time and response time; Handling multiple interrupts	10	4
6	**Computer Organization - Register Transfer and Basic Computer Design Register Transfer:**Register Transfer language, Bus design using multiplexer and Tri-state buffer, Memory Transfers, Arithmetic Micro- Operations, Logic Micro-Operations, Shift Micro-Operations, Arithmetic logical shift unit. **Basic Computer Design:** Instruction codes, Computer registers, computer instructions, Timing and Control, Instruction cycle, Memory-Reference Instructions, Register Reference Instructions, IO Reference Instructions, Interrupt, Design of Accumulator Unit.	15	8
7	**Computer Organization - Assembler and Memory Organization**Assembler: Machine Language, Assembly Language, Assembler, Program loops, Programming Arithmetic and logicoperations, subroutines, I-O Programming. Memory Organization: Memory hierarchy, Main memory, Auxiliary memory, Flash memory, Associative memory, Cache memory, Virtual memory	15	8

Course Outcome

After Learning the Course the students shall be able to:
After learning this course students will be able to: 1. Explain 808microprocessor architecture. 2. Design assembly language program for 808microprocessor. 3. Design Interfacing with various hardware with 808microprocessor. 4. Debug program written in assembly language.

Reference Books

1.	**Microprocessor Architecture, Programming, and Applications with the 8085 (TextBook)** By Ramesh S. Gaonkar | Penram International.
2.	**Computer System Architecture** By M.Morris Mano | PHI | 3rd Edition
3.	**Microprocessor 8085 and its Interfacing** By Sunil Mathur | PHI Learning Pvt. Ltd
4.	**8085 Microprocessor And its Applications** By A. NagoorKani | TMH Education Pvt. Ltd

303105211 - Computer Organization and Microprocessor Laboratory

Course	Bachelor of Technology (BTech)	**Semester – 4**
Type of Course	-	
Prerequisite	Basic understanding of computer system	
Course Objective	This course provides detail of computer system's functional components, their characteristics, performance and interactions including system bus, different types of memory and input/output organization and CPU. This course also covers the architectural issues such as instruction set program and data types	

Teaching and Examination Scheme

Teaching Scheme					Examination Scheme					Total
					Internal Marks			External Marks		
Lecture Hrs/Week	Tutorial Hrs/Week	Lab Hrs/Week	Hrs/Week	Credit	T	CE	P	T	P	
0	0	2	0	1	-	-	20	-	30	50

SEE - Semester End Examination, **CIA** - Continuous Internal Assessment (It consists of Assignments/Seminars/Presentations/MCQ Tests, etc.)

List of Practical

1.	**Addition of two 8 bit numbers using 8085** Addition of two 8 bit numbers using 8085
2.	**Write a program to add two 16 bit numbers.** Write a program to add two 16 bit numbers.
3.	**Part A: write an 8085 assembly language to perform multiplication of two 8 bit nos. Part B: write an 8085 assembly language to perform division of two 8 bit nos.** Part A: write an 8085 assembly language to perform multiplication of two 8 bit nos. Part B: write an 8085 assembly language to perform division of two 8 bit nos.
4.	**Write a program to add blocks of 8-bit data stored in memory locations.** Write a program to add blocks of 8-bit data stored in memory locations.
5.	**Write an 8085 assembly language program to find the minimum from two 8-bit numbers** Write an 8085 assembly language program to find the minimum from two 8-bit numbers
6.	**Part A. Write an assembly language program to sort data in ascending order. Part B Write an assembly language program to sort data in descending order.** Part A. Write an assembly language program to sort data in ascending order. Part B Write an assembly language program to sort data in descending order.
7.	**Write an 8085 assembly language program to get the minimum from block of n 8-bit number** Write an 8085 assembly language program to get the minimum from block of n 8-bit number
8.	**Write a program to convert BCD to binary.** Write a program to convert BCD to binary.
9.	**Write a program to convert binary to BCD** Write a program to convert binary to BCD
10.	**Write an 8085 assembly language program to convert a given binary number into its equivalent ASCII number** Write an 8085 assembly language program to convert a given binary number into its equivalent ASCII number
11.	**Write an 8085 assembly language program to convert a given ASCII number into its equivalent binary number** Write an 8085 assembly language program to convert a given ASCII number into its equivalent binary number

303105251 - Operating System

Course	Bachelor of Technology (BTech)	**Semester – 3**
Type of Course	-	
Prerequisite	Fundamentals of Computer Systems	
Course Objective	This course is an introduction to the theory and practice behind modern computer operating systems. Topics will include what an operating system does (and doesn't) do, system calls and interfaces, processes, concurrent programming, resource scheduling and management, virtual memory, deadlocks, algorithms, programming, and security.	

Teaching and Examination Scheme

Teaching Scheme					Examination Scheme					Total
					Internal Marks			External Marks		
Lecture Hrs/Week	Tutorial Hrs/Week	Lab Hrs/Week	Hrs/Week	Credit	T	CE	P	T	P	
3	0	0	0	3	20	20	-	60	-	100

SEE - Semester End Examination, **CIA** - Continuous Internal Assessment (It consists of Assignments/Seminars/Presentations/MCQ Tests, etc.)

Course Content

W - Weightage (%) , **T** - Teaching hours

Sr.	Topics	W	T
1	**INTRODUCTION:** Concept of Operating Systems, Generations of Operating systems, Types of Operating Systems, OS Services, System Calls, Structure of an OS-Layered,Monolithic, Microkernel Operating Systems, Concept of Virtual Machine.	5	3
2	**PROCESSES, THREAD & PROCESS SCHEDULING:** Processes: Definition, Process Relationship, Different states of a Process, Process State transitions, Process Control Block (PCB), Context switching. Thread: Definition, Various states, Benefits of threads, Types of threads, Concept of multithreads. Process Scheduling: Foundation and Scheduling objectives, Types of Schedulers, Scheduling criteria: CPU utilization,Throughput, Turnaround Time, Waiting Time, Response Time; Scheduling algorithms: Pre-emptive and Non pre-emptive, FCFS, SJF, RR.	20	9
3	**INTER-PROCESS COMMUNICATION:** Critical Section, Race Conditions, Mutual Exclusion, Hardware Solution, Strict Alternation, Peterson̓s Solution, The Producer\ ConsumerProblem, Semaphores, Event Counters, Monitors, Message Passing, Classical IPC Problems: Reader̓s & Writer Problem, Dinning Philosopher Problem etc	15	6
4	**DEADLOCKS:** Definition, Necessary and sufficient conditions for Deadlock, Deadlock Prevention, Deadlock Avoidance: Banker̓s algorithm, Deadlock detection and Recovery.	10	5
5	**MEMORY MANAGEMENT & VIRTUAL MEMORY:** Memory Management: Basic concept, Logical and Physical address map, Memory allocation: Contiguous Memory allocation ´?Fixed and variable partition´Internal and External fragmentation and Compaction; Paging: Principle of operation ´?Page allocation ´?Hardware support for paging, Protection and sharing, Disadvantages of paging. Virtual Memory: Basics of Virtual Memory ´?Hardware and control structures´ ?Locality of reference, Page fault , Working Set , Dirty page/Dirty bit ´ ?Demand paging, Page Replacement algorithms: Optimal, First in First Out (FIFO), Second Chance (SC), Not recently used (NRU) and Least Recently used (LRU).	30	13
6	**I/O SYSTEMS, FILE & DISK MANAGEMENT:** I/O Hardware: I/O devices, Device controllers, Direct memory access Principles of I/O Software: Goals of Interrupt handlers, Device drivers, Device independent I/O software. File Management: Concept of File, Access methods, File types, File operation, Directory structure, File System structure, Allocation methods (contiguous, linked, indexed), Free-space management (bit vector, linked list, grouping), directory implementation (linear list, hash table), efficiency and performance. Disk Management: Disk structure, Disk scheduling algorithms - FCFS, SSTF, SCAN, C-SCAN, Disk reliability, Disk formatting, Boot-block, Bad blocks	20	9

Course Outcome

After Learning the Course the students shall be able to:
After Learning the Course the students shall be able to: 1. Distinguish different styles of operating system design. 2. Understand device and I/O management functions in operating systems as part of a uniform device abstraction. 3. Understand disk organization and file system structure 4. Give the rationale for virtual memory abstractions in operating systems. 5. Understand the main principles and techniques used to implement processes and threads as well as the different algorithms for process scheduling. 6. Understand the main mechanisms used for inter-process communication.

Reference Books

1.	**Operating System Concepts Essentials (TextBook)** By byAviSilberschatz, Peter Galvin,Greg Gagne | 9th Edition Wiley Asia Student Edition.
2.	**Operating Systems Internals and Design Principles** By William Stallings | PHI | 5th Edition
3.	**Operating System: A Design-oriented Approach** By Charles Crowley, | 1st Edition - Irwin Publishing
4.	**Operating Systems: A Modern Perspective** By by Gary J. Nutt | Addison-Wesley; 2nd Edition | 2nd Edition
5.	**Design of the Unix Operating Systems** By Maurice Bach, | Prentice-Hall of India | 8th Edition
6.	**Understanding the Linux Kernel** By Daniel P. Bovet, Marco Cesati, | O'Reilly and Associates | 3rd Edition

303105252 - Operating System Laboratory

Course	Bachelor of Technology (BTech)	**Semester – 4**
Type of Course	-	
Prerequisite	Fundamentals of Computer Systems	
Course Objective	This course is an introduction to the theory and practice behind modern computer operating systems. Topics will include what an operating system does (and doesn't) do, system calls and interfaces, processes, concurrent programming, resource scheduling and management, virtual memory, deadlocks, algorithms, programming, and security.	

Teaching and Examination Scheme

Teaching Scheme					Examination Scheme					Total
					Internal Marks			External Marks		
Lecture Hrs/Week	Tutorial Hrs/Week	Lab Hrs/Week	Hrs/Week	Credit	T	CE	P	T	P	
0	0	2	0	1	-	-	20	-	30	50

SEE - Semester End Examination, **CIA** - Continuous Internal Assessment (It consists of Assignments/Seminars/Presentations/MCQ Tests, etc.)

List of Practical

1.	**Study of Basic commands of Linux.**
2.	**Study the basics of shell programming.**
3.	**Write a Shell script to print given numbers sum of all digits.**
4.	**Write a shell script to validate the entered date. (eg. Date format is: dd-mm-yyyy).**
5.	**Write a shell script to check entered string is palindrome or not.**
6.	**Write a Shell script to say Good morning/Afternoon/Evening as you log in to system.**
7.	**Write a C program to create a child process.**
8.	**Finding out biggest number from given three numbers supplied as command line arguments.**
9.	**Printing the patterns using for loop.**
10.	**Shell script to determine whether given file exist or not.**
11.	**Write a program for process creation using C. (Use of gcc compiler.**
12.	**Implementation of FCFS &Round Robin Algorithm.**
13.	**Implementation of Banker's Algorithm.**

303105255 - Computer Network

Course	Bachelor of Technology (BTech)	**Semester – 4**
Type of Course	-	
Prerequisite	knowledge of Computer and Information system	
Course Objective	This course is design to provide the basic knowledge about the data & signals. It also provides basic concepts of computer network and firm foundation for understanding how data communication occurs in the Transmission Medium. It will help to develop logical abilities and practically setup the network .	

Teaching and Examination Scheme

Teaching Scheme					Examination Scheme					Total
					Internal Marks			External Marks		
Lecture Hrs/Week	Tutorial Hrs/Week	Lab Hrs/Week	Hrs/Week	Credit	T	CE	P	T	P	
3	0	0	0	3	20	20	-	60	-	100

SEE - Semester End Examination, **CIA** - Continuous Internal Assessment (It consists of Assignments/Seminars/Presentations/MCQ Tests, etc.)

Course Content

W - Weightage (%) , **T** - Teaching hours

Sr.	Topics	W	T
1	**DATA COMMUNICATION COMPONENTS:** Representation of data and its flow Networks, VariousConnection Topology, Protocols and Standards, OSI model, Transmission Media, LAN:Wired LAN, Wireless LANs, Connecting LAN and Virtual LAN, Techniques forBandwidth utilization: Multiplexing - Frequency division, Time division and Wavedivision, Concepts on spread spectrum	25	11
2	**DATA LINK LAYER AND MEDIUM ACCESS SUB LAYER:** Error Detection and Error Correction -Fundamentals, Block coding, Hamming Distance, CRC; Flow Control and Error controlprotocols - Stop and Wait, Goback 'N ARQ, Selective Repeat ARQ, Sliding Window,Piggybacking, Random Access, Multiple access protocols - Pure ALOHA, Slotted ALOHA,CSMA/CD,CDMA/CA	25	11
3	**Network Layer:** Switching, Logical addressing 'IPV4, IPV6; Address mapping 'ARP, RARP, BOOTP and DHCP'Delivery, Forwarding and Unicast Routing protocols	20	8
4	**Transport Layer:** Process to Process Communication, User Datagram Protocol(UDP), Transmission Control Protocol (TCP), SCTP Congestion Control; Quality ofService, QoS improving techniques: Leaky Bucket and Token Bucket algorithm.	15	6
5	**Application Layer:** Domain Name Space (DNS), DDNS, TELNET, EMAIL, File TransferProtocol (FTP), WWW, HTTP, SNMP, Bluetooth, Firewalls, Basic concepts ofCryptography	15	6

Course Outcome

After Learning the Course the students shall be able to:

After Learning the course the students shall be able to:

1. Draw the functional block diagram of wide-area networks (WANs), local area networks (LANs) and Wireless LANs (WLANs) describe the function of each block.
2. Understand the functions of the different layers of the OSI Protocol
3. Understand and Design For a given requirement (small scale) of wide-area networks (WANs), local area networks (LANs) and Wireless LANs (WLANs) design it based on the market available component
4. Learn on the given problem-related TCP/IP protocol developed for the network programming.
5. Configure DNS DDNS, TELNET, EMAIL, File Transfer Protocol (FTP), WWW, HTTP, SNMP, Bluetooth, and Firewalls using open- source available software and tools.

Reference Books	
1.	**Computer Networks (TextBook)** By Andrew S. Tanenbaum and David J. Wetherall | PEARSON Edition
2.	**Internetworking with TCP/IP Principles, Protocols and Architecture** By Douglas E Comer
3.	**TCP/IP Illustrated** By Richard Stevens
4.	**Data Communication and Networking** By Behrouz A. Forouzan
5.	**"Data and computer communications",** By William Stallings | Prentice Hall

303105256 - Computer Network Laboratory

Course	Bachelor of Technology (BTech)	**Semester – 4**
Type of Course	-	
Prerequisite	knowledge of Computer and Information system	
Course Objective	This course is design to provide the basic knowledge about the data & signals. It also provides basic concepts of computer network and firm foundation for understanding how data communication occurs in the Transmission Medium. It will help to develop logical abilities and practically setup the network .	

Teaching and Examination Scheme

Teaching Scheme					Examination Scheme					Total
					Internal Marks			External Marks		
Lecture Hrs/Week	Tutorial Hrs/Week	Lab Hrs/Week	Hrs/Week	Credit	T	CE	P	T	P	
0	0	2	0	1	-	-	20	-	30	50

List of Practical

1.	**Experiments on Simulation Tools: (CISCO PACKET TRACER).**
2.	**Experiments of Packet capture tool: Wireshark.**
3.	**To study behavior of generic devices used for networking: (CISCO PACKET TRACER).**
4.	**Data Link Layer (Error Correction).**
5.	**Virtual LAN**
6.	**Wireless LAN**
7.	**Inter networking with routers: 1: Experiment on same subnet 2: Perform Experiment across the subnet and observe functioning of Router via selecting suitable pair of Source and destination.**
8.	**Implementation of SUBNETTING.**
9.	**Routing at Network Layer.**
10.	**Experiment on Transport Layer.**

303105257 - Programming in Python with Full Stack Development

Course	Bachelor of Technology (BTech)	**Semester – 4**
Type of Course	-	
Prerequisite	Basic knowledge of Programming and web applications	
Course Objective	This course provides a broad introduction to Python programming and development of web applications. Developing and using Python as a scripting language for automating tasks and data processing. Moreover Building and deploying web applications using popular Python frameworks such as Django and Flask	

Teaching and Examination Scheme

Teaching Scheme					Examination Scheme					Total
					Internal Marks			External Marks		
Lecture Hrs/Week	Tutorial Hrs/Week	Lab Hrs/Week	Hrs/Week	Credit	T	CE	P	T	P	
3	0	0	0	3	20	20	-	60	-	100

SEE - Semester End Examination, **CIA** - Continuous Internal Assessment (It consists of Assignments/Seminars/Presentations/MCQ Tests, etc.)

Course Content

W - Weightage (%) , **T** - Teaching hours

Sr.	Topics	W	T
1	**Introduction to python programing:** Introduction to Python and basic programming concepts, variables, data types, conditionals statements and loops Lists,Sets,Tuples,Dictionaries: Working with strings, lists, sets, tuples and dictionaries, including common operations and built-in functions	15	6
2	**Functions :** Defining and using functions, including the use of arguments and return values OOPS Concepts : Object, class, abstraction, encapsulation, polymorphism, Inheritence. Exceptions and File handling: Handling exceptions and working with files	20	5
3	**Modules and Packages:** Working with modules and packages in Python Introduction to popular Python libraries for specific tasks, such as data analysis, web development, or game development. PyCharm IDE : GIT- Git Integration with PyCharm IDE, PyTests. Python connectivity with Databases MYSQL, MongoDB CRUD operations.	15	5
4	**Flask Framework:** Introduction to Flask and web development with Python, Installation in Virtual Environment. Creation Routing App Settings URL Building HTTP methods Templates Working with Static, Media Files. Sending Form Data to Template. Flask App with Database connectivity Sqlite3, MySQL. Handling Exceptions and Errors Flash Message Working with Mails. Authenticating and authorizing users with Flask-Login, Deploying a Flask application to a web server.	20	10
5	**Django Framework:** Introduction to Django framework, Django Project Installation in Virtual Environment. Phases in Django Project Creation Create a Project. Creation of Apps and their Structure. Working with ADMIN Console. Creating Views URL Mapping. Template System Working with Models. Form Processing static, media files, Django App Deployment.	20	10

6	**RESTful APIs:** Introduction to RESTful APIs and the REST architectural style Understanding the HTTP protocol and its role in RESTful APIs Designing and implementing RESTful APIs using common HTTP methods, such as GET, POST, PUT, and DELETE Using URLs and resource representations to identify and transfer data in RESTful APIs Implementing best practices for designing and implementing RESTful APIs, such as using HTTP status codes, versioning, and error handling Consuming RESTful APIs using common tools and libraries, such as cURL, Postman, and the requests library in Python Building scalable and secure RESTful APIs using common frameworks and libraries Flask or FastAPI.	**10**	**6**

Course Outcome

After Learning the Course the students shall be able to:
After learning this course students are able to: 1. Understand the fundamental concepts of web development. 2. Create and manipulate data using a variety of databases, including SQL and NoSQL 3. Build and deploy web applications using a popular Python web framework, such as Django or Flask. 4. Design and implement APIs (application programming interfaces) that enable different applications to communicate with each other. 5. Test and debug web applications, and to deploy them to production environments.

Reference Books

1.	**Fluent Python, 2nd Edition by Luciano Ramalho (TextBook)**
2.	**Learn Python3 the Hard Way By Zed Shaw**
3.	**"Django for Beginners: Build websites with Python and Django" by William S. Vincent.**
4.	**"Learning Django Web Development" by Samuli Natri.**
5.	**"Flask Web Development with Python" by Miguel Grinberg.**
6.	**"Mastering Flask" by Jack Stouffer.**
7.	**"Building RESTful Python Web Services" by Gastón C. Hillar.**
8.	**Building Web APIs with FastAPI" by Samuel Colvin.**

303105257 - Programming in Python with Full Stack Development Laboratory

Course	Bachelor of Technology (BTech)	**Semester – 4**
Type of Course	-	
Prerequisite	Basic knowledge of Programming and web applications	
Course Objective	This course provides a broad introduction to Python programming and development of web applications. Developing and using Python as a scripting language for automating tasks and data processing. Moreover Building and deploying web applications using popular Python frameworks such as Django and Flask	

Teaching and Examination Scheme

Teaching Scheme					Examination Scheme					Total
					Internal Marks			External Marks		
Lecture Hrs/Week	Tutorial Hrs/Week	Lab Hrs/Week	Hrs/Week	Credit	T	CE	P	T	P	
0	0	2	0	1	-	-	20	-	30	50

SEE - Semester End Examination, **CIA** - Continuous Internal Assessment (It consists of Assignments/Seminars/Presentations/MCQ Tests, etc.)

List of Practical

1.	**Set-1** 1. A program that converts temperatures from Fahrenheit to Celsius and vice versa. 2. A program that calculates the area and perimeter of a rectangle. 3. A program that generates a random password of a specified length. 4. A program that calculates the average of a list of numbers. 5. A program that checks if a given year is a leap year. 6. A program that calculates the factorial of a number. 7. A program that checks if a given string is a palindrome. 8. A program that sorts a list of numbers in ascending or descending order. 9. A program that generates a multiplication table for a given number. 10. A program that converts a given number from one base to another.
2.	**Set-2** 1. A program that models a bank account, with classes for the account, the customer, and the bank. 2. A program that simulates a school management system, with classes for the students, the teachers, and the courses. 3. A program that reads a text file and counts the number of words in it. 4. A program that reads a CSV file and calculates the average of the values in a specified column. 5. A program that reads an Excel file and prints the data in a tabular format.
3.	**Set-3** 1. A program that creates a simple web server and serves a static HTML page. 2. A program that creates a web application that allows users to register and login. 3. A program that creates a web application that allows users to upload and download files. 4. A program that creates a web application that displays data from a database in a tabular format. 5. A program that creates a web application that accepts user input and sends it to a server-side script for processing.

4.	**Set-4** 1. A program that creates a web application that uses a template engine to generate dynamicHTML pages. 2. A program that creates a web application that supports AJAX requests and updates the page without reloading. 3. A program that creates a web application that uses Django's built-in debugging features to troubleshoot errors and exceptions. 4. A program that creates a web application that implements user authentication and authorization. 5. A program that creates a web application that integrates with third-party APIs to provide additional functionality.
5.	**Set-5** 1. A program that creates a simple RESTful API that returns a list of users in JSON format. 2. A program that creates a RESTful API that allows users to create, read, update, and delete resources. 3. A program that creates a RESTful API that authenticates users using a JSON Web Token. 4. A program that creates a RESTful API that paginates the results of a query to improve performance. 5. A program that creates a RESTful API that supports data validation and error handling.

303105259 - Competitive Coding

Course	Bachelor of Technology (BTech)	**Semester – 4**
Type of Course	-	
Prerequisite	proficiency in a programming language	
Course Objective	Competitive coding sharpens problem-solving skills, enhances algorithmic thinking, and fosters quick and efficient coding practices. It provides a platform for continuous learning, challenges individuals to tackle diverse problems, and fosters a competitive spirit that's valuable in technical interviews and real-world software development.	

Teaching and Examination Scheme

Teaching Scheme					Examination Scheme					Total
					Internal Marks			External Marks		
Lecture Hrs/Week	Tutorial Hrs/Week	Lab Hrs/Week	Hrs/Week	Credit	T	CE	P	T	P	
-	-	4	-	2	-	-	20	-	30	50

SEE - Semester End Examination, **CIA** - Continuous Internal Assessment (It consists of Assignments/Seminars/Presentations/MCQ Tests, etc.)

List of Practical

1.	Write a program for implementing a MINSTACK which should support operations like push, pop, overflow, underflow, display 1. Construct a stack of N-capacity 2. Push elements 3. Pop elements 4. Top element 5. Retrieve the min element from the stack
2.	Write a program to deal with real-world situations where Stack data structure is widely used Evaluation of expression: Stacks are used to evaluate expressions, especially in languages that use postfix or prefix notation. Operators and operands are pushed onto the stack, and operations are performed based on the LIFO principle.
3.	Write a program for finding NGE NEXT GREATER ELEMENT from an array.
4.	Write a program to design a circular queue(k) which Should implement the below functions a. Enqueue b. Dequeue c. Front d. Rear
5.	Write a Program for an infix expression, and convert it to postfix notation. Use a queue to implement the Shunting Yard Algorithm for expression conversion.

6.	Write a Program for finding the Product of the three largest Distinct Elements. Use a Priority Queue to efficiently find and remove the largest elements.
7.	Write a Program to Merge two linked lists(sorted).
8.	Write a Program to find the Merge point of two linked lists(sorted).
9.	Write a Program to Swap Nodes pairwise.
10.	Write a Program for Building a Function ISVALID to VALIDATE BST.
11.	Write a Program to Build BST.
12.	Write a Program to determine the depth of a given Tree by Implementing MAXDEPTH.
13.	Write a Program to Understand and implement Tree traversals i.e. Pre-Order Post-Order, In-Order.
14.	Write a Program to perform Boundary Traversal on BST.
15.	Write a program for Lowest Common Ancestors.
16.	Write a Program to verify and validate mirrored trees or not.
17.	Write a Program for a basic hash function in a programming language of your choice. Demonstrate its usage to store and retrieve key-value pairs.
18.	Implement a hash table using separate chaining for collision handling. Perform operations like insertion, deletion, and search on the hash table.
19.	Write a Program to Implement Two sums using HASHMAP.
20.	Write a Program to Implement Search, insert, and Remove in Trie.
21.	Write a Program to Implement Huffman coding.
22.	Write a Program to find Distinct substrings in a string.

23.	Write a Program to find The No of Words in a Trie.
24.	Write a Program to view a tree from left View.
25.	Write a Program to Traverse a Tree using Level Order Traversal.

303191251 - Probability, Statistics and Numerical Methods

Course	Bachelor of Technology (BTech)	**Semester – 4**
Type of Course	-	
Prerequisite	Basic concepts of Statistics and Probability.	
Course Objective	The course provides systematic knowledge of probability, numerical and statistical methods.	

Teaching and Examination Scheme

Teaching Scheme					Examination Scheme					Total
					Internal Marks			External Marks		
Lecture Hrs/Week	Tutorial Hrs/Week	Lab Hrs/Week	Hrs/Week	Credit	T	CE	P	T	P	
4	-	-	-	4	20	20	-	60	-	100

SEE - Semester End Examination, **CIA** - Continuous Internal Assessment (It consists of Assignments/Seminars/Presentations/MCQ Tests, etc.)

Course Content

W - Weightage (%) , **T** - Teaching hours

Sr.	Topics	W	T
1	**UNIT 1Correlation, Regression and Curve fitting:** Correlation and Regression – Rank correlation Curve Fitting by The Method of Least Squares- Fitting of Straight Lines, Second Degree Parabolas and More General Curves.	18	11
2	**UNIT 2Probability and Probability Distributions:** Probability Spaces, Conditional Probability, Bayes' Rule, Discrete and continuous random variables, Independent Random Variables, Expectation and Variance of Discrete and Continuous Random Variables, Distribution and Their Properties: Binomial Distribution, Poisson Distribution, Normal Distribution.	23	13
3	**UNIT 3Testing of Hypothesis:** Test of significance: Large sample test for single proportion, difference of proportions, single mean, difference of means, and difference of standard deviations. Test for single mean, difference of means, Test for ratio of variances, Chi-square test for goodness of fit and independence of attributes.	26	15
4	**UNIT 4Solution of a System of Linear Equations, Roots of Algebraic and Transcendental Equations:** Gauss-Jacobi and Gauss Seidel Methods, Solution of Polynomial and Transcendental Equations – Bisection Method, Newton-Raphson Method and Regula-Falsi Method.	11	7
5	**UNIT 5Finite Differences and Interpolation:** Finite Differences, Relation between Operators, Interpolation using Newton's Forward and Backward Difference Formulae. Newton's Divided and Lagrange's Formulae for Unequal Intervals.	11	7
6	**UNIT 6Numerical Integration:** Trapezoidal rule, Simpson's 1/3rd and 3/8th Rules, Gaussian Quadrature Formulae. **Numerical solution of Ordinary Differential Equations:** Taylor's Series, Euler and Modified Euler's Methods. Runge-Kutta Method of Fourth Order for Solving First and Second Order Equations.	11	7

Course Outcome

After Learning the Course the students shall be able to:
• Analyse correlation and regression between two variables and fit a curve to the given set of values. • Calculate probabilities and analyse random variables to determine expectation and variance. • Evaluate hypotheses by conducting significance tests for proportions, means, standard deviations, and variances using large sample tests, chi-square tests, and other appropriate statistical methods. • Apply numerical methods such as Gauss-Jacobi, Gauss Seidel, bisection method, Newton-Raphson method, and Regula-Falsi method to solve systems of linear equations and algebraic/transcendental equations • Interpolate data using finite differences and various interpolation techniques including Newton's forward/backward difference formulae, and Lagrange's formulae for unequal intervals. • Utilize numerical integration techniques such as the trapezoidal rule, Simpson's rules, and Gaussian quadrature formulae, as well as numerical methods including Taylor's series, Euler's method, Modified

Reference Books

1.	**Introductory Methods of Numerical Analysis** By Sastry S. S | Prentice Hall of India
2.	**Numerical Methods in Engineering & Science with Programs in C and C++ (TextBook)** By Dr. B. S. Grewal | Khanna Publishers
3.	**Introduction to Numerical Analysis** By C.E. Froberg | Addison Wesley Publishing Company
4.	**Introduction to Probability (TextBook)** By P. G. Hoel, S. C. Port and C. J. Stone, | UBS Publishers,
5.	**Fundamentals of Mathematical Statistics (TextBook)** By S.C. Gupta and V. K. Kapoor | Sultan Chand & Sons

303193252 - Professional Grooming and Personality Development

Course	Bachelor of Technology (BTech)	**Semester – 4**
Type of Course	-	
Prerequisite	Knowledge of communication theories and basic management skills are essential.	
Course Objective	Acquiring soft skills, life skills & aptitude skills are crucial for organizational communication as well as for employability	

Teaching and Examination Scheme

Teaching Scheme					Examination Scheme					Total
					Internal Marks			External Marks		
Lecture Hrs/Week	Tutorial Hrs/Week	Lab Hrs/Week	Hrs/Week	Credit	T	CE	P	T	P	
-	1	-	-	1	100	100	-	-	-	100

SEE - Semester End Examination, **CIA** - Continuous Internal Assessment (It consists of Assignments/Seminars/Presentations/MCQ Tests, etc.)

Course Content

W - Weightage (%) , **T** - Teaching hours

Sr.	Topics	W	T
1	**Self Development and Assessment**Various self-assessments for personal and professional development skills that are relevant to career development: - Change, Grow, Persist, Prioritize, Read, Learn, Listen, Record, Remember, Guess, Think, Communicate, Relate, and Dream	25	4
2	**Corporate Etiquette**Tips and guide to develop personality and gain various etiquettes manners, case studies and activities. Telephone etiquette Etiquette for foreign business trips Etiquette for small talks Respecting privacy Learning to say 'No'	25	4
3	**Public Speaking**It's process of communicating information to an audience and is helpful in career advancement. Effective Public speaking skills includes: Choosing appropriate pattern Selecting appropriate method Art of persuasion Making speeches effective Delivering different types of speeches	20	4
4	**Reading Skills Activity & Reading Comprehension**Aims to improve students' Comprehensive Skills in English Language by getting them involved in reading activity and providing practice for reading comprehension.	15	2
5	**Listening Skills- Inquiry Based Listening Questions**Aims to improve students' listening skills in English Language providing them practice of various types of inquiry based listening tracks. Students will listen and will be able to find out details from the conversations.	15	1

Course Outcome

After Learning the Course the students shall be able to:
After Learning the course the students shall be able to: 1. Identity and develop soft skills required for personal and professional growth. 2. Develop professional etiquette & desired behaviour at the workplace 3. Speak and participate effectively in oral organizational communication 4. Improve comprehensive skills for reading 5. Know how to be assertive in professional environment

Lesson Plan - COMPUTER ORGANIZATION AND MICROPROCESSOR ARCHITECTURE (303105211)		
SR NO.	**UNIT**	**TOPIC**
1	1	Introduction
2		Microprocessor
3		Instruction set and computer languages
4		8085 Programming Model
5	2	Microprocessor architecture
6		Microprocessor operations
7		Memory devices
8		I/O devices
9		Memory Interfacing
10		Memory Interfacing
11		Interfacing I/O devices
12		Interfacing I/O devices
13	3	8085 Instructions,
14		Looping
15		Counting and Indexing
16		Logic operations
17		Rotate and Compare
18	4	Counter
19		time delay
20		Stack & Subroutines
21		Stack & Subroutines
22		Stack & Subroutines
23		Restart
24		Call and Return Instruction
25		Code conversion
26	5	Interrupt structure of 8085 microprocessor
27		processing of vectored and non-vectored interrupts
28		latency time and response time
29		Handling multiple interrupts
30		Register Transfer language
31		Bus design using

		multiplexer and Tri-state buffer
32		Memory Transfers, Arithmetic Micro-Operations
33		Logic Micro-Operations, Shift Micro-Operations
34		Arithmetic logical shift unit, Design of Accumulator Unit.
35		Instruction codes, Computer registers, computer instructions
36	6	Timing and Control, Instruction cycle, Memory-Reference Instructions
37		Register Reference Instructions, IO Reference Instructions, Interrupt
38		Machine Language,
39		Assembly Language, Assembler, Program loops
40		Programming Arithmetic and logic operations
41		subroutines, I-O Programming.
42		Memory hierarchy, Main memory
43		Auxiliary memory, Flash memory
44	7	Associative memory, Cache memory
45		Virtual memory

Lab Plan - COMPUTER ORGANIZATION AND MICROPROCESSOR ARCHITECTURE LABORATORY(303105212)

SR.NO.	LAB NO.	PRACTICAL TITLE
1	1	Part A: Addition of two 8 bit numbers using 8085. PART B: Write a program to add two 16-bit numbers stored in registers or memory locations. PART C: 8 BIT SUBTRACTION
2	2	PART A: Write an 8085 assembly language TO PERFORM MULTIPLICATION OF TWO 8 BIT NOS. PART B: Write an 8085 assembly language TO PERFORM DIVISION OF TWO 8 BIT NOS.
3	3	Write a program to add block of 8-bit data stored in memory locations.
4	4	Part A: Write an 8085 assembly language program to find the minimum from two 8-bit numbers.

		Part B: Write an 8085 assembly language program to get the minimum from block of N 8-bit numbers.
5	5	Part a: Write an 8085 assembly language program to find the maximum from two 8-bit numbers. Part b: Write an 8085 assembly language program to get the maximum from block of N 8-bit numbers.
6	6	Part A: Write aN ASSEMBLY LANGUAGE program to sort data in ascending order. Part B: Write aN ASSEMBLY LANGUAGE program to sort data in decending order.
7	7	PART A: WRITE AN 8085 ASSEMBLY LANGUAGE PROGRAM TO CONVERT GIVEN BCD NUMBER INTO ITS EQUIVALENT BINARY NUMBER. PART B: WRITE AN 8085 ASSEMBLY LANGUAGE PROGRAM TO CONVERT GIVEN BINARY NUMBER INTO ITS EQUIVALENT BCD NUMBER.
8	8	PART A:WRITE AN 8085 ASSEMBLY LANGUAGE PROGRAM TO CONVERT GIVEN BINARY NUMBER INTO ITS EQUIVALENT ASCII NUMBER. PART B: WRITE AN 8085 ASSEMBLY LANGUAGE PROGRAM TO CONVERT GIVEN ASCII NUMBER INTO ITS EQUIVALENT BINARY NUMBER.
9	9	WRITE AN ASSEMBLY LANGUAGE PROGRAM IN 8085 CALCULATE THE SUM OF A SERIES OF EVEN NUMBERS.
10	10	WRITE AN ASSEMBLY LANGUAGE PROGRAM IN 8085 CALCULATE THE SUM OF SERIES OF ODD NUMBERS

Lesson Plan - OS		
LECTURE NO.	**UNIT**	**TOPIC**
1	1	Concept of Operating Systems, Generations of Operating systems, Types of Operating Systems.
2	1	OS Services, System calls , Structure of an OS-Layered, Monolithic, Microkernel Operating Systems
3	1	Concept of Virtual Machine
4	2	Definition, Process Relationship, Different states of a Process, Process State transitions
5	2	Process Control Block (PCB), Context switching
6	2	Thread: Definition, Various states, Benefits of threads, Types of threads,
7	2	Concept of multithreads. Process Scheduling: Foundation and Scheduling objectives
8	2	Types of Schedulers, Scheduling criteria: CPU utilization, Throughput, Turnaround Time, Waiting Time, Response Time
9	2	Scheduling algorithms: Pre-emptive and Non pre-emptive,
10	2	FCFS
11	2	SJF
12	2	RR
13	3	Inter-Process Communication: Critical Section, Race Conditions, Mutual Exclusion,
14	3	Hardware Solution, Strict Alternation, Peterson's Solution
15	3	The Producer\ Consumer Problem,Semaphores, Event Counters, Monitors
16	3	Classical IPC Problems: Reader's & Writer Problem,
17	3	Dinning Philosopher Problem etc.
18	4	Deadlocks: Definition, Necessary and sufficient conditions for Deadlock,
19	4	Deadlock Prevention
20	4	Deadlock Avoidance: Banker's algorithm
21	4	Deadlock detection
22	4	Deadlock Recovery
23	5	Memory Management: Basic concept, Logical and Physical address map
24	5	Memory allocation: Contiguous Memory allocation
25	5	Fixed and variable partition
26	5	Internal and External fragmentation and Compaction
27	5	Paging: Principle of operation
28	5	Page allocation
29	5	Hardware support for paging, Protection and sharing, Disadvantages of paging.
30	5	Virtual Memory: Basics of Virtual Memory
31	5	Hardware and control structures, Locality of reference, Page fault
32	5	Working Set , Dirty page/Dirty bit, Demand paging
33	5	Page Replacement algorithms: Optimal
34	5	First in First Out (FIFO), Second Chance (SC)
35	5	Not recently used (NRU) and Least Recently used (LRU).
36	6	I/O Hardware: I/O devices, Device controllers,
37	6	Direct memory access, Principles of I/O Software: Goals of Iterrupt handlers

38	6	Device drivers, Device independent I/O software
39	6	File Management: Concept of File, Access methods, File types
40	6	File operation, Directory structure, File System structure
41	6	Allocation methods (contiguous, linked, indexed) , Free-space management (bit vector, linked list, grouping)
42	6	Directory implementation (linear list, hash table), efficiency and performance
43	6	Disk Management: Disk structure, Disk scheduling algorithms - FCFS , SSTF, SCAN, C-SCAN
44	6	Disk reliability, Disk formatting, Boot-block, Bad blocks

Lab Plan - OS		
Srno	**Lab No**	**Planning Description**
1	1	1. Study of Basic commands of Linux.
2	2	2. Study the basics of shell programming.
3	3	3. Write a Shell script to print given numbers sum of all digits.
4	4	4. Write a shell script to validate the entered date. (eg. Date format is: dd- mm-yyyy).
5	5	5. Write a shell script to check entered string is palindrome or not.
6	6	6. Write a Shell script to say Good morning/Afternoon/Evening as you log in to system.
7	7	7. Write a C program to create a child process.
8	8	8. Finding out biggest number from given three numbers supplied as command line arguments.
9	9	9. Printing the patterns using for loop.
10	10	10. Shell script to determine whether given file exist or not.
11	11	11. Write a program for process creation using C. (Use of gcc compiler.
12	12	12. Implementation of FCFS &Round Robin Algorithm.
13	13	13. Implementation of Banker's Algorithm.

Lesson Plan - CN		
LECTURE NO.	**UNIT**	**TOPIC**
1	1	Introduction to Data Communication Components
2		Representation of Data and its Flow
3		Networks and Various Connection Topologies
4		Protocols and Standards
5		OSI Model: Overview
6		Transmission Media
7		LAN: Wired LAN, Wireless LANs
8		Connecting LAN and Virtual LAN
9		Bandwidth Utilization: Multiplexing Techniques
10		Spread Spectrum Concepts
11	2	Error Detection Fundamentals
12		Error Correction: Block Coding, Hamming Distance
13		Cyclic Redundancy Check (CRC)
14		Flow Control Protocols: Stop and Wait
15		Go-Back-N ARQ and Selective Repeat ARQ
16		Sliding Window and Piggybacking
17		Random Access Protocols: ALOHA Variants
18		CSMA/CD and CSMA/CA
19	3	Switching Techniques
20		Logical Addressing: IPv4, IPv6
21		Address Mapping: ARP and RARP
22		BOOTP and DHCP
23		Delivery and Forwarding Mechanisms
24		Unicast Routing Protocols
25	4	Process-to-Process Communication
26		User Datagram Protocol (UDP)
27		Transmission Control Protocol (TCP)
28		Stream Control Transmission Protocol (SCTP)
29		Congestion Control
30		QoS Concepts and Techniques
31		Leaky Bucket Algorithm
32		Token Bucket Algorithm
33		Domain Name Space (DNS) and DDNS
34		TELNET and EMAIL Protocols
35		File Transfer Protocol (FTP)
36		World Wide Web (WWW) and HTTP
37		SNMP and Bluetooth Basics

38	5	Firewalls and Security Basics
39		Introduction to Cryptography

303105257 -PPFD- Programming in Python with Full Stack Development		
LECTURE NO.	**UNIT**	
1	1	Introduction to Python and basic programming concepts,
2		Variables, data types, Conditionals statements
3		Loops, List, Tupples
4		Working with strings
5		lists, sets, tuples and dictionaries
6		including common operations and built-in functions
7	2	Defining and using functions, including the use of arguments and return values
8		OOPS Concepts :Object, class
9		abstraction, encapsulation, polymorphism, Inheritence
10		Exceptions and File handling:Handling exceptions
11		working with files
12	3	Modules and Packages:Working with modules and packages in Python
13		Introduction to popular Python libraries for specific tasks such as data analysis, web development, or game development
14		PyCharm IDE :GIT- Git Integration with PyCharm IDE, PyTests
15		Python connectivity with Databases MYSQL
16		MongoDB CRUD operations
17	4	Flask Framework: Introduction to Flask and web development with Python
18		Installation in Virtual Environment Creation Routing App Settings
19		URL Building HTTP methods Templates Working with Static, Media Files
20		Sending Form Data to Template
21		Flask App with Database connectivity Sqlite3, MySQL.
22		Flask App with Database connectivity Sqlite3, MySQL.
23		Handling Exceptions and Errors Flash Message Working with Mails.
24		Authenticating and authorizing users with Flask-Login
25		Deploying a Flask application to a web server.
26		Deploying a Flask application to a web server.
27	5	Django Framework: Introduction to Django framework
28		Django Project Installation in Virtual Environment
29		Phases in Django Project Creation Create a Project
30		Creation of Apps and their Structure.
31		Working with ADMIN Console.
32		Creating Views URL Mapping
33		Template System Working with Models.
34		Form Processing static, media files
35		Django App Deployment.
36		Django App Deployment.

37	37	6	RESTful APIs:Introduction to RESTful APIs and the REST architectural style, Understanding the HTTP protocol and its role in RESTful APIs
38	38		Designing and implementing RESTful APIs using common HTTP methods, such as GET, POST, PUT, and DELETE
39	39		Using URLs and resource representations to identify and transfer data in RESTful APIs
40	40		Implementing best practices for designing and implementing RESTful APIs, such as using HTTP status codes,versioning, and error handling
41	41		Consuming RESTful APIs using common tools and libraries, such as cURL, Postman, and the requests library in Python
42	42		Building scalable and secure RESTful APIs using common frameworks and libraries Flask or FastAPI

303105258 -PPFD- Programming in Python with Full Stack Development Laboratory		
Srno	**Lab No**	**Planning Description**
1	1	1. A program that converts temperatures from Fahrenheit to Celsius and vice versa.
2		2. A program that calculates the area and perimeter of a rectangle.
3		3. A program that generates a random password of a specified length.
4		4. A program that calculates the average of a list of numbers.
5		5. A program that checks if a given year is a leap year.
6		6. A program that calculates the factorial of a number.
7		7. A program that checks if a given string is a palindrome.
8		8. A program that sorts a list of numbers in ascending or descending order.
9		9. A program that generates a multiplication table for a given number.
10		10. A program that converts a given number from one base to another.
11	2	1. A program that models a bank account, with classes for the account, the customer,
12		and the bank.
13		2. A program that simulates a school management system, with classes for the
14		students, the teachers, and the courses.
15		3. A program that reads a text file and counts the number of words in it.
16		4. A program that reads a CSV file and calculates the average of the values in a specified column.
17		5. A program that reads an Excel file and prints the data in a tabular format

18	3	1. A program that creates a simple web server and serves a static HTML page.
19		2. A program that creates a web application that allows users to register and login.
20		3. A program that creates a web application that allows users to upload and download files.
21		4. A program that creates a web application that displays data from a database in a tabular format.
22		5. A program that creates a web application that accepts user input and sends it to a server-side script for processing.
23	4	1. A program that creates a web application that uses a template engine to generate dynamicHTML pages.
24		2. A program that creates a web application that supports AJAX requests and updates the page without reloading.

25		3. A program that creates a web application that uses Django's built-in debugging features to troubleshoot errors and
26		exceptions.
27		4. A program that creates a web application that implements user authentication and authorization.
28		5. A program that creates a web application that integrates with third-party APIs to provide additional functionality.
29	5	1. A program that creates a simple RESTful API that returns a list of users in JSON format.
30		2. A program that creates a RESTful API that allows users to create, read, update, and delete resources.
31		3. A program that creates a RESTful API that authenticates users using a JSON Web Token.
32		4. A program that creates a RESTful API that paginates the results of a query to improve performance.
33		5. A program that creates a RESTful API that supports data validation and error handling.

Competitive Coding-303105259		
Srno	**Lab No**	**Planning Description**
1	1	Write a program for implementing a MINSTACK which should support operations like push, pop, overflow, underflow, display Construct a stack of N-capacity Push elements Pop elements Top element Retrieve the min element from the stack
2	2	Write a program to deal with real-world situations where Stack data structure is widely used Evaluation of expression: Stacks are used to evaluate expressions, especially in languages that use postfix or prefix notation. Operators and operands are pushed onto the stack, and operations are performed based on the LIFO principle.
3	3	Write a program for finding NGE NEXT GREATER ELEMENT from an array.
4	4	Write a program to design a circular queue(k) which Should implement the below functions Enqueue Dequeue Front Rear
5	5	Write a Program for an infix expression, and convert it to postfix notation. Use a queue to implement the Shunting Yard Algorithm for expression conversion.
6	6	Write a Program for finding the Product of the three largest Distinct Elements. Use a Priority Queue to efficiently find and remove the largest elements.
7	7	Write a Program to Merge two linked lists(sorted).
8	8	Write a Program to find the Merge point of two linked lists(sorted).
9	9	Write a Program to Swap Nodes pairwise.
10	10	Write a Program for Building a Function ISVALID to VALIDATE BST.
11	11	Write a Program to Build BST.
12	12	Write a Program to determine the depth of a given Tree by Implementing MAXDEPTH.
13	13	Write a Program to Understand and implement Tree traversals i.e. Pre-Order Post-Order, In-Order.
14	14	Write a Program to perform Boundary Traversal on BST.
15	15	Write a program for Lowest Common Ancestors.
16	16	Write a Program to verify and validate mirrored trees or not.
17	17	Write a Program for a basic hash function in a programming language of your choice. Demonstrate its usage to store and retrieve key-value pairs
18	18	Implement a hash table using separate chaining for collision handling. Perform operations like insertion, deletion, and search on the hash table.
19	19	Write a Program to Implement Two sums using HASHMAP.
20	20	Write a Program to Implement Search, insert, and Remove in Trie.
21	21	Write a Program to Implement Huffman coding.
22	22	Write a Program to find Distinct substrings in a string.

23	23	Write a Program to find The No of Words in a Trie.
24	24	Write a Program to view a tree from left View.
25	25	Write a Program to Traverse a Tree using Level Order Traversal.

PROBABILITY, STATISTICS AND NUMERICAL METHOD (303191251)

Sr. No.	Name of Topic	Hrs. Allotted
1	**Correlation, Regression and Curve Fitting:**	11
1.1	Correlation, and Regression- Rank Correlation	4
1.2	Curve fitting by the method of Least square- fitting of Straight line	4
1.3	Second degree parabola and more general curve	3
2	**Probability and Probability distributions**	13
2.1	Probability spaces and conditional probability	2
2.2	Baye's Rule	1
2.3	Discrete and continuous Random Variables	2
2.4	Independent Random Variables	2
2.5	Expectation and Variance of discrete and Continuous random variable	2
2.6	Probability Distribution and their Properties	1
2.7	Binomial Distribution, Poisson distribution	2
2.8	Normal Distribution	1
3	**Solution of a System of Linear Equations and Roots of Algebraic and Transcendental Equations**	**7**
3.1	Gauss-Jacobi and Gauss Seidel methods	2
3.2	Bisection and false position method to solve algebraic and transcendental equations.	3
3.3	Newton-Raphson methods, Rate of convergence	2
4	**Finite Differences and Interpolation**	**7**
4.1	Finite Differences, Relation between operators	2
4.2	Interpolation- Newton's forward &Backward interpolation	2

4.3	Newton's divided difference and Lagrange's formula for unequal intervals	3
5	**Numerical Integration and Numerical solution of Ordinary Differential Equations**	**7**
5.1	Trapezoidal and Simpson's formulae	2
5.2	Gaussian quadrature formulae	1
5.3	Taylor series method	1
5.4	Euler method and Euler's Modified Methods	1
5.5	Runge-Kutta method of order two & four	2
6	**Testing Of Hypothesis**	15
6.1	Test of significance: Large Sample test for single proportion, difference of proportion	2
6.2	Single Mean, Difference of Means	2
6.3	Difference of Standard Deviations	2
6.4	Test for single mean, Difference of Means	2
6.5	Test for Ratio of variances	2
6.6	Chi-square test for goodness of fit	3
6.7	Independence of attributes	2

4TH SEMESTER LESSON PLAN (2024-25)

Career Development Cell

PROFESSIONAL GROOMING & PERSONALITY DEVELOPMENT (203193252)

SR NO.	TOPICS		HOURS	Total Hours
		Career Planning	1	
		Conflict Management	1	
		Leadership	1	
1	**Self Development and Assessment**	**Professional Development**	1	4
2	**Listening Skills- Inquiry Based Listening Questions**	**Listening Skills- Inquiry Based Listening Questions**	1	1
	Public Speaking: Theory	**Public Speaking: Theory**	1	
		MOCK Round	1	
		Speaking Test	1	
3		**Speaking Test**	1	4

4	**Corporate Etiquette**	**Telephonic etiquettes** **Etiquettes for foreign business trip** **How to say NO** **Etiquettes for small talk**	1 1 1 1	4
5	**Reading Skills Activity & Reading Comprehension:**	**Reading comprehension Theory** **Reading test**	1 1	4
			Total Hours	**15**

Details of Value-added courses and Professional courses

1.Value added course on Cloud computing

2.Value added course on Block chain

Student Chapter / Council Details and Planned Activity

Sr No.	Student Chapter	POC	Contact No.
1.	AWS Academy	Prof. Garima Sharma	8319303225

Co-curricular and extra-curricular events during the semester

Sr No.	Events
1.	NCC

Details of visits planned during semester

1. Industrial Visit @ E-infochip, Ahmedabad in February 2024
2. Industrial Visit @ Rishbh Infotech, vadodara in March 2024
3. Industrial Visit @ TOPS Technology, Ahemdabad in March 2024

Details of expert talk during the semester

1. Days Hands-on Workshop on Machine Learning in March 2024
2. 2 Days Hands-on Workshop on Cloud Computing in April 2024

Flagship Events of Concerned Institute, Faculty and University

Sr No.	Events
1.	Tech Expo
2.	PICET
3.	PU Code Hackethone
3.	Projection

Prominent academic competition (Outside PU)

Sr No.	Events
1.	SIH(Smart India Hacktheron)

Coordinators of Various Committee (Anti Ragging, WDC, ICC, Office of International Affairs, Centre of International Relations and Research, PIERC, Scholarship, PUMIS, Mentoring etc.)

Committee	Coordinator	Contact no.	Email Address
Anti Ragging,	Rakesh Mishra	9473122585	rakeshkumar.mishra12731@paruluniversity.ac.in
WDC,	Swati Prajapati	9909012774	swati.prajapati@paruluniversity.ac.in
Centre of International Relations and Research	Tulshi Sheth	9724326299	tulsi.sheth12725@paruluniversity.ac.in
PIERC	Nitesh Patel	9924596712	nitesh.patel@paruluniversity.ac.in
Scholarship	Kamlesh Parmar	9376215191	kamlesh.parmar@paruluniversity.ac.in
PUMIS	Dr. yassir farooqi	9821763324	yassir.farooqui270062@paruluniversity.ac.in
Mentoring	Prof Garima sharma	8319303225	garima.sharma35514@paruluniversity.ac.in
AWS	Prof Garima sharma	8319303225	garima.sharma35514@paruluniversity.ac.in
NPTEL	Dr. Khyati Zalawadia	9879035838	khyati.zalawadia29490@paruluniversity.ac.in

Ranker List of Last Semester Result with SPI

Rank No.	Enrollment No	Name of Students	SGPA
1	2303031050247	KHEDUVORA ABDULSAMAD HUSENBHAI	9.4
2	2303031050095	BHAVSAR JEET CHETANKUMAR	9.35
3	2303031050356	NISHA KHANDELWAL	9.35

Interaction of Various Media Platforms

Platforms	Links
Facebook	https://www.facebook.com/ParulUniversity
Instagram	https://www.instagram.com/paruluniversity/?hl=en
Linkedin	https://in.linkedin.com/school/paruluniversity/
Youtube	https://www.youtube.com/channel/UCeXQgKg0qhTKbNRi5hpIL9A
Dean Sir's WhatsApp channel	https://whatsapp.com/channel/0029VaAvUeYC6ZvoQ8cyox0x
MOOC Course-CN-Swayam NPTEL	https://onlinecourses.nptel.ac.in/noc22_cs19/preview