



# **Academic Booklet**

**Academic Year 2025-26**

**Bachelor of Technology  
(CSE - Artificial Intelligence & Data Science)  
Semester – 4**

**Department of Artificial Intelligence & Data  
Science**

**Parul Institute of Engineering & Technology  
Faculty of Engineering & Technology  
Parul University**

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## About the University

Parul University, Vadodara, stands today as one of Gujarat's leading private universities - a vibrant hub of higher education, healthcare, research, and innovation. Its journey began with the Parul Arogya Seva Mandal Trust, which first made its mark in the healthcare sector before establishing Gujarat's first self-financed Homeopathic Medical College in Ahmedabad in 1993. This marked the beginning of a legacy committed to quality and holistic learning.

Over time, the vision grew into the Parul Group of Institutions, offering programs in Engineering, Technology, Ayurveda, Nursing, Physiotherapy, Pharmacy, Management, Architecture, and more. The **Government of Gujarat established Parul University** through the *Gujarat Private Universities (Second Amendment) Act, 2015*, recognizing its growth and impact.

Starting with 16 institutes and about 50 programs, the University has grown into a multidisciplinary ecosystem of 38 constituent colleges and 21 faculties offering Diploma, UG, PG, and Ph.D. programs, including seven constituent colleges that function as teaching hospitals. Today, it is home to over 65,000 students and 8,000 staff, including 4,500+ international students from 75+ countries, on a 125-acre eco-friendly campus equipped with modern classrooms, laboratories, hostels, sports arenas, and cultural spaces.

Parul University has earned NAAC accreditation with the highest A++ grade (3.55 CGPA) in its very first assessment cycle, UGC Category-1 status with Graded Autonomy, and the prestigious Centre of Excellence status by the State Government. In NIRF 2025, it ranked among India's top 150 universities, 41st in Pharmacy, and within the top 50 for Innovation. It has achieved 5-star ratings in Pharmacy, Engineering, Management, and Applied Sciences, and 4-star ratings in University and Medical categories in GSIRF-2024; along with Diamond Ratings in QS I-GAUGE, with Platinum in Medicine, Engineering, and Pharmacy. It also made a global debut in the Times Higher Education Impact Rankings 2025, securing ranks among India's top 50 for Quality Education (SDG 4), Gender Equality (SDG 5), Good Health & Well-being (SDG 3), and Partnerships for the Goals (SDG 17). The hospitals hold NABH accreditation with Platinum Level Certification for Digital Health Standards, along with the NABL-accredited Molecular Laboratory at Parul Sevashram Hospital.

True to its mission, Parul University delivers holistic education, fosters innovation, and advances sustainable development. With its achievements, global collaborations, and commitment to quality, it stands as Gujarat's leading private university, setting new benchmarks in higher education.

### VISION

To be a citadel of higher education widely acclaimed for its quality education and innovative research contributing towards development of competent professionals with human values for societal development.

### MISSION

- To provide value-based quality education with relevant skill-set to become responsible productive citizen.
- To undertake innovative research and development activities to address challenges faced by mankind.
- To serve the society, community, industry in solving challenges improving scientific and cultural environment of the region to enrich quality of life.

## **QUALITY POLICY**

To strive towards attaining the status of global educational university by setting higher benchmarks in quality education to deliver excellence in academics, research, innovation and extension activities through the implementation of best practices adopted by renowned academic institutes in teaching and learning processes by continuously monitoring the effectiveness of the University's practices, fostering a quality learning ecosystem through state-of-the-art facilities to enable the beneficiaries to enhance their skillsets and knowledge, with enhanced emphasis on comprehensive development.

## About the Faculty

The Faculty of Engineering and Technology (FET) stands as a beacon of innovation, excellence, and transformation — one of the earliest and most prestigious pillars of technical education of Parul University. Since its inception, FET has been instrumental in setting global benchmarks of brilliance across diverse disciplines of science and technology. It has continually contributed to society by developing ideas, solutions, and innovations that empower communities and advance the welfare of humanity.

At FET, we believe that engineers are not just creators of technology — they are architects of the future. With a powerful academic foundation comprising 17 diploma programs, 34 undergraduate programs, and 14 postgraduate programs, FET offers unparalleled opportunities for learning and growth. Our strength lies in our people — an elite faculty of 800+ members, including 390+ distinguished Ph.D. degree holders or currently pursuing their doctorates — who bring passion, experience, and expertise to every classroom and laboratory.

Home to a vibrant ecosystem of 33,000+ aspiring engineers, FET ensures a 360-degree learning journey that goes beyond textbooks. Through expert talks, workshops, seminars, industrial visits, and innovation showcases, students are encouraged to explore, experiment, and engineer their own success stories.

At the Faculty of Engineering and Technology, we don't just teach engineering — we inspire innovation, ignite curiosity, and engineer the future.

### **VISION**

To develop highly skilled professionals to man positions in the industry responding to technological and scientific advancements

### **MISSION**

To develop centres of excellence through establishment of state-of-the-art laboratories/workshops which will help students learn through hands-on experience the latest advances in technology

## About the Institute

Established in 2003, the **Parul Institute of Engineering & Technology (PIET)** stands as the flagship engineering institute of Parul University, Vadodara, Gujarat. Over the years, PIET has emerged as a symbol of excellence in technical education, fostering innovation, creativity, and global competence. Recognized among the state's premier engineering institutes, PIET offers a **diverse portfolio of 22 undergraduate and 9 postgraduate programs** spanning key disciplines such as Computer Science & Engineering, Artificial Intelligence and Data Science, Artificial Intelligence and Machine Learning, CSE–Industry Embedded Program (IEP), Cyber Security, Information Technology, Electrical, Mechanical, Civil, Aeronautical, Mathematics & Computing, and Electronics & Communication Engineering, among others.

Home to a vibrant community of **19,000+ students**, PIET takes pride in its **350+ accomplished faculty members**, including **200+ Ph.D. holders** or **pursuing their doctoral research**. This powerful academic ecosystem ensures a perfect blend of experience, expertise, and innovation in teaching and research.

The institute's state-of-the-art, technology-driven campus features advanced laboratories, smart classrooms, and an industry-oriented curriculum designed to bridge the gap between education and enterprise. Strategic collaborations with leading companies offer students hands-on exposure through internships, live projects, and industrial interactions, shaping them into future-ready professionals. Beyond academics, PIET promotes holistic growth through a thriving culture of technical fests, student clubs, research initiatives, and sports activities, cultivating leadership and teamwork skills.

PIET's commitment to quality and innovation has earned it **prestigious national and international recognitions**—including the **coveted GSIRF 5-Star Rating by the Government of Gujarat**, the **Platinum Rating in Engineering by QS I-GAUGE**, the **AAA rating as a valuable NPTEL Local Chapter**, and an **impressive rank of 43rd in India, 8th in Zone, and 3rd in Gujarat** among the Best Private Engineering Colleges by the **Indian Institutional Ranking Framework (IIRF) 2024**.

With these distinctions and its unwavering pursuit of excellence, Parul Institute of Engineering & Technology continues to redefine the standards of engineering education in India—empowering minds, shaping innovators, and engineering the future.



## **VISION**

To be a premier institution in Engineering and Technology that fosters excellence in education and research with ethics towards inspiring and developing future technocrats.

## **MISSION**

- To impart quality educational experience with ethical and human approach and skills to students that enables them to become successful technocrats in their chosen career.
- To nurture scientific temperament and promote research and development activities.
- To provide service to industries and communities through educational, technical and professional activities.

## **QUALITY POLICY**

Engineering is one of the earliest forms of technical studies, which has been vital in setting up the global standard of brilliance in the various disciplines of science and innovative technology. It has also delivered innumerable assets and utilities to the society, contributing to the welfare of humanity. The Faculty of Engineering and Technology plays the central role of grooming and developing engineers and technical experts who play the role of framing lives not only in the form of technology but also in the form of life sciences. Pioneering motives are at the heart of what engineers do to approach set-backs and thereby generating remarkable new technological advances. With our elite league of faculties, we focus on developing students who have the passion and desire to serve and impact society through the use of innovative technology, along with nurtured interpersonal skills. As the Faculty of Engineering, we ensure a 360-degree

learning experience to our students by providing a wide range of academic exposure which includes expert talks, seminars, workshops and industrial visits. To keep up with the ever-changing trends, we continuously create platforms where students express their engineering innovation through practical exhibitions and projects where students can learn, enhance, develop and engineer the future.



## About the Department

Incorporated in 2024 as a dedicated hub for future technologies, Parul University Department of Artificial Intelligence and Data Science is rapidly establishing itself at the forefront of modern computing education. Building on the foundation of the successful BTech in AI program initiated within Computer Science in 2021, the department now offers specialized, industry-aligned degrees. Its portfolio includes the established BTech in CSE (Artificial Intelligence) and the newly introduced BTech in Artificial Intelligence & Data Science (from 2024), providing deep dives into machine learning, deep learning, and big data analytics. Complementing these undergraduate offerings is the recently launched MTech in Artificial Intelligence & Data Science (from 2025), designed for advanced specialization and research. The department focuses on equipping students with the critical theoretical knowledge and practical skills needed to innovate and lead in the rapidly evolving fields of AI and DS, preparing them for impactful careers shaping tomorrow's intelligent solutions.

### 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.

### QUALITY POLICY

The Department of Artificial Intelligence and Data Science is committed to fostering excellence in education, research, and innovation through continuous quality enhancement practices that align with the Vision and Mission of Parul University.

We shall strive to:

Deliver Value-Based and Outcome-Oriented Education Ensure that teaching-learning processes are student-centric, experiential, and outcome-based, emphasizing conceptual understanding and practical application of AI and Data Science. Regularly review and update the curriculum in

alignment with global technological advancements, industry needs, and accreditation requirements (AICTE, NBA, ABET, etc.).

**Promote Research, Innovation, and Entrepreneurship** Cultivate a research-driven culture encouraging faculty and students to contribute to scientific, societal, and industrial problem-solving using AI and Data Science. Strengthen innovation ecosystems by supporting startups, patents, and interdisciplinary collaborations. **Ensure Continuous Improvement through Quality Assurance** Implement an effective feedback system from stakeholders—students, alumni, faculty, industry experts, and recruiters—to monitor and enhance academic and administrative quality.

**Adopt data-driven decision-making and internal quality audits** to ensure measurable improvements in academic and research outcomes. **Foster Ethical, Responsible, and Sustainable Practices** Promote ethical use of Artificial Intelligence, data privacy, and responsible innovation with a strong commitment to societal welfare and sustainability.

**Develop graduates who are empathetic, socially responsible, and equipped to apply AI and Data Science for inclusive and sustainable growth.** **Empower Faculty and Staff for Excellence** Facilitate continuous professional development, faculty training, and exposure to emerging technologies through FDPs, workshops, and collaborative research. Encourage a participative culture where faculty, staff, and students collectively contribute to achieving academic and institutional excellence.

**Quality Motto:** “Innovate Intelligently, Learn Continuously, Serve Responsibly.”

## CODE OF CONDUCT

- **Academic Integrity:** All students and faculty must uphold academic honesty by avoiding plagiarism, cheating, and falsifying academic work. Assignments, projects, and exams should reflect personal effort and genuine understanding.
- **Professional Behavior:** Students, staff, and faculty are expected to exhibit professionalism in all interactions, both inside and outside the classroom, showing respect for peers, faculty, and the institution.
- **Collaboration and Teamwork:** Cooperation in team projects and lab work is essential. Students are encouraged to share knowledge and support each other, while maintaining individual responsibility for their work.
- **Respect for Diversity and Inclusivity:** Every member of the department should foster an environment of respect for diverse opinions, backgrounds, and cultures, contributing to an inclusive and supportive community.

## CODE OF DISCIPLINE

- **Adherence to Academic Regulations:** All students must follow the university’s academic guidelines on attendance, assignment submission, and exam conduct. Regular participation in classes and timely submission of academic work are mandatory.
- **Respect for Technology and Resources:** Use of computers, software, and lab equipment should be responsible, avoiding damage or misuse of institutional resources.

## **RULES FOR INAPPROPRIATE BEHAVIOR**

- **Academic Misconduct:** Plagiarism, cheating, or any form of dishonesty in academic work will not be tolerated.
- **Disruptive Behavior:** Any behavior that disrupts the learning environment, including bullying, harassment, or abusive language, is unacceptable.
- **Cybersecurity Violations:** Unauthorized access to university systems, sharing confidential information, or any form of cyber misconduct will be strictly prohibited.
- **Substance Abuse or Violence:** Consumption of drugs, alcohol, or any violent conduct on campus or during university-sponsored activities is grounds for disciplinary action.

## **DISCIPLINARY MEASURES**

- **Warnings:** Minor violations of discipline may result in a verbal or written warning.
- **Probation:** Repeated offenses may lead to academic or behavioral probation, restricting participation in certain activities.
- **Suspension/Expulsion:** Severe violations or persistent misconduct can result in suspension or expulsion from the program or university.
- **Loss of Privileges:** Students may lose access to labs, events, or other university resources as a penalty for disciplinary breaches.

## **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.

#### **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 neighbors. They should maintain cordial relations with their neighbors and shall live in harmony with them. Further, they should not indulge in any boisterous behavior such as getting into altercation with neighbors, 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 behavior 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.

## **HOSTELMESS**

- There shall be as many messes as required on the university premises.
- All meals, including breakfast, will be served only in the mess.
- Boarders shall have their food only in the 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 shall 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 the Hostel Superintendent.
- The boarders shall strictly adhere to the mess timings.



# PARUL UNIVERSITY

Office of the Registrar

R/Notification-1085/2023-24

July 1, 2023

## NOTIFICATION

**Sub: - Constitution of Student Grievance Redressal Committee in the University**

**Ref: University Grants Commission (Redressal of Grievances of Students) Regulations, 2023**

UGC (Redressal of Grievances of Students) Regulations, 2023 stipulate that every university shall constitute Students' Grievance Redressal Committee in the university to provide opportunities for redressal of certain grievances of students already enrolled in any institution, as well as those seeking admission to the university.

**The composition of Students' Grievance Redressal Committee constituted in the university is as follows:**

- |   |                 |
|---|-----------------|
| 1. Dr.Hemant Toshikhane, Dean, Faculty of Ayurved and Principal, Parul Institute of Ayurved<br><a href="mailto:hemant.toshikhane@paruluniversity.ac.in">hemant.toshikhane@paruluniversity.ac.in</a><br>(M) 8469496525 | Chairperson     |
| 2. Dr.M.N.Parmar, Dean, Faculty of Social Work and Principal, Parul Institute of Social Work<br><a href="mailto:mnp.msu@gmail.com">mnp.msu@gmail.com</a><br>(M) 9824064291  | Member          |
| 3. Dr.Guno Chakraborty, Principal, Parul Institute of Pharmacy and Research<br><a href="mailto:g.chakraborty19159@paruluniversity.ac.in">g.chakraborty19159@paruluniversity.ac.in</a><br>(M)8800978930                | Member          |
| 4. Dr.Mehul Jadav, Principal, Parul Institute of Physiotherapy and Research<br><a href="mailto:pipt@paruluniversity.ac.in">pipt@paruluniversity.ac.in</a><br>(M) 9825314847   | Member          |
| 5. Dr.Rekha M.Parmar, Professor, Parul Institute of Ayurved<br><a href="mailto:rekha.parmar@paruluniversity.ac.in">rekha.parmar@paruluniversity.ac.in</a><br>(M) 9724306523   | Member          |
| 6. Susri. Khushi Singh, second year student of B.Sc in Microbiology, Parul Institute of Applied Sciences<br><a href="mailto:khushisinghrajput1210@gmail.com">khushisinghrajput1210@gmail.com</a> ; (M) 6359826234     | Member          |
| 7. Shri.Umrao Singh Rathore, second year student in Parul Institute of Design<br><a href="mailto:heavenartworkk@gmail.com">heavenartworkk@gmail.com</a> ; (M) 8290583206  | Member          |
| 8. Shri.Dhruvil Shah, Dean, Students' Welfare<br><a href="mailto:dsw@paruluniversity.ac.in">dsw@paruluniversity.ac.in</a> (M) 7574809590  | Member Convener |



**The grievances related to following instances will be considered by Students' Grievance Redressal Committee**

- admission contrary to merit determined in accordance with the declared admission policy of the institution;
- irregularity in the process under the declared admission policy of the institution; refusal to admit in accordance with the declared admission policy of the institution;
- non-publication of a prospectus by the institution, in accordance with the provisions of these regulations;
- publication by the institution of any information in the prospectus, which is false or misleading, and not based on facts;
- withholding of, or refusal to return, any document in the form of certificates of degree, diploma or any other award or other document deposited by a student for the purpose of seeking admission in such institution, with a view to induce or compel such student to pay any fee or fees in respect of any course or program of study which such student does not intend to pursue;
- demand of money in excess of that specified to be charged in the declared admission policy of the institution;
- violation, by the institution, of any law for the time being in force in regard to reservation of seats in admission to different category of students;
- non-payment or delay in payment of scholarships or financial aid admissible to any student under the declared admission policy of such institution, or under the conditions, if any, prescribed by the Commission;
- delay by the institution in the conduct of examinations, or declaration of results, beyond the schedule specified in the academic calendar of the institution, or in such calendar prescribed by the Commission;
- failure by the institution to provide student amenities as set out in the prospectus, or is required to be extended by the institution under any provisions of law for the time being in force;
- non-transparent or unfair practices adopted by the institution for the evaluation of students;
- delay in, or denial of, the refund of fees due to a student who withdraws admission within the time mentioned in the prospectus, subject to guidelines, if any, issued by the Commission, from time to time;
- complaints of alleged discrimination of students from the Scheduled Castes, the Scheduled Tribes, Other Backward Classes, Women, Minorities or persons with disabilities categories;
- denial of quality education as promised at the time of admission or required to be provided;
- harassment or victimization of a student, other than cases of harassment, which are to be proceeded against under the penal provisions of any law for the time being in force;

The term of the chairperson and members shall be for a period of two years.

The term of the special invitee shall be one year.

The SGRC shall send its report with recommendations, if any, to the Provost and a copy thereof to the aggrieved student, preferably within a period of 15 working days from the date of receipt of the complaint.

Any student aggrieved by the decision of the Students' Grievance Redressal Committee may prefer an appeal to the Ombudsperson, within a period of fifteen days from the date of receipt of such decision.

## **OMBUDSMAN**

The university has appointed Prof. D.M.Patel, Retd. Principal, M.S.U.Polytechnic, Vadodara as OMBUDSMAN for redressal of grievances of students of the university.

His appointment as OMBUDSMAN shall be for a period of three years or until he attains the age of 70, whichever is earlier.

## **PROCEDURE FOR REDRESSAL OF GRIEVANCES BY OMBUDSPERSONS AND**

### **STUDENT GRIEVANCE REDRESSAL COMMITTEES:**

1. The university has created an online portal <https://paruluniversity.ac.in/student-services> where any aggrieved student may submit an application seeking redressal of grievance.
2. On receipt of an online complaint, HOI of the institution shall refer the complaint to the Students' Grievance Redressal Committee, along with its comments within 15 days of receipt of complaint on the online portal.
3. The Students' Grievance Redressal Committee shall fix a date for hearing the complaint which shall be communicated to the HOI of the institution and the aggrieved student.
4. An aggrieved student may appear either in person or authorize a representative to present the case.
5. Grievances not resolved by the Students' Grievance Redressal Committee within the time period provided in these regulations may be referred to the Ombudsperson by the university.
6. HOIs of Institutions shall extend co-operation to the Ombudsperson or the Student Grievance Redressal Committee(s), in early redressal of grievances.
7. The Ombudsperson shall, after giving reasonable opportunities of being heard to the parties concerned, on the conclusion of proceedings, pass such order, with reasons thereof, as may be deemed fit to redress the grievance and provide such relief as may be appropriate to the aggrieved student.
8. The institution, as well as the aggrieved student, shall be provided with copies of the order under the signature of the Ombudsperson.
9. The institution shall comply with the recommendations of the Ombudsperson.
10. The Ombudsperson may recommend appropriate action against the complainant, where a complaint is found to be false or frivolous.

### **FUNCTIONS OF OMBUDSPERSON:**

- The Ombudsperson shall hear appeals from an aggrieved student, only after the student has availed all other remedies provided under these regulations.
- While issues of malpractices in the conduct of examination or in the process of evaluation may be referred to the Ombudsperson, no appeal or application for revaluation or re-totalling of answer sheets from an examination, shall be entertained by the Ombudsperson unless specific irregularity materially affecting the outcome or specific instance of discrimination is indicated.
- The Ombudsperson may avail assistance of any person, as amicus curiae, for hearing complaints of alleged discrimination.
- The Ombudsperson shall make all efforts to resolve the grievances within a period of 30 days of receiving the appeal from the aggrieved student(s).

## Anti-Ragging Committee & Squad Members

Name of College: Parul Institute of Engineering & Technology

Address: At Post-Limda, Ta-Waghodia and Dist. Vadodara

Phone No: 02668-260204, Fax No: 02668-260201

Web Site: [www.paruluniversity.ac.in](http://www.paruluniversity.ac.in)

Email ID: [piet@paruluniversity.ac.in](mailto:piet@paruluniversity.ac.in)

Principal: Dr. Vipul Vekariya

### (a) Anti Ragging Committee

Sr. No.	Name of the Committee Members with their Current Designation	Role in the Committee	Mobile No. and Office Landline Number	Email ID
1	Dr. Vipul Vekariya (HOI)	Chairman	9909459540, 02668260204	<a href="mailto:piet@paruluniversity.ac.in">piet@paruluniversity.ac.in</a>
2	Dr. Babita Chaube (Campus Director)	Member	8140745181, 02668260313	<a href="mailto:babita.chaube@paruluniversity.ac.in">babita.chaube@paruluniversity.ac.in</a>
3	Dr. Mehul Gor (Vice-Principal)	Member	9428222405, 02668260226	<a href="mailto:viceprincipal.piet@paruluniversity.ac.in">viceprincipal.piet@paruluniversity.ac.in</a>
4	Dr. Shailendra K Mishra (HOD- CSE)	Member	9601492380, 02668260331	<a href="mailto:pietcomputerhod@paruluniversity.ac.in">pietcomputerhod@paruluniversity.ac.in</a>
5	Dr. Kamal Sutariya (HOD-CSE- AIML)	Member	9428232881, 02668260331	<a href="mailto:pietaimlhod@paruluniversity.ac.in">pietaimlhod@paruluniversity.ac.in</a>
6	Dr. Ankita Gandhi (HOD-CSE- IEP)	Member	9924302839	<a href="mailto:pietcseiephod@paruluniversity.ac.in">pietcseiephod@paruluniversity.ac.in</a>
7	Dr. Daxa Vekariya (HOD-CSE- CYBER)	Member	9909969540	<a href="mailto:pietcyberhod@paruluniversity.ac.in">pietcyberhod@paruluniversity.ac.in</a>
8	Dr. Sanjay Agal (HOD-CSE- AIDS)	Member	9928292870	<a href="mailto:pietaidshod@paruluniversity.ac.in">pietaidshod@paruluniversity.ac.in</a>
9	Dr. Pooja Sapra (HOD-IT)	Member	9582888389, 02668260385	<a href="mailto:pietithod@paruluniversity.ac.in">pietithod@paruluniversity.ac.in</a>
10	Prof. Imran Molvi (HOD-ME)	Member	9825525985, 02668-260341	<a href="mailto:pietmechanicalhod@paruluniversity.ac.in">pietmechanicalhod@paruluniversity.ac.in</a>
11	Dr. Komal Mehta (HOD-CV)	Member	9870090661, 02668-260339	<a href="mailto:pietcivilhod@paruluniversity.ac.in">pietcivilhod@paruluniversity.ac.in</a>
12	Prof. Rital Gajjar (HOD-EE)	Member	9427941055, 02668-260340	<a href="mailto:pietelectricalhod@paruluniversity.ac.in">pietelectricalhod@paruluniversity.ac.in</a>
13	Dr. Kalpesh Jadav (HOD-EC)	Member	9825837081, 02668-260345	<a href="mailto:pietechod@paruluniversity.ac.in">pietechod@paruluniversity.ac.in</a>
14	Dr. L. Balaji (HOD-AERO)	Member	9790115696, 02668-260318	<a href="mailto:pietaeronauticalhod@paruluniversity.ac.in">pietaeronauticalhod@paruluniversity.ac.in</a>
15	Dr. Mrudul Jani (HOD-ASH)	Member	9978929413	<a href="mailto:pietappliedscienceshod@paruluniversity.ac.in">pietappliedscienceshod@paruluniversity.ac.in</a>
16	Prof. Anil Patel (Sr. Faculty – CSE)	Member	9426890330	<a href="mailto:anilkumar.patel2986@paruluniversity.ac.in">anilkumar.patel2986@paruluniversity.ac.in</a>

17	Prof. Sapna Bhimajiyani (Sr. Faculty – IT)	Member	95272 26940	sapna.bhimajiyani35053@paruluniversity.ac.in
18	Prof. Purvesh Patel (Sr. Faculty – MECH)	Member	9428303895	purvesh.patel@paruluniversity.ac.in
19	Prof. Darshit Shah (Sr. Faculty – CV)	Member	9724134657	darshit.shah30367@paruluniversity.ac.in
20	Prof. Zankhna Joshi (Sr. Faculty – EE)	Member	9624597982	zankhana.joshi41983@paruluniversity.ac.in
21	Prof. Hardik Patel (Sr. Faculty – EC)	Member	9904464655	hardik.patel21577@paruluniversity.ac.in
22	Prof. D. Naveen (Sr. Faculty – AERO)	Member	8686591855	naveen.dubbaka35527@paruluniversity.ac.in
23	Dr. Rakeshkumar Mishra (Sr. Faculty – ASH)	Member	9473122585	rakeshkumar.mishra12731@paruluniversity.ac.in
24	Mr. Niraj Bhatt (Non-Teaching Staff)	Member	8141562095	niraj.bhatt@paruluniversity.ac.in
25	Kumari Vidhi (Fourth Year CSE Student)	Member	9472467799	mittalvidhi0704@gmail.com
26	Sompalli Manoj Kumar (Third Year CSE Student)	Member	9346853830	2303031241281@paruluniversity.ac.in
27	Mr. Ravi Kumar Shah B.Tech CSE 2nd Year (Parents of Student)	Member	9558809275	shahravi8707@gmail.com
28	Mr. N.S. Babu (Parent – B.Tech IT 4th Year)	Member	7567280574	suribabunaduri@gmail.com
29	Smt. Swati S. Bedekar (Representative of NGO, Vatsalya Foundation, Vadodara)	Member	9824058675	swatibedekar@gmail.com
30	Mr. Som Bhai (Head Constable, Waghodia Police Station)	Member	9909757424	—

**(b) Anti Ragging Squads**

Sr. No.	Name of the Committee Members with their Current Designation	Role in the Committee	Mobile No. and Office Landline Number	Email ID
1	Dr. Chaitanya Limbarkar (Sr. Faculty – ash)	Member	9974296555	chaitanya.limbarkar36481@paruluniversity.ac.in

2	Dr.setulaxmi narayanan (sr. Faculty – ash)	Member	9663741986	sethulakshmi.narayanan41540@paruluniversity.ac.in
3	Dr. Mahtab (sr. Faculty – cse-aiml)	Member	9911034271	mahtab.alam40472@paruluniversity.ac.in
4	Prof. Bilal khan pathan (sr. Faculty – cse- core)	Member	9021196538	bilalkhan.pathan29127@paruluniversity.ac.in
5	Prof. Vishal singh (sr. Faculty – cse-core)	Member	7633872665	vishal.singh39772@paruluniversity.ac.in
6	Dr. Mukesh patidar (sr. Faculty – cse-cyber)	Member	9770435369	mukesh.patidar34885@paruluniversity.ac.in
7	Ms. Parita sodagar (non-teaching staff)	Member	9099993938	parita.sodagar144008@paruluniversity.ac.in
8	Dev solanki (fourth year cse student)	Member	9313334741	devsolanki8347706744@gmail.com
9	Bhoomika.m (Second Year CSE cloudstudent)	Member	9686869359	2403031300002@paruluniversity.ac.in
10	Abhishek maram (second year cse aids student)	Member	9725941588	2403031590001@paruluniversity.ac.in

## **DETAILS ABOUT NEP-2020**

From an engineering perspective, the National Education Policy 2020 (NEP 2020) brings several key changes aimed at enhancing the quality and flexibility of engineering education in India:

- **Multidisciplinary Approach:** Engineering programs will integrate arts, humanities, and social sciences to foster holistic education and innovation.
- **Flexible Curriculum:** Introduction of flexible course structures with multiple entry and exit options, including certificates, diplomas, and degrees.
- **Research and Innovation:** Establishment of a National Research Foundation to promote research and innovation in engineering and technology.
- **Focus on Practical Skills:** Emphasis on experiential learning, internships, and industry partnerships to bridge the gap between theoretical knowledge and practical application.
- **Teacher Training:** Continuous professional development programs for engineering faculty to keep them updated with the latest advancements in technology and pedagogy.

## About the Program

### PROGRAM EDUCATIONAL OBJECTIVES

The statements below indicate the career and professional achievements that the B.Tech. Artificial Intelligence Engineering curriculum enables graduates to attain.

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.

### PROGRAM LEARNING OUTCOMES

<b>PLO 1</b>	<b>Engineering knowledge</b>	Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
<b>PLO 2</b>	<b>Problem analysis</b>	Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using the first principles of mathematics, natural sciences, and engineering sciences.
<b>PLO 3</b>	<b>Design/development of solutions</b>	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.
<b>PLO 4</b>	<b>Conduct investigations of complex problem</b>	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.
<b>PLO 5</b>	<b>Modern tool usage</b>	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.
<b>PLO 6</b>	<b>The engineer and society</b>	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.
<b>PLO 7</b>	<b>Ethics</b>	Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
<b>PLO 8</b>	<b>Individual and team work</b>	Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

<b>PLO 9</b>	<b>Communication</b>	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.
<b>PLO 10</b>	<b>Project management and finance</b>	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.
<b>PLO 11</b>	<b>Life-long Learning</b>	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.

### **PROGRAM SPECIFIC LEARNING OUTCOMES**

<b>PSO 1</b>	<b>Demand as per recent development</b>	Design the solutions as per the recent industrial demand objective.
<b>PSO 2</b>	<b>Software skill</b>	Test any apparatus and system with appropriate usage of software tools, and gather data for modelling system.



**ACADEMIC CALENDAR 2025-26**

<b>Sr. No.</b>	<b>Events</b>	<b>Date</b>
1	Commencement of Semester	24th November 2025
2	Weekly Exam	Every Saturday from 27th December 2025 to 31st January 2026
3	Mid-Sem Exam	9th February 2026
4	Mid-Sem Result Declaration	23rd February 2026
5	Teaching End	28th March 2026
6	End Sem Practical Exam	30th March to 11th April 2026
7	End Sem Theory Exam	13th April to 25th April 2026
8	End Sem Supplementary Exam	27th April 2026 Onwards
9	Parent Teacher Meeting	29th December 2025 to 2nd January 2026 23rd February 2025 to 7th March 2026
10	Semester Break	26th April to 7th June 2026
11	Commencement of Odd Sem 2026-27	8th June 2026

Faculty of Engineering & Technology				Parul® University		NAAC A++ ACCREDITED UNIVERSITY	
Academic Calendar (ACY 2025-26) (Even Term)							
Bachelor of Technology/Diploma Engineering/IEDP/M.Tech Courses (Reg Sem - IV, VI, VIII)							
Week	MONDAY	Tuesday	Wednesday	Thursday	Friday	Saturday	
01 Nov	24 Teaching Start	25	26	27	28	29	
02 Dec	01	02	03	04	05	06	
03	08	09	10	11	12	13	
04	15	16	17	18	19	20	
05	22	23	24	25 Christmas	26	27 Weekly 1	
06 Dec/Jan	29	30	31	01	02	03 Weekly 2	
07	05	06	07	08	09	10 Weekly 3	
08	12	13	14 Makar Sankranti	15 Sankranti - 2nd Day	16	17 Weekly 4	
09	19	20	21	22	23	24 Weekly 5	
10 Jan	26 Republic Day	27	28	29	30	31 Weekly 6	
11 Feb	02	03 Tech Expo	04 Tech Expo	05	06	07	
12	09 Mid Sem Exam	10 Mid Sem Exam	11 Mid Sem Exam	12 Mid Sem Exam	13 Mid Sem Exam	14 Mid Sem Exam	
13	16	17	18	19	20	21	
14	23	24	25	26	27	28	
15 Mar	02	03	04	05 Good Friday	06	07	
16	09	10	11	12	13	14	
17	16 TW Submission	17 TW Submission	18 TW Submission	19 TW Submission	20 Eid-ul-Fitra	21 TW Submission	
18	23	24	25	26 Ram Navami	27	28 Teaching End	
19 Mar/Apr	30 ESE (Practical)	31 Mahavir Janma Kalyanak	01 ESE (Practical)	02 ESE (Practical)	03 ESE (Practical)	04 ESE (Practical)	
20	06 ESE (Practical)	07 ESE (Practical)	08 ESE (Practical)	09 ESE (Practical)	10 ESE (Practical)	11 ESE (Practical)	
21	13 ESE (Theory)	14 Baba Saheb Ambedkar Birthdya	15 ESE (Theory)	16 ESE (Theory)	17 ESE (Theory)	18 ESE (Theory)	
22	20 ESE (Theory)	21 ESE (Theory)	22 ESE (Theory)	23 ESE (Theory)	24 ESE (Theory)	25 ESE (Theory)	
Important Notes	1. Marks Looking date by HOD : 23th March, 2026						
	2. Marks Looking date by Principal and Dean : 25th March, 2026						
Important Notes	3. End Sem Practical Dates : 30th March - 11th April, 2026						
	4. End Sem Theory Dates : 13th - 25th Apr, 2026						
	5. End Sem Supplementary Exam Dates : 27th April, 2026 Onwards						
	6. Mid Sem-F2(Remedial) grade Exam Dates:19th Jan,2026						
	7. New Term (Even) Commencement : 2nd week of June, 2026 Onwards						
<div>Dr. M. P. Jaiswal Dean - Faculty of Engg &amp; Tech</div>							

  
 Dean - Faculty of Engg & Tech

### **Weekly/Mid-Sem/University Exam Schedule**



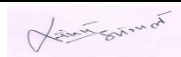

- **Weekly Examination** will be conducted every Saturday 27<sup>th</sup> December 2025 onwards.
- **Mid Sem Exam** will be conducted from 9<sup>th</sup> February to 14<sup>th</sup> February 2026.
- **Internal Term Work Submission** will be conducted from 16<sup>th</sup> March to 21<sup>st</sup> March 2026.
- **External Practical Exam** will be conducted from 30<sup>th</sup> March 2026 to 11<sup>th</sup> April 2026.
- **External Theory Exam** will be conducted from 13<sup>th</sup> April 2026 to 25<sup>th</sup> April 2026.


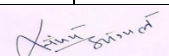
### **WEEKLY EXAM SCHEDULE**



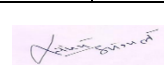
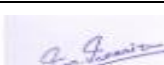
<b>Date</b>	<b>Time</b>	<b>Subject</b>
27-12-2025	7.30 pm to 08.00 pm	Weekly-1
03-01-2026	7.30 pm to 08.00 pm	Weekly -2
10-01-2026	7.30 pm to 08.00 pm	Weekly -3
17-01-2026	7.30 pm to 08.00 pm	Weekly -4
24-01-2026	7.30 pm to 08.00 pm	Weekly -5
31-01-2026	7.30 pm to 08.00 pm	Weekly -6

## Time-Table



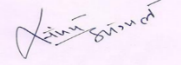

PARUL UNIVERSITY						 <b>Parul<sup>®</sup> University</b> NAAC GRADE <b>A++</b>	
FACULTY NAME: FACULTY OF ENGINEERING & TECHNOLOGY							
INSTITUTE NAME: PARUL INSTITUTE OF ENGINEERING & TECHNOLOGY							
ACADEMIC YEAR: 2025-26				YEAR: 2 <sup>ND</sup> YEAR			
SEMESTER: 4 <sup>TH</sup>				LEVEL: UG			
PROGRAM NAME: B.TECH ARTIFICIAL INTELLIGENCE & DATA SCIENCE				DIVISION: 4AIDS1		Effective from : 24-11-2025	
TIME	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	
7:30 - 8:25	4AIDS1:CN:PD:DS-303	4AIDS1:1:OS:BM: L-212	4AIDS1:PPFD:JJ:DS-303	4AIDS1:1:CC:SR:L-201	4AIDS1:PPFD:JJ:DS-303		
8:25 - 9:20	4AIDS1:OS:SP:DS-303	4AIDS1:2:CC:SR:L-213	4AIDS1:PSNM:SA:DS-303	4AIDS1:2:OS:SP:L-203	4AIDS1:PSN M:SA:DS-303		CODE CHEF
RECESS TIME: 09:20-09:30							
09:30 - 10:25	4AIDS1:SE:RMS:DS-303	4AIDS1:SE:RMS:DS-303	4AIDS1:SE:RMS:DS-303	4AIDS1:PPFD:JJ:DS-303	4AIDS1:1:CC:PKP:L-401		
10:25 - 11:20	4AIDS1:PSNM:SA:DS-303	4AIDS1:OS:SP:DS-303	4AIDS1:OS:SP:DS-303	4AIDS1:PSNM:SA:DS-303	4AIDS1:2:SE:RMS:L-402		CODE CHEF
RECESS TIME: 11:20 - 12:20							
12:20 - 01:15	4AIDS1:1:C C:SR:L-401	4AIDS1:PGPD:AZ:DS-306	4AIDS1:1:CN:PD:L-401	LIBRARY	4AIDS1:1:PPFD:JJ:L-401		
01:15 - 02:10	4AIDS1:2:SE:RMS:L-402	LIBRARY	4AIDS1:2:PPFD:JJ:L-402		4AIDS1:2:CN:PD:L-402		CODE CHEF
SUBJECT CODE	SUBJECT INITIALS	SUBJECT FULL NAME	STAFF INITIALS	STAFF NAME	STAFF EMAIL ID		
303105251	OS	Operating System(3,2)	SP	Mr. Sumersing Dayaram Patil	sumersing.patil34674@paruluniversity.ac.in		
303105252	OS	Operating System Laboratory	SP	Mr. Sumersing Dayaram Patil	sumersing.patil34674@paruluniversity.ac.in		
303105253	SE	Software Engineering(3,2)	RMS	Ramiz Raja	ramizraja.shethwala17532@paruluniversity.ac.in		
303105254	SE	Software Engineering Laboratory	RMS	Ramiz Raja	ramizraja.shethwala17532@paruluniversity.ac.in		
303105255	CN	Computer Network(3,2)	PD	Pragya Devi	pragya.singh33204@paruluniversity.ac.in		
303105256	CN	Computer Network Laboratory	PD	Pragya Devi	pragya.singh33204@paruluniversity.ac.in		
303105257	PPFD	Programming in Python with Full Stack Development(3,2)	JJ	Jyoti Joshi	jyoti.joshi40629@paruluniversity.ac.in		
303105258	PPFD	Programming in Python with Full Stack Development Laboratory	JJ	Jyoti Joshi	jyoti.joshi40629@paruluniversity.ac.in		
303191251	PSNM	Probability, Statistics and Numerical Methods(3,2)	SA	Dr. Suman Ahmed	suman.ahmed35788@paruluniversity.ac.in		
303193252	PGPD	Professional Grooming and Personality Development(1,0)	AZ	Dr. Alizehra Raza	alizehra.raza19436@paruluniversity.ac.in		
303105259	CC	Competitive Coding(0,4)	SR	Sreekar Reddy	sreekar.reddy40639@paruluniversity.ac.in		
CLASSROOM NO:		DS-306					
LAB/ TUTORIAL LOCATION:		L-401, L-402					
 <b>SIGN</b> <b>RUCHIKA KATARIYA</b> Time Table Coordinator		 <b>SIGN &amp; SEAL</b> <b>Dr. SANJAY AGAL</b> Head of Department		 <b>SIGN &amp; SEAL</b> <b>Principal / Dean</b>			

PARUL UNIVERSITY							 <b>Parul<sup>®</sup> University</b> NAAC GRADE <b>A++</b>
FACULTY NAME: FACULTY OF ENGINEERING & TECHNOLOGY							
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ACADEMIC YEAR: 2025-26				YEAR: 2 <sup>ND</sup> YEAR			
SEMESTER: 4 <sup>TH</sup>				LEVEL: UG			Effective from : 24-11-2025
PROGRAM NAME: B.TECH ARTIFICIAL INTELLIGENCE & DATA SCIENCE				DIVISION: 4AIDS2			
TIME	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	
7:30 - 8:25	CODE CHEF	4AIDS2:1:OS:NR K:L-201	4AIDS2:1:PPFD:J J:L-201	4AIDS2:PPFD:JJ: DS-302	4AIDS2:1:CN:AM S:L-201	4AIDS2:1:PKP:SM :L-201	
8:25 - 9:20		4AIDS2:1:CC:SR: L-203	4AIDS2:2:CN:AM S:L-203	4AIDS2:PSNM:S A:DS-302	4AIDS2:2:PPFD:J J:L-203	4AIDS2:2:OS:NRK :L-203	
RECESS TIME: 09:20-09:30							
09:30 - 10:25	CODE CHEF	4AIDS2:OS:NRK :DS-305	4AIDS2:CN:AMS: DS-305	4AIDS2:1:SE:RM S:L-401	LIBRARY	4AIDS2:PPFD:JJ:D S-303	
10:25 - 11:20		4AIDS2:SE:RMS: DS-305	4AIDS2:PSNM:S A:DS-305	4AIDS2:2:PKP:S M:L-402		4AIDS2:PSNM:SA :DS-303	
RECESS TIME: 11:20 - 12:20							
12:20 - 01:15	CODE CHEF	4AIDS2:1:PKP:S M:L-401	4AIDS2:SE:RMS: DS-305	4AIDS2:SE:RMS: DS-305	4AIDS2:PPFD:JJ: DS-303	4AIDS2:PGPD:M M:DS-305	
01:15 - 02:10		4AIDS2:2:SE:RM S:L-402	4AIDS2:OS:NRK: DS-305	4AIDS2:OS:NRK: DS-305	4AIDS2:PSNM:S A:DS-303	LIBRARY	
SUBJECT CODE		SUJECT INITIALS	SUBJECT FULL NAME		STAFF INITIALS	STAFF NAME	STAFF EMAIL ID
303105251		OS	Operating System(3,2)		NRK	Mr.nilesh r khodifad(nrk)	nilesh.khodifad34739@paruluniversity.ac.in
303105252		OS	Operating System Laboratory		NRK	Mr.Nilesh R Khodifad	nilesh.khodifad34739@paruluniversity.ac.in
303105253		SE	Software Engineering(3,2)		RMS	Ramiz Raja	ramizraja.shethwala17532@paruluniversity.ac.in
303105254		SE	Software Engineering Laboratory		RMS	Ramiz Raja	ramizraja.shethwala17532@paruluniversity.ac.in
303105255		CN	Computer Network(3,2)		AMS	Arya Manikya Sinha	arya.sinha40392@paruluniversity.ac.in
303105256		CN	Computer Network Laboratory		AMS	Arya Manikya Sinha	arya.sinha40392@paruluniversity.ac.in
303105257		PPFD	Programming in Python with Full Stack Development(3,2)		JJ	Jyoti Joshi	jyoti.joshi40629@paruluniversity.ac.in
303105258		PPFD	Programming in Python with Full Stack Development Laboratory		JJ	Jyoti Joshi	jyoti.joshi40629@paruluniversity.ac.in
303191251		PSNM	Probability, Statistics and Numerical Methods(3,2)		SA	Dr. Suman Ahmed	suman.ahmed35788@paruluniversity.ac.in
303193252		PGPD	Professional Grooming and Personality Development(1,0)		MM	Mohini Macwan	mohini.macwan20067@paruluniversity.ac.in
303105259		CC	Competitive Coding(0,4)		SR	Sreekar Reddy	sreekar.reddy40639@paruluniversity.ac.in
CLASSROOM NO:		DS -305					
LAB/ TUTORIAL LOCATION:		L-201, L-202, L-401, L-402					
 SIGN RUCHIKA KATARIYA Time Table Coordinator			 SIGN & SEAL Dr. SANJAY AGAL Head of Department			 SIGN & SEAL Principal / Dean	




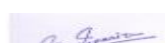
PARUL UNIVERSITY						 <b>Parul<sup>®</sup> University</b> NAAC GRADE A++	
FACULTY NAME: FACULTY OF ENGINEERING & TECHNOLOGY							
INSTITUTE NAME: PARUL INSTITUTE OF ENGINEERING & TECHNOLOGY							
ACADEMIC YEAR: 2025-26			YEAR: 2 <sup>ND</sup> YEAR				
SEMESTER: 4 <sup>TH</sup>			LEVEL: UG			Effective from : 24-11-2025	
PROGRAM NAME: B.TECH ARTIFICIAL INTELLIGENCE & DATA SCIENCE			DIVISION: 4AIDS3				
TIME	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	
7:30 - 8:25	4AIDS3:1:SE:SP: L-204	CODE CHEF	4AIDS3:1:CN:A MS:L-204	4AIDS3:1:CC:SR: L-204	LIBRARY	4AIDS3:1:OS:PD1 :L-201	
8:25 - 9:20	4AIDS3:2:CC:PK P:L-205		4AIDS3:2:CC:S R:L-205	4AIDS3:2:OS:PD1 :L-205	4AIDS3:OS:NB:D S-306	4AIDS3:2:PPFD:JJ :L-203	
RECESS TIME: 09:20-09:30							
09:30 - 10:25	4AIDS3:1:CC:PK P:L-403	CODE CHEF	4AIDS3:CN:AM S:DS-306	4AIDS3:PPFD:JJ: DS-302	4AIDS3:PPFD:JJ: DS-306	4AIDS3:SE:RMS: DS-307	
10:25 - 11:20	4AIDS3:2:SE:RM S:L-404		4AIDS3:PSNM: PS:DS-306	4AIDS3:PSNM:PS :DS-302	4AIDS3:PSNM:PS :DS-306	4AIDS3:OS:NB:DS -307	
RECESS TIME: 11:20 - 12:20							
12:20 - 01:15	4AIDS3:SE:RMS: DS-305	CODE CHEF	4AIDS3:PGPD: MM:DS-306	4AIDS3:1:PPFD:JJ :L-403	4AIDS3:SE:RMS: DS-311	4AIDS3:PPFD:JJ:D S-307	
01:15 - 02:10	4AIDS3:OS:NB:D S-305		LIBRARY	4AIDS3:2:CN:AM S:L-404	LIBRARY	4AIDS3:PSNM:PS: DS-307	
SUBJECT CODE	SUBJECT INITIALS		SUBJECT FULL NAME		STAFF INITIALS	STAFF NAME	STAFF EMAIL ID
303105251	OS	Operating System(3,2)		NB	Nikunj Bhavsar	nikunj.bhavsar32692@paruluniversity.ac.in	
303105252	OS	Operating System Laboratory		PD1	Prexa Desai	prexa.desai38095@paruluniversity.ac.in	
303105253	SE	Software Engineering(3,2)		RMS	Ramiz Raja	ramizraja.shethwala17532@paruluniversity.ac.in	
303105254	SE	Software Engineering Laboratory		RMS	Ramiz Raja	ramizraja.shethwala17532@paruluniversity.ac.in	
303105255	CN	Computer Network(3,2)		AMS	Arya Manikya Sinha	arya.sinha40392@paruluniversity.ac.in	
303105256	CN	Computer Network Laboratory		AMS	Arya Manikya Sinha	arya.sinha40392@paruluniversity.ac.in	
303105257	PPFD	Programming in Python with Full Stack Development(3,2)		JJ	Jyoti Joshi	jyoti.joshi40629@paruluniversity.ac.in	
303105258	PPFD	Programming in Python with Full Stack Development Laboratory		JJ	Jyoti Joshi	jyoti.joshi40629@paruluniversity.ac.in	
303191251	PSNM	Probability, Statistics and Numerical Methods(3,2)		PS	Poonam Saravag	poonam.saravag39312@paruluniversity.ac.in	
303193252	PGPD	Professional Grooming and Personality Development(1,0)		MM	Mohini Macwan	mohini.macwan20067@paruluniversity.ac.in	
303105259	CC	Competitive Coding(0,4)		SR	Sreekar Reddy	sreekar.reddy40639@paruluniversity.ac.in	
CLASSROOM NO:		DS-306					
LAB/ TUTORIAL LOCATION:		L-204,L-205, L-403,L-404					
 SIGN RUCHIKA KATARIYA Time Table Coordinator		 SIGN & SEAL Dr. SANJAY AGAL Head of Department		 SIGN & SEAL Principal / Dean			



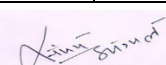
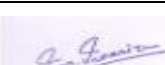
PARUL UNIVERSITY						 <b>Parul<sup>®</sup> University</b> NAAC GRADE <b>A++</b>
FACULTY NAME: FACULTY OF ENGINEERING & TECHNOLOGY						
INSTITUTE NAME: PARUL INSTITUTE OF ENGINEERING & TECHNOLOGY						
ACADEMIC YEAR: 2025-26			YEAR: 2 <sup>ND</sup> YEAR			
SEMESTER: 4 <sup>TH</sup>			LEVEL: UG			
PROGRAM NAME: B.TECH ARTIFICIAL INTELLIGENCE & DATA SCIENCE			DIVISION: 4AIDS4			Effective from : 24-11-2025
TIME	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
7:30 - 8:25	4AIDS4:1:OS:PD1:L-206	4AIDS4:1:PPF D:IT:L-206	CODE CHEF	4AIDS4:1:CC: PKP:L-206	4AIDS4:SE:DP:DS -305	4AIDS4:1:SE:DP: L-206
8:25 - 9:20	4AIDS4:2:CC:BS:L-207	4AIDS4:2:CN: AT:L-207		4AIDS4:2:SE: DP:L-207	4AIDS4:OS:PD1: DS-305	4AIDS4:2:CC:BS: L-207
RECESS TIME: 09:20-09:30						
09:30 - 10:25	4AIDS4:SE:DP:DS-306	4AIDS4:1:CC: PKP:L-403	CODE CHEF	4AIDS4:SE:D P:DS-305	4AIDS4:1:CN:AT: L-403	4AIDS4:PPFD:IT: DS-305
10:25 - 11:20	4AIDS4:OS:PD1:DS-306	4AIDS4:2:OS: PD1:L-404		4AIDS4:OS:P D1:DS-305	4AIDS4:2:PPFD:I T:L-404	4AIDS4:PSNM:PS :DS-305
RECESS TIME: 11:20 - 12:20						
12:20 - 01:15	4AIDS4:CN:AT:DS-306	LIBRARY	CODE CHEF	4AIDS4:PPFD :IT:DS-306	4AIDS4:PPFD:IT: DS-305	LIBRARY
01:15 - 02:10	4AIDS4:PSNM:PS:DS -306	4AIDS2:PGPD :RB:DS-305		4AIDS4:PSN M:PS:DS-306	4AIDS4:PSNM:PS :DS-305	
SUBJECT CODE	SUJECT INITIALS	SUBJECT FULL NAME		STAFF INITIALS	STAFF NAME	STAFF EMAIL ID
303105251	OS	Operating System(3,2)		PD1	Prexa Desai	prexa.desai38095@paruluniversity.ac.in
303105252	OS	Operating System Laboratory		PD1	Prexa Desai	prexa.desai38095@paruluniversity.ac.in
303105253	SE	Software Engineering(3,2)		DP	Deepak Palavalasa	deepak.palavalasa40371@paruluniversity.ac.in
303105254	SE	Software Engineering Laboratory		DP	Deepak Palavalasa	deepak.palavalasa40371@paruluniversity.ac.in
303105255	CN	Computer Network(3,2)		AT	Anubhav Tomar	anubhav.tomar40365@paruluniversity.ac.in
303105256	CN	Computer Network Laboratory		AT	Anubhav Tomar	anubhav.tomar40365@paruluniversity.ac.in
303105257	PPFD	Programming in Python with Full Stack Development(3,2)		IT	Ishika Tomar	ishika.tomar41781@paruluniversity.ac.in
303105258	PPFD	Programming in Python with Full Stack Development Laboratory		IT	Ishika Tomar	ishika.tomar41781@paruluniversity.ac.in
303191251	PSNM	Probability, Statistics and Numerical Methods(3,2)		PS	Poonam Saravag	poonam.saravag39312@paruluniversity.ac.in
303193252	PGPD	Professional Grooming and Personality Development(1,0)		RB	Ms. Radhika Bali	radhika.bali41284@paruluniversity.ac.in
303105259	CC	Competitive Coding(0,4)		BS	Bibrata Sarkar	bibrata.sarkar41919@paruluniversity.ac.in
CLASSROOM NO:		DS-305, DS-306				
LAB/ TUTORIAL LOCATION:		L-206, L-207, L-403, L-404				
 SIGN RUCHIKA KATARIYA Time Table Coordinator		 SIGN & SEAL Dr. SANJAY AGAL Head of Department		 SIGN & SEAL Principal / Dean		

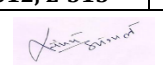




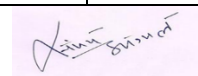

PARUL UNIVERSITY							 <b>Parul<sup>®</sup> University</b> <b>NAAC GRADE A++</b>
FACULTY NAME: FACULTY OF ENGINEERING & TECHNOLOGY							
INSTITUTE NAME: PARUL INSTITUTE OF ENGINEERING & TECHNOLOGY							
ACADEMIC YEAR: 2025-26				YEAR: 2 <sup>ND</sup> YEAR			
SEMESTER: 4 <sup>TH</sup>				LEVEL: UG		Effective from : 24-11-2025	
PROGRAM NAME: B.TECH ARTIFICIAL INTELLIGENCE & DATA SCIENCE				DIVISION: 4AIDS5			
TIME	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	
7:30 - 8:25	4AIDS5:1:PPFD:I T:L-208	4AIDS5:SE:DP:DS- 306	4AIDS5:1:OS: PD1:L-208	CODE CHEF	4AIDS5:OS:PD 1:DS-302	4AIDS5:1:CC:AY: L-208	
8:25 - 9:20	4AIDS5:2:CC:PKP :L-209	4AIDS5:OS:PD1:DS- 306	4AIDS5:2:CN: AT:L-209		4AIDS5:PSNM :MK:DS-302	4AIDS5:2:SE:DP: L-209	
RECESS TIME: 09:20-09:30							
09:30 - 10:25	4AIDS5:OS:PD1:D S-307	4AIDS5:PPFD:IT:DS- 306	4AIDS5:1:CC: PKP:L-403	CODE CHEF	4AIDS5:SE:DP :DS-305	LIBRARY	
10:25 - 11:20	4AIDS5:SE:DP:DS -307	4AIDS5:PSNM:MK:D S-306	4AIDS5:2:OS: PD1:L-404		4AIDS5:CN:AT :DS-305		
RECESS TIME: 11:20 - 12:20							
12:20 - 01:15	4AIDS5:PPFD:IT: DS-307	4AIDS5:1:CN:AT:L- 403	4AIDS5:PPFD: IT:DS-303	CODE CHEF	4AIDS5:1:SE: DP:L-403	LIBRARY	
01:15 - 02:10	4AIDS5:PSNM:M K:DS-307	4AIDS5:2:PPFD:IT:L- 404	4AIDS5:PSNM :MK:DS-303		4AIDS5:2:CC: PKP:L-404	4AIDS5:PGPD:P C:DS-305	
SUBJECT CODE	SUJECT INITIALS	SUBJECT FULL NAME	STAFF INITIALS	STAFF NAME	STAFF EMAIL ID		
303105251	OS	Operating System(3,2)	PD1	Prexa Desai	prexa.desai38095@parul university.ac.in		
303105252	OS	Operating System Laboratory	PD1	Prexa Desai	prexa.desai38095@parul university.ac.in		
303105253	SE	Software Engineering(3,2)	DP	Deepak Palavalasa	deepak.palavalasa40371@paruluniversity.ac.in		
303105254	SE	Software Engineering Laboratory	DP	Deepak Palavalasa	deepak.palavalasa40371@paruluniversity.ac.in		
303105255	CN	Computer Network(3,2)	AT	Anubhav Tomar	anubhav.tomar40365@pa ruluniversity.ac.in		
303105256	CN	Computer Network Laboratory	AT	Anubhav Tomar	anubhav.tomar40365@pa ruluniversity.ac.in		
303105257	PPFD	Programming in Python with Full Stack Development(3,2)	IT	Ishika Tomar	ishika.tomar41781@parul university.ac.in		
303105258	PPFD	Programming in Python with Full Stack Development Laboratory	IT	Ishika Tomar	ishika.tomar41781@parul university.ac.in		
303191251	PSNM	Probability, Statistics and Numerical Methods(3,2)	MK	Dr. Mohd Kashif	kashif.mohd36303@parul university.ac.in		
303193252	PGPD	Professional Grooming and Personality Development(1,0)	PC	Pratima Chaudhari	pratimaben.chaudhari358 91@paruluniversity.ac.in		
303105259	CC	Competitive Coding(0,4)	AY	Akash Yadav	akash.yadav42094@parul university.ac.in		
CLASSROOM NO:		DS-303, DS-306,DS-307					
LAB/ TUTORIAL LOCATION:		L-208,L-209, L403,L-404					
 SIGN RUCHIKA KATARIYA Time Table Coordinator		 SIGN & SEAL Dr. SANJAY AGAL Head of Department		 SIGN & SEAL Principal / Dean			



<b>PARUL UNIVERSITY</b>					 <b>Parul<sup>®</sup> University</b> <b>NAAC GRADE A++</b>	
<b>FACULTY NAME:</b> FACULTY OF ENGINEERING & TECHNOLOGY						
<b>INSTITUTE NAME:</b> PARUL INSTITUTE OF ENGINEERING & TECHNOLOGY						
<b>ACADEMIC YEAR:</b> 2025-26			<b>YEAR:</b> 2 <sup>ND</sup> YEAR			
<b>SEMESTER:</b> 4 <sup>TH</sup>			<b>LEVEL:</b> UG			
<b>PROGRAM NAME:</b> B.TECH ARTIFICIAL INTELLIGENCE & DATA SCIENCE			<b>DIVISION:</b> 4AIDS6		<b>Effective from : 24-11-2025</b>	
<b>TIME</b>	<b>MONDAY</b>	<b>TUESDAY</b>	<b>WEDNESDAY</b>	<b>THURSDAY</b>	<b>FRIDAY</b>	<b>SATURDAY</b>
<b>7:30 - 8:25</b>	4AIDS6:SE:AG:DS-305	4AIDS6:1:OS:SS:L-204	4AIDS6:PGPD:P M:DS-305	4AIDS6:1:PPF D:IT:L-201	CODE CHEF	4AIDS6:1:CC:AY:L-204
<b>8:25 - 9:20</b>	4AIDS6:PPFD:IT:DS-305	4AIDS6:2:CC:AY:L-205	4AIDS6:SE:AG:D S-305	4AIDS6:2:CN:SMN:L-203		4AIDS6:2:OS:SS:L-205
<b>RECESS TIME: 09:20-09:30</b>						
<b>09:30 - 10:25</b>	4AIDS6:OS:SS:DS-310	4AIDS6:SE:AG:DS-307	4AIDS6:1:SE:AG:L-403	4AIDS6:IT:NG:DS-306	CODE CHEF	4AIDS6:CN:SMN:D S-306
<b>10:25 - 11:20</b>	4AIDS6:PSNM:BV M:DS-310	4AIDS6:OS:SS:DS-307	4AIDS6:2:CC:AY:L-404	4AIDS6:PSNM:BVM:DS-306		4AIDS6:PSNM:BV M:DS-306
<b>RECESS TIME: 11:20 - 12:20</b>						
<b>12:20 - 01:15</b>	4AIDS6:1:CC:AY:L-403	4AIDS6:PPFD:IT:DS-307	LIBRARY	LIBRARY	CODE CHEF	4AIDS6:1:CN:SMN:L-403
<b>01:15 - 02:10</b>	4AIDS6:2:SE:AG:L-404	4AIDS6:PSNM:BV M:DS-307	4AIDS6:OS:SS:DS-306			4AIDS6:2:PPFD:IT:L-404
<b>SUBJECT CODE</b>	<b>SUJECT INITIALS</b>	<b>SUBJECT FULL NAME</b>	<b>STAFF INITIALS</b>	<b>STAFF NAME</b>	<b>STAFF EMAIL ID</b>	
303105251	OS	Operating System(3,2)	SS	Saikat Samanta	saikat.samanta40351@paruluniversity.ac.in	
303105252	OS	Operating System Laboratory	SS	Saikat Samanta	saikat.samanta40351@paruluniversity.ac.in	
303105253	SE	Software Engineering(3,2)	AG	Assem Gupta	aseem.gupta41631@paruluniversity.ac.in	
303105254	SE	Software Engineering Laboratory	AG	Assem Gupta	aseem.gupta41631@paruluniversity.ac.in	
303105255	CN	Computer Network(3,2)	SMN	Shaikh Mohd Maaz Naimoddin	mohdmaaz.shaikh34635@paruluniversity.ac.in	
303105256	CN	Computer Network Laboratory	SMN	Shaikh Mohd Maaz Naimoddin	mohdmaaz.shaikh34635@paruluniversity.ac.in	
303105257	PPFD	Programming in Python with Full Stack Development(3,2)	IT	Ishika Tomar	ishika.tomar41781@paruluniversity.ac.in	
303105258	PPFD	Programming in Python with Full Stack Development Laboratory	IT	Ishika Tomar	ishika.tomar41781@paruluniversity.ac.in	
303191251	PSNM	Probability, Statistics and Numerical Methods(3,2)	BVM	Ms. Bhumika Makwana	bhumikaben.makwana30157@paruluniversity.ac.in	
303193252	PGPD	Professional Grooming and Personality Development(1,0)	PM	Ms. Preeti Meghnani	preeti.menghani@paruluniversity.ac.in	
303105259	CC	Competitive Coding(0,4)	AY	Akash Yadav	mehulkumar.chauhan24701@paruluniversity.ac.in	
<b>CLASSROOM NO:</b>		<b>DS-305, DS-306, DS-310</b>				
<b>LAB/ TUTORIAL LOCATION:</b>		<b>L-204, L-205, L-403, L-404</b>				
 <b>SIGN</b> <b>RUCHIKA KATARIYA</b> <b>Time Table Coordinator</b>		 <b>SIGN &amp; SEAL</b> <b>Dr. SANJAY AGAL</b> <b>Head of Department</b>		 <b>SIGN &amp; SEAL</b> <b>Principal / Dean</b>		

PARUL UNIVERSITY							 <b>Parul<sup>®</sup> University</b> NAAC GRADE <b>A++</b>
FACULTY NAME: FACULTY OF ENGINEERING & TECHNOLOGY							
INSTITUTE NAME: PARUL INSTITUTE OF ENGINEERING & TECHNOLOGY							
ACADEMIC YEAR: 2025-26				YEAR: 2 <sup>ND</sup> YEAR			
SEMESTER: 4 <sup>TH</sup>				LEVEL: UG			Effective from : 24-11-2025
PROGRAM NAME: B.TECH ARTIFICIAL INTELLIGENCE & DATA SCIENCE				DIVISION: 4AIDS7			
TIME	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	
7:30 - 8:25	4AIDS7:1:CC: VV:L-403	4AIDS7:1:CN:SMN :L-208	4AIDS7:1:OS:SS:L-206	4AIDS7:1:SE:AG: L-403	4AIDS7:1:CC:VV :L-206	CODE CHEF	
8:25 - 9:20	4AIDS7:2:OS: SS:L-404	4AIDS7:2:CC:VV:L -209	4AIDS7:2:CC:VV:L -207	4AIDS7:2:PPFD:A K:L-404	4AIDS7:2:SE:AG :L-207		
RECESS TIME: 09:20-09:30							
09:30 - 10:25	LIBRARY	4AIDS7:PPFD:AK: DS-310	4AIDS7:PPFD:AK: DS-307	4AIDS7:1:PPFD:A K:L-403	4AIDS7:SE:AG: DS-307	CODE CHEF	
10:25 - 11:20		4AIDS7:PSNM:PK P:DS-310	4AIDS7:OS:SS:DS-307	4AIDS7:2:CN:SM N:L-404	4AIDS7:PSNM:P KP:DS-307		
RECESS TIME: 11:20 - 12:20							
12:20 - 01:15	4AIDS7:PPFD: AK:DS-310	4AIDS7:SE:AG:DS-310	4AIDS7:CN:SMN:D S-307	4AIDS7:SE:AG:DS -307	4AIDS7:PGPD:I SC:DS-307	CODE CHEF	
01:15 - 02:10	4AIDS7:PSNM :SC:DS-310	4AIDS7:OS:SS:DS-310	4AIDS7:PSNM:PK P:DS-307	4AIDS7:OS:SS:DS -307	LIBRARY		
SUBJECT CODE	SUJECT INITIALS	SUBJECT FULL NAME		STAFF INITIALS	STAFF NAME	STAFF EMAIL ID	
303105251	OS	Operating System(3,2)		SS	Saikat Samanta	saikat.samanta40351@paruluniversity.ac.in	
303105252	OS	Operating System Laboratory		SS	Saikat Samanta	saikat.samanta40351@paruluniversity.ac.in	
303105253	SE	Software Engineering(3,2)		AG	Assem Gupta	aseem.gupta41631@paruluniversity.ac.in	
303105254	SE	Software Engineering Laboratory		AG	Assem Gupta	aseem.gupta41631@paruluniversity.ac.in	
303105255	CN	Computer Network(3,2)		SMN	Shaikh Mohd Maaz Naimoddin	mohdmaaz.shaikh34635@paruluniversity.ac.in	
303105256	CN	Computer Network Laboratory		SMN	Shaikh Mohd Maaz Naimoddin	mohdmaaz.shaikh34635@paruluniversity.ac.in	
303105257	PPFD	Programming in Python with Full Stack Development(3,2)		AK	Amrish Khari	amikdbond@gmail.com	
303105258	PPFD	Programming in Python with Full Stack Development Laboratory		AK	Amrish Khari	amikdbond@gmail.com	
303191251	PSNM	Probability, Statistics and Numerical Methods(3,2)		PKP	Pola K Parth	parth.pola21273@paruluniversity.ac.in	
303193252	PGPD	Professional Grooming and Personality Development(1,0)		SC	Shivani Chourasia	shivani.kumari36832@paruluniversity.ac.in	
303105259	CC	Competitive Coding(0,4)		VV	Venkatesh Vallepu	venkatesh.vallepu40641@paruluniversity.ac.in	
CLASSROOM NO:		DS-307,DS-310					
LAB/ TUTORIAL LOCATION:		L-208,L-209,L-403, L-404					
 SIGN RUCHIKA KATARIYA Time Table Coordinator		 SIGN & SEAL Dr. SANJAY AGAL Head of Department		 SIGN & SEAL Principal / Dean			

<b>PARUL UNIVERSITY</b>						 <b>Parul<sup>®</sup> University</b> <b>NAAC GRADE A++</b>
<b>FACULTY NAME:</b> FACULTY OF ENGINEERING & TECHNOLOGY						
<b>INSTITUTE NAME:</b> PARUL INSTITUTE OF ENGINEERING & TECHNOLOGY						
<b>ACADEMIC YEAR:</b> 2025-26			<b>YEAR:</b> 2 <sup>ND</sup> YEAR			
<b>SEMESTER:</b> 4 <sup>TH</sup>			<b>LEVEL:</b> UG			
<b>PROGRAM NAME:</b> B.TECH ARTIFICIAL INTELLIGENCE & DATA SCIENCE			<b>DIVISION:</b> 4AIDS8			<b>Effective from : 24-11-2025</b>
<b>TIME</b>	<b>MONDAY</b>	<b>TUESDAY</b>	<b>WEDNESDAY</b>	<b>THURSDAY</b>	<b>FRIDAY</b>	<b>SATURDAY</b>
<b>7:30 - 8:25</b>	CODE CHEF	4AIDS8:PPF D:AK:DS-301	4AIDS8:1:CC:VV: L-212	4AIDS8:1:OS:SS: L-213	4AIDS8:1:SE:KR :L-204	4AIDS8:1:CC:VV:L -210
<b>8:25 - 9:20</b>		4AIDS8:PSN M:PKP:DS-301	4AIDS8:2:OS:SS:L -213	4AIDS8:2:CC:VV: L-214	4AIDS8:2:CC:VV :L-205	4AIDS8:2:SE:KR:L -211
<b>RECESS TIME: 09:20-09:30</b>						
<b>09:30 - 10:25</b>	CODE CHEF	4AIDS8:OS:S S:DS-311	4AIDS8:PPFD:AK: DS-311	4AIDS8:CN:MA:D S-307	4AIDS8:1:PPFD: IT:L-312	LIBRARY
<b>10:25 - 11:20</b>		4AIDS8:SE:K R:DS-311	4AIDS8:PSNM:PK P:DS-311	4AIDS8:PSNM:P KP:DS-307	4AIDS8:2:CN:M A:L-313	
<b>RECESS TIME: 11:20 - 12:20</b>						
<b>12:20 - 01:15</b>	CODE CHEF	4AIDS8:1:CN :MA:L-312	4AIDS8:OS:SS:DS- 311	4AIDS8:PPFD:AK :DS-311	4AIDS8:OS:SS:D S-306	4AIDS7:PGPD:PT: DS-306
<b>01:15 - 02:10</b>		4AIDS8:2:PP FD:AK:L-313	4AIDS8:SE:KR:DS -311	4AIDS8:PSNM:P KP:DS-311	4AIDS8:SE:KR:D S-306	LIBRARY
<b>SUBJECT CODE</b>	<b>SUBJECT INITIALS</b>	<b>SUBJECT FULL NAME</b>		<b>STAFF INITIALS</b>	<b>STAFF NAME</b>	<b>STAFF EMAIL ID</b>
303105353	ML	Machine Learning(3,2)		SS	Saikat Samanta	saikat.samanta40351@paruluniversity.ac.in
303105354	ML LAB	Machine Learning Laboratory		SS	Saikat Samanta	saikat.samanta40351@paruluniversity.ac.in
303105349	CD	Compiler Design(3,2)		KR	Krishna M Raulji	krishnaben.raulji23529@paruluniversity.ac.in
303105350	CD LAB	Compiler Design laboratory		KR	Krishna M Raulji	krishnaben.raulji23529@paruluniversity.ac.in
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303105386	MEARN LAB	MEA(R)N Stack Web Development(PEC-02) Laboratory		PT	Poonam Thaker	poonam.thaker26707@paruluniversity.ac.in
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<b>CLASSROOM NO:</b>		<b>DS-306, DS-311</b>				
<b>LAB/ TUTORIAL LOCATION:</b>		<b>L-213,L-214, L-312, L-313</b>				
 <b>SIGN</b> <b>RUCHIKA KATARIYA</b> <b>Time Table Coordinator</b>		 <b>SIGN &amp; SEAL</b> <b>Dr. SANJAY AGAL</b> <b>Head of Department</b>		 <b>SIGN &amp; SEAL</b> <b>Principal / Dean</b>		

PARUL UNIVERSITY						 <b>Parul<sup>®</sup> University</b> NAAC GRADE A++	
FACULTY NAME: FACULTY OF ENGINEERING & TECHNOLOGY							
INSTITUTE NAME: PARUL INSTITUTE OF ENGINEERING & TECHNOLOGY							
ACADEMIC YEAR: 2025-26				YEAR: 2 <sup>ND</sup> YEAR			
SEMESTER: 4 <sup>TH</sup>				LEVEL: UG			
PROGRAM NAME: B.TECH ARTIFICIAL INTELLIGENCE & DATA SCIENCE				DIVISION: 4AIDS9		Effective from : 24-11-2025	
TIME	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	
7:30 - 8:25	4AIDS9:PPFD:AK:DS-301	CODE CHEF	4AIDS9:1:SE:KR:L-403	4AIDS9:1:CC:VV:L-201	4AIDS9:1:OS:SP:L-403	4AIDS9:PGPD:PC:DS-303	
8:25 - 9:20	4AIDS9:PSNM:BV:M:DS-301		4AIDS9:2:CC:VV:L-404	4AIDS9:2:SE:AG:L-203	4AIDS9:2:CC:VV:L-404	LIBRARY	
RECESS TIME: 09:20-09:30							
09:30 - 10:25	4AIDS9:1:CC:VV:L-312	CODE CHEF	4AIDS9:PPFD:NM:DS-310	4AIDS9:SE:KR:DS-310	4AIDS9:SE:KR:DS-310	4AIDS9:1:PPFD:NM:L-403	
10:25 - 11:20	4AIDS9:2:OS:SP:L-313		4AIDS9:PSNM:BVM:DS-310	4AIDS9:OS:SP:DS-310	4AIDS9:OS:SP:DS-310	4AIDS9:2:CN:MA:L-404	
RECESS TIME: 11:20 - 12:20							
12:20 - 01:15	4AIDS9:1:CN:MA:L-312	CODE CHEF	4AIDS9:SE:KR:DS-310	4AIDS9:NM:IT:DS-310	4AIDS9:CN:MA:D S-310	LIBRARY	
01:15 - 02:10	4AIDS9:2:PPFD:AK:L-313		4AIDS9:OS:SP:DS-310	4AIDS9:PSNM:BV:M:DS-310	4AIDS9:PSNM:BV:M:DS-310		
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303105350	CD LAB	Compiler Design laboratory		KR	Krishna M Raulji	krishnaben.raulji23529@paruluniversity.ac.in	
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303105356	HPC LAB	High Performance Computing Laboratory		MA	Mohammad Arif	mohammad.arif41429@paruluniversity.ac.in	
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303105386	MEARN LAB	MEA(R)N Stack Web Development(PEC-02) Laboratory		PC	Pratima Chaudhari	pratimaben.chaudhari35891@paruluniversity.ac.in	
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CLASSROOM NO:		DS-301, DS-310					
LAB/ TUTORIAL LOCATION:		L-312,L-313, L-403, L-404					
 SIGN RUCHIKA KATARIYA Time Table Coordinator		 SIGN & SEAL Dr. SANJAY AGAL Head of Department		 SIGN & SEAL Principal / Dean			

**LIST OF HOLIDAYS****PARULUNIVERSITY****List Of Holiday for Even Sem 2025-26**

SR.NO.	DATE	DAY
1.	25 <sup>th</sup> December 2025	Christmas
2.	14 <sup>th</sup> January 2026	Makar Sankranti
3.	15 <sup>th</sup> January 2026	Sankranti 2 <sup>nd</sup> Day
4.	26 <sup>th</sup> January 2026	Republic Day
5.	05 <sup>th</sup> March 2026	Dhuleti
6.	20 <sup>th</sup> March 2026	Eid-Ul-Fitra
7.	26 <sup>th</sup> March 2026	Ram Navami
8.	31 <sup>st</sup> March 2026	Mahavir Janma Kalvanak
9.	14 <sup>th</sup> April 2026	Baba Saheb Ambedkar Birthday

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## 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.	
303105251	Operating System	3	3	0	0	20	-	20	60	-	40	-	100
303105252	Operating System Laboratory	1	0	2	0	-	20	-	-	30	-	25	50
303105253	Software Engineering	3	3	0	0	20	-	20	60	-	40	-	100
303105254	Software Engineering Laboratory	1	0	2	0	-	20	-	-	30	-	25	50
303105255	Computer Network	3	3	0	0	20	-	20	60	-	40	-	100
303105256	Computer Network Laboratory	1	0	2	0	-	20	-	-	30	-	25	50
303105257	Programming in Python with Full Stack Development	3	3	0	0	20	-	20	60	-	40	-	100
303105258	Programming in Python with Full Stack Development Laboratory	1	0	2	0	-	20	-	-	30	-	25	50
303105259	Competitive Coding	2	-	4	-	-	20	-	-	30	-	25	50
303191251	Probability, Statistics and Numerical Methods	4	4	-	-	20	-	20	60	-	40	-	100
303193252	Professional Grooming and Personality Development	1	-	-	1	-	-	100	-	-	40	-	100
Total		23	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**

**Course:** BTech

**Semester:** 4

**Prerequisite:** Fundamentals of Computer Systems

**Rationale :** : 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. The approach of the subject is from both a theoretical perspective as well as a practical one.

**Teaching and Examination Scheme**

Teaching Scheme					Examination Scheme					Total
Lecture Hrs/Week	Tutorial Hrs/Week	Lab Hrs/Week	Seminar Hrs/Week	Credit	Internal Marks			External Marks		
					T	CE	P	T	P	
3	0	6	-	3	20	20	-	60	-	100

**SEE** - Semester End Examination, **T** - Theory, **P** – Practical

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

Sr.	Topics	W	T
1	<b>INTRODUCTION:</b> 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	<b>PROCESSES, THREAD &amp; PROCESS SCHEDULING:</b> 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	<b>INTER-PROCESS COMMUNICATION:</b> Critical Section, Race Conditions, Mutual Exclusion, Hardware Solution, Strict Alternation, Peterson's Solution, The Producer\ Consumer Problem, Semaphores, Event Counters, Monitors, Message Passing, Classical IPC Problems: Reader's & Writer Problem, Dining Philosopher Problem etc	15	6
4	<b>DEADLOCKS:</b> Definition, Necessary and sufficient conditions for Deadlock, Deadlock Prevention, Deadlock Avoidance: Banker's algorithm, Deadlock detection and Recovery.	10	5



5	<b>MEMORY MANAGEMENT &amp; VIRTUAL MEMORY:</b> 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	<b>I/O SYSTEMS, FILE &amp; DISK MANAGEMENT:</b> 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
<b>Total</b>		<b>100</b>	<b>45</b>

#### Reference Books

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

#### Course Outcomes

**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.

**Course:** BTech

**Semester:** 4

**Prerequisite:** Data Structures and Algorithms, Good working knowledge of C, and Fundamentals of Computer Systems.

**Rationale :** 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, and algorithms, programming, and security. We will approach the subject from both a theoretical perspective as well as a practical one

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

SEE - Semester End Examination, T - Theory, P - Practical

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.

Course Outcome
<b>After Learning the Course the students shall be able to:</b>
1. Experiment with Linux commands and shell programming.
2. Able to build shell program for process and file system management with system calls.
3. Able to implement and analyse the performance of CPU scheduling algorithm.
4. Able to implement and analyse the performance of page replacement algorithms.
5. Able to implement and analyse the performance of deadlock avoidance and detection algorithm.

**Course:** BTech

**Semester:** 4

**Prerequisite:** Basic knowledge of software applications

**Rationale :** This course provides a broad introduction to software engineering. The various process models required to develop software is also being described. Moreover the functional and non-functional requirements are also described

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

SEE - Semester End Examination, T - Theory, P - Practical

Course Content		W - Weightage (%) , T - Teaching hours	
Sr.	Topics	W	T
1	<b>Introduction:</b> Study of Different Models, Software Characteristics, Components, Applications, Layered Technologies, Processes, Methods and Tools, Generic View Of Software Engineering, Process Models- Waterfall model, Incremental, Evolutionary process models- Prototype, Spiral And Concurrent Development Model <b>Agile Development :</b> Agility and Agile Process model, Extreme Programming, Other process models of Agile Development and Tools.	10	6
2	<b>Software Project Management:</b> Management Spectrum, People 'Product 'Process- Project, W5HH Principle, Importance of Team Management Planning a Software Project : Scope and Feasibility, Effort Estimation, Schedule and staffing, Quality Planning, Risk management- identification, assessment, control, project monitoring plan, Detailed Scheduling	10	5
3	<b>Requirements Engineering:</b> Problem Recognition, Requirement Engineering tasks, Processes, Requirements Specification, Use cases and Functional specification, Requirements validation, Requirements Analysis	10	5
4	<b>Structured System Design:</b> Design Concepts, Design Model, Software Architecture, Data Design, Architectural Styles and Patterns, Architectural Design, Alternative architectural designs, Modeling Component level design and its modeling, Procedural Design, Object Oriented Design. <b>Data Oriented Analysis &amp; Design :</b> Difference between Data and Information, E-R Diagram, Dataflow Model, Control Flow Model, Control and Process Specification, Data Dictionary	15	5
5	<b>Coding and Unit Testing:</b> Programming principles and guidelines, Programming practices, Coding standards, Incremental development of code, Management of code evaluation, Unit testing- procedural units, classes, Code Inspection, Metrics- size measure, complexity metrics, Cyclomatic Complexity, Halstead measure, Knot Count, Comparison Of Different Metrics	10	4



6	<b>Software Testing and Quality Assurance:</b> Concepts, Psychology of testing, Levels of testing, Testing Process- test plan, test case design, Execution, Black- Box testing 'Boundary value analysis 'Pair wise testing- state based testing, White-Box testing criteria and test case generation and tool support <b>Quality Assurance :</b> Quality Control, Assurance, Cost, Reviews, Software Quality Assurance, Approaches to SQA, Reliability, Quality Standards- ISO9000 And 9001	15	7
7	<b>CASE Tools and Advance Practices of System Dependability and Security:</b> Computer Aided Software Engineering Tools, SCRUM Developments, Dependable System, Reliability Engineering, Safety Engineering, Security Engineering, Resilience Engineerirng	15	5
8	<b>Advance Software Engineering:</b> Software Reuse, Component Based Software Engineering, Distributed Software Engineering, Service-Oriented Software Engineering, Real-Time Software Engineering, Systems Engineering, Systems of System.	15	5
<b>Total</b>		<b>100</b>	<b>42</b>

#### Reference Books

1.	<b>Software Engineering (TextBook) R.Pressmen; 6th (TextBook)</b>
2.	<b>Software Engineering</b> By Sommerville
3.	<b>Fundamentals of Software Engineering</b> By Rajib Mall   PHI
4.	<b>Software Engineering</b> By Pankaj Jalote   Wiley India

#### Course Outcome

##### After Learning the Course the students shall be able to:

After learning this course students will be able to :

1. Prepare and perform Software Requirement Specification and Software Project Management Plan.
2. Ensure the quality of software product, different quality standards and software review techniques
3. Apply the concept of Functional Oriented and Object Oriented Approach for Software Design.
4. Understand modern Agile Development and Service Oriented Architecture Concept of Industry
5. Analyze, design, verify, validate, implement and maintain software systems.
6. Execute a Project Management Plan, tabulate Testing Plans and Reproduce effective procedures.



**Course:** BTech

**Semester:** 4

**Prerequisite:** Basic knowledge of software applications.

**Rationale :** This course provides a broad introduction to software engineering. The various process models required to develop software is also being described. Moreover the functional and non-functional requirements are also described.

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

**SEE** - Semester End Examination, **T** - Theory, **P** - Practical

List of Practical	
1.	Project Definition and objective of the specified module and Perform Requirement Engineering Process.
2.	Identify Suitable Design and Implementation model from the different software engineering models.
3.	Prepare Software Requirement Specification (SRS) for the selected module.
4.	Develop Software project management planning (SPMP) for the specified module.
5.	Do Cost and Effort Estimation using different Software Cost Estimation models.
6.	Prepare System Analysis and System Design of identified Requirement specification using structure design as DFD with data dictionary and Structure chart for the specific module.
7.	Designing the module using Object Oriented approach including Use case Diagram with scenarios, Class Diagram and State Diagram, Collaboration Diagram, Sequence Diagram and Activity Diagram.
8.	Defining Coding Standards and walk through.
9.	Write the test cases for the identified module.
10.	Demonstrate the use of different Testing Tools with comparison.
11.	Define security and quality aspects of the identified module.

Course Outcome
<b>After Learning the Course the students shall be able to:</b>
1. Prepare and perform Software Requirement Specification and Software Project Management Plan.
2. Ensure the quality of software product, different quality standards and software review techniques
3. Apply the concept of Functional Oriented and Object Oriented Approach for Software Design.
4. Understand modern Agile Development and Service Oriented Architecture Concept of Industry
5. Analyze, design, verify, validate, implement and maintain software systems.
6. Execute a Project Management Plan, tabulate Testing Plans and Reproduce effective procedures.

**Course:** BTech

**Semester:** 4

**Prerequisite:** knowledge of Computer and Information system

**Rationale :** 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
Lecture Hrs/Week	Tutorial Hrs/Week	Lab Hrs/Week	Seminar Hrs/Week	Credit	Internal Marks			External Marks		
					T	CE	P	T	P	
3	0	0	0	3	20	20	-	60	-	100

**SEE** - Semester End Examination, **T** - Theory, **P** - Practical

Course Content		W - Weightage (%) , T - Teaching hours	
Sr.	Topics	W	T
1	<b>DATA COMMUNICATION COMPONENTS:</b> Representation of data and its flow Networks, Various Connection Topology, Protocols and Standards, OSI model, Transmission Media, LAN: Wired LAN, Wireless LANs, Connecting LAN and Virtual LAN, Techniques for Bandwidth utilization: Multiplexing - Frequency division, Time division and Wave division, Concepts on spread spectrum	25	11
2	<b>DATA LINK LAYER AND MEDIUM ACCESS SUB LAYER:</b> Error Detection and Error Correction - Fundamentals, Block coding, Hamming Distance, CRC; Flow Control and Error control protocols - Stop and Wait, Go back 'N' ARQ, Selective Repeat ARQ, Sliding Window, Piggybacking, Random Access, Multiple access protocols - Pure ALOHA, Slotted ALOHA, CSMA/CD, CDMA/CA	25	11
3	<b>Network Layer:</b> Switching, Logical addressing 'IPv4, IPv6; Address mapping 'ARP, RARP, BOOTP and DHCP' Delivery, Forwarding and Unicast Routing protocols	20	8
4	<b>Transport Layer:</b> Process to Process Communication, User Datagram Protocol (UDP), Transmission Control Protocol (TCP), SCTP Congestion Control; Quality of Service, QoS improving techniques: Leaky Bucket and Token Bucket algorithm.	15	6
5	<b>Application Layer:</b> Domain Name Space (DNS), DDNS, TELNET, EMAIL, File Transfer Protocol (FTP), WWW, HTTP, SNMP, Bluetooth, Firewalls, Basic concepts of Cryptography	15	6
<b>Total</b>		<b>100</b>	<b>42</b>

**Reference Books**

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

**Course Outcome****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.

**Course:** BTech

**Semester:** 4

**Prerequisite:** knowledge of Computer and Information system

**Rationale :** This course is designed to provide basic knowledge about the data & signals. It also provides basic concepts of computer networks and a firm foundation for understanding how data communication occurs in the Transmission Medium. It will help to develop logical abilities and practically set up the network.

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

SEE - Semester End Examination, **T** - Theory, **P** - Practical

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.

Course Outcome
<b>After Learning the Course the students shall be able to:</b>
1. Configure and set up different types of networks, including local area networks (LANs) and wide area networks (WANs).
2. Configure routers and switches, and implement routing protocols to understand how data is directed through a network.
3. Use network monitoring tools to analyze network.
4. Apply security measures, such as firewalls, encryption, and intrusion detection systems, to secure network communication.
5. Implement and analyze various network protocols, such as TCP/IP, UDP, and ICMP, through practical exercises.

**Course:** Btech

**Semester:** 4

**Prerequisite:** Basic knowledge of Programming and web applications

**Rationale :** 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
Lecture Hrs/Week	Tutorial Hrs/Week	Lab Hrs/Week	Seminar Hrs/Week	Credit	Internal Marks			External Marks		
					T	CE	P	T	P	
3	0	0	0	3	20	20	-	60	-	100

**SEE** - Semester End Examination, **T** - Theory, **P** - Practical

Course Content		W - Weightage (%) , T - Teaching hours	
Sr.	Topics	W	T
1	<b>Introduction to python programing:</b> 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	<b>Functions :</b> Defining and using functions, including the use of arguments and return values OOPS Concepts : Object, class, abstraction, encapsulation, polymorphism, Inheritance. Exceptions and File handling: Handling exceptions and working with files	20	5
3	<b>Modules and Packages:</b> 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	<b>Flask Framework:</b> 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	<b>Django Framework:</b> 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



<b>6</b>	<b>RESTful APIs:</b> 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.	<b>10</b>	<b>6</b>
<b>Total</b>		<b>100</b>	<b>42</b>

### Reference Books

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

### 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.



**Course:** BTech

**Semester:** 4

**Prerequisite:** Basic knowledge of Programming and web applications

**Rationale :** 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
Lecture Hrs/Week	Tutorial Hrs/Week	Lab Hrs/Week	Seminar Hrs/Week	Credit	Internal Marks			External Marks		
					T	CE	P	T	P	
0	0	2	0	1	-	-	20	-	30	50

**SEE** - Semester End Examination, **T** - Theory, **P** – Practical

### List of Practical

1.	<b>Set-1</b> 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.
	<b>Set-2</b> 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.	<b>Set-3</b> 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.	<p><b>Set-4</b></p> <ol style="list-style-type: none"> <li>1. A program that creates a web application that uses a template engine to generate dynamicHTML pages.</li> <li>2. A program that creates a web application that supports AJAX requests and updates the page without reloading.</li> <li>3. A program that creates a web application that uses Django's built-in debugging features to troubleshoot errors and exceptions.</li> <li>4. A program that creates a web application that implements user authentication and authorization.</li> <li>5. A program that creates a web application that integrates with third-party APIs to provide additional functionality.</li> </ol>
5.	<p><b>Set-5</b></p> <ol style="list-style-type: none"> <li>1. A program that creates a simple RESTful API that returns a list of users in JSON format.</li> <li>2. A program that creates a RESTful API that allows users to create, read, update, and delete resources.</li> <li>3. A program that creates a RESTful API that authenticates users using a JSON Web Token.</li> <li>4. A program that creates a RESTful API that paginates the results of a query to improve performance.</li> <li>5. A program that creates a RESTful API that supports data validation and error handling.</li> </ol>

### Course Outcome

#### After Learning the Course the students shall be able to:

1. Demonstrate a strong understanding of Python programming language fundamentals, including syntax, data types, control structures, and functions.
2. Understand the basics of web development, including HTML, CSS, and JavaScript, and demonstrate the ability to create static web pages.
3. Design and implement RESTful APIs using Python for communication between the front-end and back-end components.
4. Identify and resolve issues in both front-end and back-end code, and optimize the performance of web applications.
5. Integrate AJAX techniques into Django applications to enable dynamic updates and improve interactivity without full page reloads.

**Course:** BTech

**Semester:** 4

**Prerequisite:** proficiency in a programming language (e.g., C++, Python) and a strong grasp of data structures and algorithms, with a focus on problem-solving skills and efficient code implementation. Familiarity with common coding platforms (e.g., Codeforces, LeetCode) is also beneficial.

**Rationale :** 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
Lecture	Tutorial	Lab	Seminar	Credit	Internal Marks			External Marks		
Hrs/Week	Hrs/Week	Hrs/Week	Hrs/Week		T	CE	P	T	P	
-	-	4	-	2	-	-	20	-	30	50

**SEE** - Semester End Examination, **T** - Theory, **P** - Practical

List of Practical	
<b>1.</b>	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
<b>2.</b>	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.
<b>3.</b>	Write a program for finding NGE NEXT GREATER ELEMENT from an array.
<b>4.</b>	Write a program to design a circular queue(k) which Should implement the below functions a. Enqueue b. Dequeue c. Front d. Rear
<b>5.</b>	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.
<b>6.</b>	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.
<b>7.</b>	Write a Program to Merge two linked lists(sorted).
<b>8.</b>	Write a Program to find the Merge point of two linked lists(sorted).
<b>9.</b>	Write a Program to Swap Nodes pairwise.
<b>10.</b>	Write a Program for Building a Function ISVALID to VALIDATE BST.
<b>11.</b>	Write a Program to Build BST.
<b>12.</b>	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.

### Course Outcome

#### After Learning the Course the students shall be able to:

After Learning the Course the students shall be able to:

1. Develop strong problem-solving skills, improve algorithmic thinking, and enhance proficiency in coding by tackling a variety of challenging problems.
2. Cultivate the ability to write efficient and optimized code under time constraints, honing the skill of quickly translating algorithmic insights into practical solutions.
3. Gain a competitive advantage in technical interviews and coding assessments, showcasing the ability to tackle diverse coding challenges commonly encountered in job placements and coding competitions.
4. Foster a mindset of continuous learning by regularly engaging with new problems, staying updated on emerging algorithms, and adapting to evolving coding paradigms.


**Course: Btech**
**Semester: 4**
**Prerequisite:** Basic concepts of Statistics and Probability.

**Rationale :** The course provides systematic knowledge of probability, numerical and statistical methods.

**Teaching and Examination Scheme**

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

**SEE** - Semester End Examination, **T** - Theory, **P** - Practical

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

Sr.	Topics	W	T
1	<b>UNIT 1 Correlation, Regression and Curve fitting:</b> 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	<b>UNIT 2 Probability and Probability Distributions:</b> 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	<b>UNIT 3 Testing of Hypothesis:</b> 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	<b>UNIT 4 Solution of a System of Linear Equations, Roots of Algebraic and Transcendental Equations:</b> Gauss-Jacobi and Gauss Seidel Methods, Solution of Polynomial and Transcendental Equations – Bisection Method, Newton- Raphson Method and Regula-Falsi Method.	11	7
5	<b>UNIT 5 Finite Differences and Interpolation:</b> 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	<b>UNIT 6 Numerical Integration:</b> Trapezoidal rule, Simpson's 1/3rd and 3/8th Rules, Gaussian Quadrature Formulae. <b>Numerical solution of Ordinary Differential Equations:</b> Taylor's Series, Euler and Modified Euler's Methods. Runge- Kutta Method of Fourth Order for Solving First and Second Order Equations.	11	7
<b>Total</b>		<b>100</b>	<b>60</b>


**Reference Books**

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

**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

**Course:** Btech

**Semester:** 4

**Prerequisite:** Knowledge of communication theories and basic management skills are essentials.

**Rationale :** Acquiring soft skills, life skills & aptitude skills are crucial for organizational communication as well as for employability respectively.

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

**SEE** - Semester End Examination, **T** - Theory, **P** - Practical

Course Content		W - Weightage (%) , T - Teaching hours	
Sr.	Topics	W	T
1	<b>Self Development and Assessment</b> 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	<b>Corporate Etiquette</b> 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	<b>Public Speaking</b> 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	<b>Reading Skills Activity &amp; Reading Comprehension</b> 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	<b>Listening Skills- Inquiry Based Listening Questions</b> 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
<b>Total</b>		<b>100</b>	<b>15</b>

Course Outcome
<b>After Learning the Course the students shall be able to:</b>
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



**COURSE LECTURE/LABORATORY/TUTORIAL PLANNING****Subject code: 303105251****Subject Name: Operating System****Faculty Name: Mr. Sumersing Dayaram Patil****Division: 4AIDS1 to 4AIDS9**

<b>Sr. No</b>	<b>Name of Unit/Topics</b>	<b>Hrs. Allotted</b>
<b>1</b>	<b>INTRODUCTION</b>	<b>08</b>
	Concept of Operating Systems, Generations of Operating systems	01
	Types of Operating Systems, OS Services, System Calls, Structure of an OS-Layered, Monolithic	01
	Microkernel Operating Systems, Concept of Virtual Machine	01
<b>2</b>	<b>PROCESSES, THREAD &amp; PROCESS SCHEDULING</b>	<b>09</b>
	Processes: Definition, Process Relationship, Different states of a Process, Process State transitions, Process Control Block (PCB)	01
	Context switching. Thread: Definition, Various states, Benefits of threads	01
	Types of threads, Concept of multithreads	01
	Process Scheduling: Foundation and Scheduling objectives	01
	Types of Schedulers, Scheduling criteria	01
	CPU utilization, Throughput	01
	Turnaround Time, Waiting Time	01
	Response Time; Scheduling algorithms: Pre-emptive and Non pre-emptive	01
	FCFS, SJF, RR	01
<b>3</b>	<b>INTER-PROCESS COMMUNICATION</b>	<b>06</b>
	Critical Section, Race Conditions, Mutual Exclusion	01
	Hardware Solution, Strict Alternation, Peterson's Solution	01
	The Producer\ Consumer Problem	01
	Semaphores, Event Counters, Monitors, Message Passing	01
	Classical IPC Problems	01
	Reader's & Writer Problem, Dining Philosopher Problem etc	01
<b>4</b>	<b>DEADLOCKS</b>	<b>05</b>
	Definition	01
	Necessary and sufficient conditions for Deadlock	01
	Deadlock Prevention	01



	Deadlock Avoidance: Banker's algorithm	01
	Deadlock detection and Recovery	01
<b>5</b>	<b>MEMORY MANAGEMENT &amp; VIRTUAL MEMORY</b>	<b>13</b>
	Memory Management: Basic concept, Logical and Physical address map	01
	Memory allocation: Contiguous Memory allocation	01
	'Fixed and variable partition' Internal and External fragmentation and Compaction;	01
	Paging: Principle of operation 'Page allocation' Hardware support for paging	01
	Protection and sharing, Disadvantages of paging.	01
	Virtual Memory: Basics of Virtual Memory 'Hardware and control structures'	01
	Locality of reference, Page fault, Working Set	01
	Dirty page/Dirty bit 'Demand paging,	01
	Page Replacement algorithms:	01
	Optimal, First in First Out (FIFO)	01
	Second Chance (SC)	01
	Not recently used (NRU)	01
	Least Recently used (LRU)	01
<b>6</b>	<b>I/O SYSTEMS, FILE &amp; DISK MANAGEMENT</b>	<b>09</b>
	I/O Hardware: I/O devices, Device controllers, Direct memory access	01
	Principles of I/O Software: Goals of Interrupt handlers, Device drivers	01
	Device independent I/O software. File Management: Concept of File	01
	Access methods, File types, File operation, Directory structure	01
	File System structure, Allocation methods (contiguous, linked, indexed), Free-space management (bit vector, linked list, grouping)	01
	directory implementation (linear list, hash table), efficiency and performance.	01
	Disk Management: Disk structure, Disk scheduling algorithms - FCFS, SSTF	01
	SCAN, C-SCAN, Disk reliability	01
	Disk formatting, Boot-block, Bad blocks	01

Planned Date:

Division	4AIDS 1	4AIDS 2	4AIDS 3	4AIDS 4	4AIDS 5	4AIDS 6	4AIDS 7	4AIDS 8	4AIDS 9
Sr. No.									
1.	24-11-2025	25-11-2025	24-11-2025	28-11-2025	26-11-2025	29-11-2025	24-11-2025	29-11-2025	25-11-2025
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<b>36.</b>	<b>35.</b>	<b>34.</b>	<b>33.</b>	<b>32.</b>	<b>31.</b>	<b>30.</b>	<b>29.</b>	<b>28.</b>
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**Subject code: 303105252**  
**Subject Name: Operating System Laboratory**  
**Faculty Name: Mr. Sumersing Dayaram Patil**  
**Division: 4AIDS1 to 4AIDS9**

Sr. No	Name of Practical	Teaching Hrs.
1	Study of Basic commands of Linux.	2
2	Study the basics of shell programming.	2
3	Write a Shell script to print given numbers sum of all digits.	2
4	Write a shell script to validate the entered date. (eg. Date format is: dd-mm-yyyy).	2
5	Write a shell script to check entered string is palindrome or not.	2
6	Write a Shell script to say Good morning/Afternoon/Evening as you log in to system.	2
7	Write a C program to create a child process.	2
8	Finding out biggest number from given three numbers supplied as command line arguments.	2
9	Printing the patterns using for loop.	2
10	Shell script to determine whether given file exist or not.	2
11	Write a program for process creation using C. (Use of gcc compiler.	2

**Planned Date:**

Division	4AIDS 1	4AIDS 2	4AIDS 3	4AIDS 4	4AIDS 5	4AIDS 6	4AIDS 7	4AIDS 8	4AIDS 9
Sr. No.	27-11-2025	26-11-2025	28-11-2025	29-11-2025	24-11-2025	28-11-2025	25-11-2025	27-11-2025	26-11-2025
1.									
2.	04-12-2025	03-12-2025	05-12-2025	06-12-2025	01-12-2025	05-12-2025	02-12-2025	04-12-2025	03-12-2025



<b>10.</b>		<b>9.</b>	<b>8.</b>	<b>7.</b>	<b>6.</b>	<b>5.</b>	<b>4.</b>	<b>3.</b>
29-01-2026	22-01-2026	15-01-2026	08-01-2026	01-01-2026	25-12-2025	18-12-2025	11-12-2025	
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28-01-2026	21-01-2026	14-01-2026	07-01-2026	31-12-2025	24-12-2025	17-12-2025	10-12-2025	

11.	05-02-2026	04-02-2026	06-02-2026	07-02-2026	02-02-2026	06-02-2026	03-02-2026	05-02-2026	04-02-2026
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**Subject code: 303105253**

**Subject Name: Software Engineering**

**Faculty Name: Ramiz Raja**

**Division: 4AIDS1 to 4AIDS9**

Sr. No	Name of Unit/Topics	Hrs. Allotted
1	<b>INTRODUCTION</b>	<b>06</b>
	Study of Different Models, Software Characteristics, Components, Applications, Layered Technologies	01
	Processes, Methods and Tools, Generic View of Software Engineering	01
	Process Models- Waterfall model, Incremental	01
	Evolutionary process models- Prototype, Spiral And Concurrent Development Model	01
	Agile Development : Agility and Agile Process model, Extreme Programming	01
	Other process models of Agile Development and Tools.	01
2	<b>SOFTWARE PROJECT MANAGEMENT</b>	<b>05</b>
	Management Spectrum, People 'Product' ?Process- Project, W5HH Principle	01
	Importance of Team Management Planning a Software Project : Scope and Feasibility	01
	Effort Estimation, Schedule and staffing, Quality Planning	01
	Risk management- identification, assessment	01
	control, project monitoring plan, Detailed Scheduling	01
3	<b>REQUIREMENTS ENGINEERING</b>	<b>05</b>
	Problem Recognition, Requirement Engineering tasks	01
	Processes, Requirements	01
	Specification, Use cases	01
	Functional specification, Requirements validation	01
	Requirements Analysis	01
4	<b>STRUCTURED SYSTEM DESIGN</b>	<b>05</b>
	Design Concepts, Design Model, Software Architecture, Data Design, Architectural Styles and Patterns	01
	Architectural Design, Alternative architectural designs	01
	Modeling Component level design and its modeling	01

	Procedural Design, Object Oriented Design. Data Oriented Analysis & Design : Difference between Data and Information	01
	E-R Diagram, Dataflow Model, Control Flow Model, Control and Process Specification, Data Dictionary	01
<b>5</b>	<b>CODING AND UNIT TESTING</b>	<b>04</b>
	Programming principles and guidelines, Programming practices	01
	Coding standards, Incremental development of code	01
	Management of code evaluation, Unit testing- procedural units, classes, Code Inspection	01
	Metrics- size measure, complexity metrics, Cyclomatic Complexity, Halstead measure, Knot Count, Comparison Of Different Metrics	01
<b>6</b>	<b>SOFTWARE TESTING AND QUALITY ASSURANCE</b>	<b>07</b>
	Concepts, Psychology of testing, Levels of testing	01
	Testing Process- test plan, test case design, Execution, Black- Box testing	01
	Boundary value analysis	01
	Pair wise testing- state based testing	01
	White-Box testing criteria and test case generation and tool support	01
	Quality Assurance : Quality Control, Assurance, Cost, Reviews	01
	Software Quality Assurance, Approaches to SQA, Reliability, Quality Standards- ISO9000 And 9001	01
<b>7</b>	<b>CASE TOOLS AND ADVANCE PRACTICES OF SYSTEM DEPENDABILITY AND SECURITY</b>	<b>05</b>
	Computer Aided Software Engineering Tools	01
	SCRUM Developments	01
	Dependable System, Reliability Engineering	01
	Safety Engineering	01
	Security Engineering, Resilience Engineering	01
<b>8</b>	<b>ADVANCE SOFTWARE ENGINEERING</b>	<b>05</b>
	Software Reuse, Component Based Software Engineering	01
	Distributed Software Engineering	01
	Service-Oriented Software Engineering	01
	Real-Time Software Engineering	01
	Systems Engineering	01

**Planned Date:**

<b>Division</b>	<b>4AIDS 1</b>	<b>4AIDS 2</b>	<b>4AIDS 3</b>	<b>4AIDS 4</b>	<b>4AIDS 5</b>	<b>4AIDS 6</b>	<b>4AIDS 7</b>	<b>4AIDS 8</b>	<b>4AIDS 9</b>
<b>Sr. No.</b>									
<b>1.</b>	25-11-2025	25-11-2025	29-11-2025	26-11-2025	27-11-2025	26-11-2025	25-11-2025	26-11-2025	25-11-2025
<b>2.</b>	26-11-2025	27-11-2025	01-12-2025	28-11-2025	29-11-2025	28-11-2025	26-11-2025	28-11-2025	27-11-2025

<b>11.</b>	<b>10.</b>	<b>9.</b>	<b>8.</b>	<b>7.</b>	<b>6.</b>	<b>5.</b>	<b>4.</b>	<b>3.</b>
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<b>20.</b>	<b>19.</b>	<b>18.</b>	<b>17.</b>	<b>16.</b>	<b>15.</b>	<b>14.</b>	<b>13.</b>	<b>12.</b>
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**Subject code: 303105254**  
**Subject Name: Software Engineering Laboratory**  
**Faculty Name: Ramiz Raja**  
**Division: 4AIDS1 to 4AIDS9**

Sr. No	Name of Unit/Topics	Hrs. Allotted
1	Project Definition and objective of the specified module and Perform Requirement Engineering Process.	02
2	Identify Suitable Design and Implementation model from the different software engineering models.	02
3	Prepare Software Requirement Specification (SRS) for the selected module.	02
4	Develop Software project management planning (SPMP) for the specified module.	02
5	Do Cost and Effort Estimation using different Software Cost Estimation models.	02
6	Prepare System Analysis and System Design of identified Requirement specification using structure design as DFD with data dictionary and Structure chart for the specific module.	02
7	Designing the module using Object Oriented approach including Use case Diagram with scenarios, Class Diagram and State Diagram, Collaboration Diagram, Sequence Diagram and Activity Diagram.	02
8	Defining Coding Standards and walk through.	02
9	Write the test cases for the identified module.	02
10	Demonstrate the use of different Testing Tools with comparison.	02
11	Define security and quality aspects of the identified module.	02

**Planned Date:**

Division	4AIDS 1	4AIDS 2	4AIDS 3	4AIDS 4	4AIDS 5	4AIDS 6	4AIDS 7	4AIDS 8	4AIDS 9
Sr. No.	28-11-2025	28-11-2025	26-11-2025	28-11-2025	24-11-2025	29-11-2025	25-11-2025	27-11-2025	26-11-2025
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**Subject code: 303105255**

**Subject Name: Computer Network – NPTEL Course**

**Faculty Name: Pragya Devi**

**Division: 4AIDS1 to 4AIDS9**

Sr. No	Name of Unit/Topics	Hrs. Allotted
<b>1</b>	<b>DATA COMMUNICATION COMPONENTS</b>	<b>11</b>
	Representation of data and its flow Networks, Various Connection Topology, Protocols and Standards, OSI model	03
	Transmission Media, LAN:Wired LAN, Wireless LANs, Connecting LAN and Virtual LAN	03
	Techniques for Bandwidth utilization: Multiplexing - Frequency division	03
	Time division and Wave division, Concepts on spread spectrum	02
<b>2</b>	<b>DATA LINK LAYER AND MEDIUM ACCESS SUB LAYER</b>	<b>11</b>
	Error Detection and Error Correction -Fundamentals, Block coding, Hamming Distance	03
	CRC; Flow Control and Error control protocols - Stop and Wait, Go back 'N ARQ	03
	Selective Repeat ARQ, Sliding Window, Piggybacking	03
	Random Access, Multiple access protocols - Pure ALOHA, Slotted ALOHA, CSMA/CD, CDMA/CA	02
<b>3</b>	<b>NETWORK LAYER</b>	<b>08</b>
	Switching, Logical addressing 'IPV4, IPV6	03
	Address mapping 'ARP, RARP, BOOTP	03
	DHCP Delivery, Forwarding and Unicast Routing protocols	02
<b>4</b>	<b>TRANSPORT LAYER</b>	<b>06</b>
	Process to Process Communication, User Datagram Protocol(UDP), Transmission Control Protocol (TCP)	03
	SCTP Congestion Control; Quality of Service, QoS improving techniques: Leaky Bucket and Token Bucket algorithm.	03
<b>5</b>	<b>APPLICATION LAYER</b>	<b>06</b>
	Domain Name Space (DNS), DDNS, TELNET, EMAIL, File Transfer Protocol (FTP)	03
	WWW, HTTP, SNMP, Bluetooth, Firewalls, Basic concepts of Cryptography	03

**Planned Date:**

Division	4AIDS 1	4AIDS 2	4AIDS 3	4AIDS 4	4AIDS 5	4AIDS 6	4AIDS 7	4AIDS 8	4AIDS 9
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8.	7.	6.	5.	4.	3.	2.	Sr. No.	
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**Subject code: 303105256**  
**Subject Name: Computer Network Laboratory**  
**Faculty Name: Pragya Devi**  
**Division: 4AIDS1 to 4AIDS9**

Sr. No	Name of Unit/Topics	Hrs. Allotted
1	Experiments on Simulation Tools: (CISCO PACKET TRACER).	02
2	Experiments of Packet capture tool: Wireshark.	02
3	To study behavior of generic devices used for networking: (CISCO PACKET TRACER).	02
4	Data Link Layer (Error Correction).	02
5	Virtual LAN	02
6	Wireless LAN	02
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.	02
8	Implementation of SUBNETTING.	02
9	Routing at Network Layer.	02
10	Experiment on Transport Layer.	02

**Planned Date:**

Division	4AIDS 1	4AIDS 2	4AIDS 3	4AIDS 4	4AIDS 5	4AIDS 6	4AIDS 7	4AIDS 8	4AIDS 9
Sr. No.	29-11-2025	24-11-2025	25-11-2025	27-11-2025	26-11-2025	25-11-2025	24-11-2025	29-11-2025	25-11-2025
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**Subject code: 303105257**

**Subject Name: Programming in Python with Full Stack Development**

**Faculty Name: Jyoti Joshi**

**Division: 4AIDS1 to 4AIDS9**

Sr. No	Name of Unit/Topics	Hrs. Allotted
<b>1</b>	<b>Introduction to python programing</b>	<b>06</b>
	Introduction to Python and basic programming concepts, variables	01
	data types, conditionals statements and loops Lists	01
	Sets, Tuples, Dictionaries: Working with strings	01
	lists, sets, tuples and dictionaries	01
	including common operations	01
	built-in functions	01
<b>2</b>	<b>Functions</b>	<b>05</b>
	Defining and using functions	01
	Including the use of arguments and return values OOPS Concepts	01
	Object, class, abstraction, encapsulation	01
	polymorphism, Inheritance . Exceptions and File handling	01
	Handling exceptions and working with files	01
<b>3.</b>	<b>Modules and Packages</b>	<b>05</b>
	Working with modules and packages in Python	01
	Introduction to popular Python libraries for specific tasks, such as data analysis	01
	Web development, or game development.	01
	PyCharm IDE : GIT- Git Integration with PyCharm IDE	01
	PyTests. Python connectivity with Databases MYSQL, MongoDB CRUD operations.	01
<b>4.</b>	<b>Flask Framework</b>	<b>10</b>
	Introduction to Flask and web development with Python	01
	Installation in Virtual Environment	01
	Creation Routing App Settings	01
	URL Building HTTP methods Templates Working with Static	01
	Media Files. Sending Form	01
	Data to Template	01

	Flask App with Database connectivity Sqlite3	01
	MySQL. Handling Exceptions and Errors	01
	Flash Message Working with Mails. Authenticating and authorizing users with Flask-Login	01
	Deploying a Flask application to a web server.	01
<b>5</b>	<b>Django Framework</b>	<b>10</b>
	Introduction to Django framework	01
	Django Project	01
	Installation in Virtual Environment	01
	Phases in Django Project Creation Create a Project	01
	Creation of Apps and their Structure	01
	Working with ADMIN Console	01
	Creating Views URL Mapping	01
	Template System Working with Models	01
	Form Processing static media files	01
	Django App Deployment	01
<b>6</b>	<b>RESTful APIs</b>	<b>06</b>
	Introduction to RESTful APIs and the REST Architectural style Understanding the HTTP protocol and its role in RESTful APIs	01
	Designing and implementing RESTful APIs using common HTTP methods, such as GET	01
	POST, PUT, and DELETE Using URLs and resource representations to identify and transfer data in RESTful APIs	01
	Implementing best practices for designing and implementing RESTful APIs, such as using HTTP status codes	01
	versioning, and error handling Consuming RESTful APIs using common tools and libraries, such as cURL	01
	Postman, and the requests library in Python Building scalable and secure RESTful APIs using common frameworks and libraries Flask or FastAPI.	01

**Planned Date:**

<b>Division</b>	<b>4AIDS 1</b>	<b>4AIDS 2</b>	<b>4AIDS 3</b>	<b>4AIDS 4</b>	<b>4AIDS 5</b>	<b>4AIDS 6</b>	<b>4AIDS 7</b>	<b>4AIDS 8</b>	<b>4AIDS 9</b>
<b>Sr. No.</b>	24-11-2025	25-11-2025	24-11-2025	28-11-2025	26-11-2025	29-11-2025	24-11-2025	29-11-2025	25-11-2025
<b>1.</b>									

<b>10.</b>	<b>9.</b>	<b>8.</b>	<b>7.</b>	<b>6.</b>	<b>5.</b>	<b>4.</b>	<b>3.</b>	<b>2.</b>
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<b>45.</b>	07-03-2026	05-03-2026	03-03-2026	28-02-2026	26-02-2026	24-02-2026	21-02-2026	19-02-2026	<b>38.</b>
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**Subject code: 303105258**

**Subject Name: Programming in Python with Full Stack Development Laboratory**

**Faculty Name: Jyoti Joshi**

**Division: 4AIDS1 to 4AIDS9**

Sr. No	Name of Unit/Topics	Hrs. Allotted
1	<b>Set-1</b> <ol style="list-style-type: none"><li>1. A program that converts temperatures from Fahrenheit to Celsius and vice versa.</li><li>2. A program that calculates the area and perimeter of a rectangle.</li><li>3. A program that generates a random password of a specified length.</li><li>4. A program that calculates the average of a list of numbers.</li><li>5. A program that checks if a given year is a leap year.</li><li>6. A program that calculates the factorial of a number.</li><li>7. A program that checks if a given string is a palindrome.</li><li>8. A program that sorts a list of numbers in ascending or descending order.</li><li>9. A program that generates a multiplication table for a given number.</li><li>10. A program that converts a given number from one base to another.</li></ol>	04
2	<b>Set-2</b> <ol style="list-style-type: none"><li>1. A program that models a bank account, with classes for the account, the customer, and the bank.</li><li>2. A program that simulates a school management system, with classes for the students, the teachers, and the courses.</li><li>3. A program that reads a text file and counts the number of words in it.</li><li>4. A program that reads a CSV file and calculates the average of the values in a specified column.</li><li>5. A program that reads an Excel file and prints the data in a tabular format.</li></ol>	04
3	<b>Set-3</b> <ol style="list-style-type: none"><li>1. A program that creates a simple web server and serves a static HTML page.</li><li>2. A program that creates a web application that allows users to register and login.</li><li>3. A program that creates a web application that allows users to upload and download files.</li><li>4. A program that creates a web application that displays data from a database in a tabular format.</li><li>5. A program that creates a web application that accepts user input and sends it to a server-side script for processing.</li></ol>	02
4	<b>Set-4</b> <ol style="list-style-type: none"><li>1. A program that creates a web application that uses a template engine to generate dynamic HTML pages.</li><li>2. A program that creates a web application that supports AJAX requests and updates the page without reloading.</li><li>3. A program that creates a web application that uses Django's built-in debugging features to troubleshoot errors and exceptions.</li><li>4. A program that creates a web application that implements user authentication and authorization.</li><li>5. A program that creates a web application that integrates with third-party APIs to provide additional functionality.</li></ol>	02

5	<b>Set-5</b> 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.	03
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Division	4AIDS 1	4AIDS 2	4AIDS 3	4AIDS 4	4AIDS 5	4AIDS 6	4AIDS 7	4AIDS 8	4AIDS 9
Sr. No.									
1.	26-11-2025	27-11-2025	28-11-2025	29-11-2025	25-11-2025	25-11-2025	26-11-2025	27-11-2025	28-11-2025
2.	05-12-2025	06-12-2025	07-12-2025	08-12-2025	03-12-2025	04-12-2025	05-12-2025	06-12-2025	07-12-2025
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**Subject code: 303191251**

**Subject Name: Probability, Statistics and Numerical Methods**

**Faculty Name: Dr. Suman Ahmed**

**Division: 4AIDS1 to 4AIDS9**

<b>Sr. No</b>	<b>Name of Unit/Topics</b>	<b>Hrs. Allotted</b>
<b>1</b>	<b>Correlation, Regression and Curve fitting</b>	<b>11</b>
	Correlation and Regression	01
	Rank correlation	01
	Curve Fitting by The Method of Least Squares	01
	Curve Fitting by The Method of Least Squares	01
	Fitting of Straight Lines	01
	Fitting of Straight Lines	01
	Second Degree Parabolas	01
	Second Degree Parabolas	01
	More General Curves	01
	More General Curves	01
	More General Curves	01
<b>2</b>	<b>Probability and Probability Distributions</b>	<b>13</b>
	Probability Spaces	01
	Conditional Probability, Bayes' Rule	01
	Discrete and continuous random variables	01
	Independent Random Variables	01
	Expectation and Variance of Discrete and Continuous Random Variables	01
	Expectation and Variance of Discrete and Continuous Random Variables	01
	Distribution and Their Properties: Binomial Distribution	01
	Distribution and Their Properties: Binomial Distribution	01
	Poisson Distribution	01
	Poisson Distribution	01
	Normal Distribution	01
	Normal Distribution	01
	Normal Distribution	01
<b>3</b>	<b>Testing of Hypothesis</b>	<b>15</b>
	Test of significance: Large sample test for single	01

	Test of significance: Large sample test for single proportion, difference of proportions	01
	proportion, difference of proportions	01
	proportion, difference of proportions	01
	proportion, difference of proportions	01
	single mean	01
	difference of means	01
	difference of standard deviations	01
	Test for single mean	01
	difference of means	01
	Test for ratio of variances	01
	Chi-square test for goodness of fit	01
	Chi-square test for goodness of fit	01
	independence of attributes	01
	independence of attributes	01
<b>4</b>	<b>Solution of a System of Linear Equations, Roots of Algebraic and Transcendental Equations</b>	<b>07</b>
	Gauss-Jacobi and Gauss Seidel Methods	01
	Gauss-Jacobi and Gauss Seidel Methods	01
	Solution of Polynomial	01
	Transcendental Equations – Bisection Method	01
	Transcendental Equations – Bisection Method	01
	Newton- Raphson Method	01
	Regula-Falsi Method	01
<b>5</b>	<b>Finite Differences and Interpolation</b>	<b>07</b>
	Finite Differences	01
	Relation between Operators	01
	Interpolation using Newton's Forward and Backward Difference Formulae	01
	Interpolation using Newton's Forward and Backward Difference Formulae	01
	Newton's Divided and Lagrange's Formulae for Unequal Intervals	01
	Newton's Divided and Lagrange's Formulae for Unequal Intervals	01
	Newton's Divided and Lagrange's Formulae for Unequal Intervals	01
<b>6</b>	<b>Numerical Integration</b>	<b>07</b>

	Trapezoidal rule	01
	Simpson's 1/3rd and 3/8th Rules	01
	Gaussian Quadrature Formulae	01
	Taylor's Series	01
	Euler and Modified Euler's Methods	01
	Runge- Kutta Method of Fourth Order for Solving First Order Equations.	01
	Runge- Kutta Method of Fourth Order for Solving Second Order Equations.	01

**Planned Date:**

Division	4AIDS 1	4AIDS 2	4AIDS 3	4AIDS 4	4AIDS 5	4AIDS 6	4AIDS 7	4AIDS 8	4AIDS 9
Sr. No.									
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									01-01-2026

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44.	08-03-2026	06-03-2026	08-03-2026	04-03-2026	08-03-2026	07-03-2026	09-03-2026	06-03-2026	05-03-2026
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**Subject code: 303105259**

**Subject Name: Competitive Coding**

**Faculty Name: Sreekar Reddy**

**Division: 4AIDS1 to 4AIDS9**

Sr. No	Name of Unit/Topics	Hrs. Allotted
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 Retrieve the min element from the stack	04
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.	04
3	Write a program for finding NGE NEXT GREATER ELEMENT from an array.	04
4	Write a program to design a circular queue(k) which Should implement the below functions a. Enqueue b. Dequeue c. Front d. Rear	04
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.	04
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.	04
7	Write a Program to Merge two linked lists(sorted).	04
8	Write a Program to find the Merge point of two linked lists(sorted).	04
9	Write a Program to Swap Nodes pairwise.	04

10	Write a Program for Building a Function ISVALID to VALIDATE BST.	04
11	Write a Program to Build BST.	04
12	Write a Program to determine the depth of a given Tree by Implementing MAXDEPTH	04
13	Write a Program to Understand and implement Tree traversals i.e. Pre-Order Post-Order, In-Order.	04
14	Write a Program to perform Boundary Traversal on BST.	04
15	Write a program for Lowest Common Ancestors.	04

**Planned Date:**

Division	4AIDS 1	4AIDS 2	4AIDS 3	4AIDS 4	4AIDS 5	4AIDS 6	4AIDS 7	4AIDS 8	4AIDS 9
Sr. No.	25-11-2025	27-11-2025	24-11-2025	25-11-2025	27-11-2025	26-11-2025	26-11-2025	25-11-2025	24-11-2025
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2.	27-11-2025	28-11-2025	28-11-2025	27-11-2025	28-11-2025	29-11-2025	29-11-2025	27-11-2025	28-11-2025
3.	02-12-2025	04-12-2025	01-12-2025	02-12-2025	04-12-2025	03-12-2025	03-12-2025	02-12-2025	01-12-2025
4.	04-12-2025	05-12-2025	05-12-2025	04-12-2025	05-12-2025	06-12-2025	06-12-2025	04-12-2025	05-12-2025
5.	09-12-2025	11-12-2025	08-12-2025	09-12-2025	11-12-2025	10-12-2025	10-12-2025	09-12-2025	08-12-2025
6.	11-12-2025	12-12-2025	12-12-2025	11-12-2025	12-12-2025	13-12-2025	13-12-2025	11-12-2025	12-12-2025

<b>15.</b>	<b>14.</b>	<b>13.</b>	<b>12.</b>	<b>11.</b>	<b>10.</b>	<b>9.</b>	<b>8.</b>	<b>7.</b>
13-01-2026	08-01-2026	06-01-2026	01-01-2026	30-12-2025	25-12-2025	23-12-2025	18-12-2025	16-12-2025
15-01-2026	09-01-2026	08-01-2026	02-01-2026	01-01-2026	26-12-2025	25-12-2025	19-12-2025	18-12-2025
12-01-2026	09-01-2026	05-01-2026	02-01-2026	29-12-2025	26-12-2025	22-12-2025	19-12-2025	15-12-2025
13-01-2026	08-01-2026	06-01-2026	01-01-2026	30-12-2025	25-12-2025	23-12-2025	18-12-2025	16-12-2025
15-01-2026	09-01-2026	08-01-2026	02-01-2026	01-01-2026	26-12-2025	25-12-2025	19-12-2025	18-12-2025
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12-01-2026	09-01-2026	05-01-2026	02-01-2026	29-12-2025	26-12-2025	22-12-2025	19-12-2025	15-12-2025

<b>24.</b>	12-02-2026	10-02-2026	05-02-2026	03-02-2026	29-01-2026	27-01-2026	22-01-2026	20-01-2026	15-01-2026
	13-02-2026	12-02-2026	06-02-2026	05-02-2026	30-01-2026	29-01-2026	23-01-2026	22-01-2026	16-01-2026
	13-02-2026	09-02-2026	06-02-2026	02-02-2026	30-01-2026	26-01-2026	23-01-2026	19-01-2026	16-01-2026
	12-02-2026	10-02-2026	05-02-2026	03-02-2026	29-01-2026	27-01-2026	22-01-2026	20-01-2026	15-01-2026
	13-02-2026	12-02-2026	06-02-2026	05-02-2026	30-01-2026	29-01-2026	23-01-2026	22-01-2026	16-01-2026
	14-02-2026	11-02-2026	07-02-2026	04-02-2026	31-01-2026	28-01-2026	24-01-2026	21-01-2026	17-01-2026
	14-02-2026	11-02-2026	07-02-2026	04-02-2026	31-01-2026	28-01-2026	24-01-2026	21-01-2026	17-01-2026
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	13-02-2026	09-02-2026	06-02-2026	02-02-2026	30-01-2026	26-01-2026	23-01-2026	19-01-2026	16-01-2026



25.	17-02-2026	19-02-2026	16-02-2026	17-02-2026	19-02-2026	18-02-2026	18-02-2026	17-02-2026	16-02-2026
26.	19-02-2026	20-02-2026	20-02-2026	19-02-2026	20-02-2026	21-02-2026	21-02-2026	19-02-2026	20-02-2026
27.	24-02-2026	26-02-2026	23-02-2026	24-02-2026	26-02-2026	25-02-2026	25-02-2026	24-02-2026	23-02-2026
28.	26-02-2026	27-02-2026	27-02-2026	26-02-2026	27-02-2026	28-02-2026	28-02-2026	26-02-2026	27-02-2026
29.	03-03-2026	05-03-2026	02-03-2026	03-03-2026	05-03-2026	04-03-2026	04-03-2026	03-03-2026	02-03-2026
30.	05-03-2026	06-03-2026	06-03-2026	05-03-2026	06-03-2026	07-03-2026	07-03-2026	05-03-2026	06-03-2026

Subject code: 303193252

Subject Name: Professional Grooming and Personality Development

Faculty Name: Dr. Alizehra Raza

Division: 4AIDS1 to 4AIDS9

Sr. No	Name of Unit/Topics	Hrs. Allotted
1	<b>Self Development and Assessment</b>	<b>04</b>
	Various self-assessments for personal and professional development skills that are relevant to career development: - Change, Grow, Persist, Prioritize, Read, Learn	01
	Listen, Record, Remember	01
	Guess, Think, Communicate	01
	Relate and Dream	01
2	<b>Corporate Etiquette</b>	<b>04</b>

	Tips and guide to develop personality and gain various etiquettes manners, case studies and activities	01
	Telephone etiquette	01
	Etiquette for foreign business trips Etiquette for small talks Respecting privacy Learning to say 'No'	01
	Etiquette for foreign business trips Etiquette for small talks Respecting privacy Learning to say 'No'	01
<b>3</b>	<b>Public Speaking</b>	<b>04</b>
	It's process of communicating information to an audience and is helpful in career advancement. Effective Public speaking skills	01
	Choosing appropriate pattern Selecting appropriate method Art of persuasion	01
	Making speeches effective Delivering different types of speeches	01
	Making speeches effective Delivering different types of speeches	01
<b>4</b>	<b>Reading Skills Activity &amp; Reading Comprehension</b>	<b>02</b>
	Aims to improve students' Comprehensive Skills in English Language by getting them involved in reading activity	01
	providing practice for reading comprehension.	01
<b>5</b>	<b>Listening Skills- Inquiry Based Listening Questions</b>	<b>01</b>
	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.	01

**Planned Date:**

<b>Division</b>	<b>4AIDS 1</b>	<b>4AIDS 2</b>	<b>4AIDS 3</b>	<b>4AIDS 4</b>	<b>4AIDS 5</b>	<b>4AIDS 6</b>	<b>4AIDS 7</b>	<b>4AIDS 8</b>	<b>4AIDS 9</b>
<b>Sr. No.</b>									
<b>1.</b>	29-11-2025	24-11-2025	25-11-2025	27-11-2025	26-11-2025	25-11-2025	24-11-2025	29-11-2025	25-11-2025
<b>2.</b>	06-12-2025	01-12-2025	02-12-2025	04-12-2025	03-12-2025	02-12-2025	01-12-2025	06-12-2025	02-12-2025
<b>3.</b>	13-12-2025	08-12-2025	09-12-2025	11-12-2025	10-12-2025	09-12-2025	08-12-2025	13-12-2025	09-12-2025

<b>11.</b>		<b>10.</b>	<b>9.</b>	<b>8.</b>	<b>7.</b>	<b>6.</b>	<b>5.</b>	<b>4.</b>
01-01-2026	31-01-2026	24-01-2026	17-01-2026	10-01-2026	03-01-2026	27-12-2025	20-12-2025	
03-01-2026	26-01-2026	19-01-2026	12-01-2026	05-01-2026	29-12-2025	22-12-2025	15-12-2025	
04-01-2026	27-01-2026	20-01-2026	13-01-2026	06-01-2026	30-12-2025	23-12-2025	16-12-2025	
06-01-2026	29-01-2026	22-01-2026	15-01-2026	08-01-2026	01-01-2026	25-12-2025	18-12-2025	
05-01-2026	28-01-2026	21-01-2026	14-01-2026	07-01-2026	31-12-2025	24-12-2025	17-12-2025	
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03-01-2026	26-01-2026	19-01-2026	12-01-2026	05-01-2026	29-12-2025	22-12-2025	15-12-2025	
01-01-2026	31-01-2026	24-01-2026	17-01-2026	10-01-2026	03-01-2026	27-12-2025	20-12-2025	
04-01-2026	27-01-2026	20-01-2026	13-01-2026	06-01-2026	30-12-2025	23-12-2025	16-12-2025	

12.	08-01-2026	10-01-2026	11-01-2026	13-01-2026	12-01-2026	11-01-2026	10-01-2026	08-01-2026	11-01-2026
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14.	29-01-2026	24-01-2026	25-01-2026	27-01-2026	26-01-2026	25-01-2026	24-01-2026	29-01-2026	25-01-2026
15.	05-02-2026	31-01-2026	01-02-2026	03-02-2026	02-02-2026	01-02-2026	31-01-2026	05-02-2026	01-02-2026

#### SUMMARY OF TEXTBOOK

SEMESTER	SUBJECT CODE	SUBJECT	Title of TEXT Book	Name of Author	Name of Publisher
4th	303105251	Operating System	Operating System Concept Essentials	Avi Silberschatz	John Wiley & Sons.
4th	303105253	Software Engineering	Software Engineering	Sommerville	Pearson.
4th	303105255	Computer Network	TCP/IP Illustrated	Richard Stevens	CRC Press, Pub. Year 2006
4th	303105257	Programming in Python with Full Stack Development	Mastering Flask	Jack Stauffer	Wiley Publication
4th	303191251	Probability, Statistics and Numerical Methods	Introductory Method of numerical Analysis	Sastry S.S.	Prentice Hall
4th	303193252	Professional Grooming and Personality Development	Professional Grooming and Personality Development	Dr. Shailesh Tandon And Dr. Ashish Kaushal.	Thakur Publication

## DETAILS OF VALUE-ADDED COURSES AND PROFESSIONAL COURSES

Sr. No.	Type of the activity planned	Details of the Company / Institute / experts to involve for the activity	Planned Hours
1	Value-added Course	Fundamental Of R Programming	30
2	Value-added Course	Impact Training for Better Placement	30

## NPTEL / SWAYAM / MOOCS COURSES LIST AND DETAILS

NPTEL (National Programme on Technology Enhanced Learning) offers a wide range of online courses for Artificial Intelligence Engineering Department. These courses are designed to cater to students, professionals, and anyone interested in the field of Artificial Intelligence Engineering Department.

### NPTEL (COMPULSORY)

Sr. No.	Name of Subject	Name of Course	Course Link
1	Computer Networks	Computer Network and Internet Protocol	<a href="https://onlinecourses.nptel.ac.in/noc22_cs19">https://onlinecourses.nptel.ac.in/noc22_cs19</a>

## STUDENT CHAPTER / COUNCIL DETAILS AND PLANNED ACTIVITIES

1. Society of AI&DS  
Faculty Coordinator: Dr. Sanjay Agal
2. DataMinds Chapter  
Faculty Coordinator: Dr. Sanjay Agal
3. IntelliFuture Society  
Faculty Coordinator: Dr. Sanjay Agal

### PLANNED ACTIVITIES

Sr. No.	Student Chapter	Activity	Type of Activity	Month
1	Industrial Visit	ZICA Vadodara	Industrial Visit	Dec 2025
2	Industrial Visit	ZICA Vadodara	Industrial Visit	Jan 2026

**CO-CURRICULAR AND EXTRA-CURRICULAR EVENTS DURING THE SEMESTER**

Sr. No.	Events	Month
2	Projections – National Level Technical Symposium	February 2026

**FLAGSHIP EVENTS OF CONCERNED INSTITUTE, FACULTY AND UNIVERSITY**

Sr. No.	Events	Month
1	Tech Expo	February 2026
2	Projection	January 2026
3	DHOOM	February/March 2026
4	PU Code Hackathon	March 2026
5	Parul University International Conference on Engineering and Technology – PiCET 2026	April/May 2026

**PROMINENT ACADEMIC COMPETITION (OUTSIDE PU )**

Sr. No.	Fest Name	Organizer	Month
1	Techfest	IIT Bombay	December 2025
2	Maker Fest	MSU Vadodara	February 2026
3	Prakarsh	SVIT Vasad	February 2026

**RANKER LIST****Semester 4**

Sr. No	Enrollment No	Name of students	SGPA	Rank
1	2303031240066	KASIREDDY LOKESH REDDY	9.41	1st
2	2303031240196	AMAN SHANKAR	9.73	2nd
3	2303031240325	CHINTHALA YUVA KISHORE	9.55	3rd

**COORDINATORS OF VARIOUS COMMITTEE**

Committee	Name of Co-Ordinator	Contact No.	Email Id
Anti Ragging,	Dr. Sanjay Agal	9898968008	sanjay.agal32685@paruluniversity.ac.in

WDC	Dr. Pooja Bhatt	9427261629	pooja.bhatt25509@paruluniversity.ac.in
Centre of International Relations and Research	Krishna Raulji	9879288274	krishnaben.raulji23529@paruluniversity.ac.in
PIERC	Hojiwala Robin	9924761999	robin.hojiwala39004@paruluniversity.ac.in
Scholarship,	Kamlesh Parmar	9376215191	kamlesh.parmar@paruluniversity.ac.in
PUMIS,	Hojiwala Robin	9924761999	robin.hojiwala39004@paruluniversity.ac.in
Mentoring	Jeenal Patel	9687685278	jeenal.patel30262@paruluniversity.ac.in
AWS	Prof Gaurav Varshney	8979747750	gaurav.varshney19340@gmail.com
NPTEL	Dr. Khyati Zalawadia	9879035838	khyati.zalawadia29490@paruluniversity.ac.in

## INTERACTION OF VARIOUS MEDIA PLATFORMS

Students are expected to follow the various social media handles and authorized websites for regular updates of teaching learning, extra and co-curricular activities and events.

### 1. University Website

[www.paruluniversity.ac.in](http://www.paruluniversity.ac.in)

### 2. Academic Platform

[www.ums.paruluniversity.ac.in](http://www.ums.paruluniversity.ac.in)

### 3. University Social Media Handles

<https://www.facebook.com/ParulUniversity>

<https://www.instagram.com/ParulUniversity>

<https://www.youtube.com/channel/UCeXQgKg0qhTKbNRi5hpIL9A>

<https://twitter.com/ParulUniversity>

<https://www.linkedin.com/company/paruluniversity>

### 4. Faculty Social Media Handles (Faculty of Engineering and Technology)

<https://www.instagram.com/engineering.at.pu>

<https://www.facebook.com/pufoengg>

<https://whatsapp.com/channel/0029VaAvUeYC6ZvoQ8cyox0x>

### 5. Faculty Social Media Handles (Faculty of Engineering and Technology)

[https://www.instagram.com/ai\\_ds\\_pu/](https://www.instagram.com/ai_ds_pu/)

[www.linkedin.com/in/ai-ds-pu-a4a82538a](https://www.linkedin.com/in/ai-ds-pu-a4a82538a)

[https://x.com/ai\\_ds\\_pu](https://x.com/ai_ds_pu)

# ANNEXURES

## PARUL UNIVERSITY

Office of the Registrar

12/Not Meat ion-1386E2024-25

December 9, 2024

### NOTIFICATION

**Sub: Fees to be charged for different documents in the University Ref:**

**(I) R/Notifleation-1552017-18 dated September 5. 2017**

**(ii) Proceedings of the Eighteenth Meeting of the Governing Body held on December 6. 2024**

**(II) Orders of the President**

**In partial modification of the notification cited at rcf.(i), one time fees at the rates shown below shall be paid by the students to obtain different types of credentials from the University. The revision shall come into effect from January I. 2025.**

<i>Certificate/Document</i>	<i>Fees</i>	<i>Mode of Payment</i>
Transcript	(i)Rs.2.000/- (First Set-4 copy)	Online Payment through Parul University Website
Transcript for MBBS	2000/- per copy	Online Payment through Parul University Website
Migration Certificate	Rs.1000/-	Online Payment through Parul University Website
N.O.C. Admission Cancellation	Rs.1000/-	Online Payment through Parul University Website
Statement of Mark	Rs.2000/-	Online Payment through Parul University Website
Document Verification of <ul style="list-style-type: none"> <li>Gmdc Card/Marks Card</li> <li>Degree Certificate</li> <li>Provisional Degree Certificate</li> <li>Etc...</li> </ul>	Rs.1000/- per document	Online Payment through Parul University Website Necessary documents will have to be produced by the student.
Correction of Student's Name/ ABC ID in Grade/Marks Card ( in case the wrong entry of name is made by the student in MIS)	Rs.1000/-	Online Payment through Parul University Website Necessarydocuments will have to be produced by the student.
Rank Certificate (University Exams)	Rs.500/-	Online Payment through Parul University Website
Language Certificate	Rs.500/-	Online Paymentthrough Parul University Website



Backlog Certificate	Rs.500/-	Online Payment through Parul University Website
Attempt Certificate	Rs.500/-	Online Payment through Parul University Website
CGPA to Percentage Certificate	Rs.500/-	Online Payment through Parul University Website
Duplicate Grade Card/Mark Sheet	2000/-	Online Payment through Parul University Website Submit an original copy of challan for having registered a complaint on loss of original document's with the police.
Duplicate Degree Certificate	5000/-	Online Payment through Parul University Website Submit an original copy of challan for having registered a complaint on loss of original document's with the police.
Other Certificate(Please specify details of certificate required)	Rs500/-	Online Payment through Parul University Website Necessary documents will have to be produced by the student.
Courier Charges	Rs.300/- for domestic. Rs.4000/- for International	Online Payment through Parul University Website

By Order



Registrar

To,

- 1) Deans of Faculties
- 2) Principals/ Directors of Colleges/ Institutes
- 3) Dean, Doctoral Studies and Research
- 4) Campus Director
- 5) Managing Director (Global), Industrial Collaborations; Academic Strategics
- 6) Academic Directors
- 7) Dean, Students' Welfare
- 8) Controller of Examinations
- 9) Chief Technology Officer
- 10) Chief Librarian

## **EXAMINATION RULES AND REGULATIONS**

- All candidates must occupy seat in exam hall before half an hour of commencement of examination time.
- Student should ensure that any objectionable material leading to UFM case is not lying around his/her seat prior to start of examination and it will be the sole responsibility of the student to inform to the supervisor.
- Enter your enrollment number, subject code, date of exam etc. at appropriate location.
- A candidate has to check barcode to be pasted by supervisor on front page of his answer book.
- Do not write your name or number or any sign in the answer book which reveals your identity.
- Please check that you have the correct examination paper and that your copy of it is complete.
- Under no circumstances, the candidate will be allowed to enter the examination hall after commencement of examination.
- Please read the instructions at the head of your paper, and make sure you understand and follow them.
- Begin a new answer on separate page.
- Write relevant answer of the question in a clear and legible hand writing on both sides of answer book in respective Section-A and Section-B.
- Do not write anything in space provided for marks.
- Do not leave your seat in any circumstance without the prior permission of the supervisor.
- No candidate will be allowed to leave the examination hall after the commencement of examination till 45 minutes and during last 15 minutes of the examination session.
- Students may not leave the examination room (except when they have finished their examination). If the medical condition appears serious and the student is not able to resume the exam, Jr. Supervisor should call Security and request medical assistance. In this case the student may be able to resume the examination.
- If you need to do any rough work, use the back page(s) of your answer book(s) and either cross through the rough work or identify it clearly as such before handing in your script; you may not use paper of your own for rough work).
- It is the students' responsibility to make sure their calculators are working and have fresh batteries. Students are neither permitted to share calculators nor to pass them between each other during an examination. Use of a non-permissible type of calculator or other electronic device will be regarded as cheating.
- If any objectionable material related to exam or mobile phone or programmable calculator is found with candidate or found exchanging answer book/ question paper with other candidate, he/she will be immediately expelled and the final punishment will be imposed once the matter is taken up by the authorities.
- There will be warning bell 10 minutes before the completion of the examination.

- Hollow sticker should be pasted after warning bell at appropriate place of the front page of the answer book, covering the information filled up by the candidate and the barcode label.
- All unused answer books and other University examination materials must be handed over to Supervisor and must NOT be taken from the room. A disciplinary action will be taken against the candidate who disobeys the instructions of the supervisor or misbehaves or violates the code of conduct of examination of Parul University.
- If any examinee is violating university rules, he/she is liable to be punished under the provision of the University rules.



No: PU/EXAM/Functions/2015/5

Date: 18/08/2015

### **Instructions to Examinees/Candidates**

1. All candidates must occupy seat in exam hall before half an hour of commencement of examination time.
2. Student should ensure that any objectionable material leading to UFM case is not lying around his/her seat prior to start of examination and it will be the sole responsibility of the student to inform to the supervisor.
3. Enter your enrollment number, subject code, date of exam etc. at appropriate location.
4. A candidate has to check barcode to be pasted by supervisor on front page of his answer book.
5. Do not write your name or number or any sign in the answer book which reveals your identity.
6. Please check that you have the correct examination paper and that your copy of it is complete.
7. Under no circumstances, the candidate will be allowed to enter the examination hall after commencement of examination.
8. Please read the instructions at the head of your paper, and make sure you understand and follow them.
9. Begin a new answer on separate page.
10. Write relevant answer of the question in a clear and legible hand writing on both sides of answer book in respective Section-A and Section-B.
11. Do not write anything in space provided for marks.
12. Do not leave your seat in any circumstance without the prior permission of the supervisor.
13. No candidate will be allowed to leave the examination hall after the commencement of examination till 45 minutes and during last 15 minutes of the examination session.
14. Students may not leave the examination room (except when they have finished their examination). If the medical condition appears serious and the student is not able to resume the exam, Jr. Supervisor should call Security and request medical assistance. In this case the student may be able to resume the examination.
15. If you need to do any rough work, use the back page(s) of your answer book(s) and either cross through the rough work or identify it clearly as such before handing in your script; you may not use paper of your own for rough work).
16. It is the students responsibility to make sure their calculators are working and have fresh batteries. Students are neither permitted to share calculators nor to pass them between each other during an examination. Use of a non-permissible type of calculator or other electronic device will be regarded as cheating.
17. If any objectionable material related to exam or mobile phone or programmable calculator is found with candidate or found exchanging answer book/ question paper with other candidate, he/she will be immediately expelled and the final punishment will be imposed once the matter is taken up by the authorities.
18. There will be warning bell 10 minutes before the completion of the examination.

19. Hollow sticker should be pasted after warning bell at appropriate place of the front page of the answer book, covering the information filled up by the candidate and the barcode label.
20. All unused answer books and other University examination materials must be handed over to Supervisor and must NOT be taken from the room. A disciplinary action will be taken against the candidate who disobeys the instructions of the supervisor or misbehaves or violates the code of conduct of examination of Parul University.
21. If any examinee is violating university rules, he/she is liable to be punished under the provision of the University rules.

- Controller of Examinations  
Parul University.

## Parul University Continuing Education Programs

### **About Continuing Education Programs:**

Parul University's Continuing Education Programs stands at the forefront of skill-based education, dedicated to bridging the gap between the dynamic demands of industry and the expertise of today's professionals. With an expansive range of flexible learning programs, CEP is designed to meet the evolving needs of students and organizations alike, equipping learners with in-demand skills and fostering growth in their careers and entrepreneurial pursuits.

### **About Certificate Programs Offered:**

CEP offers diverse programs developed in line with current industry standards, allowing individuals and organizations to choose learning paths that match their interests and goals. From Certificate to Fellowship our offerings promote professional development through a unique blend of online and offline lectures, experiential learning, practical projects, and engaging activities.

### **About Dual Degree Programs Offered:**

As per the University Grants Commission (UGC), candidates are allowed to pursue two academic degrees. They can pursue up to two courses affiliated with the same university or from different universities simultaneously. With the ever-increasing knowledge and skills in today's competitive world, Dual Degree opportunities allow you to pursue two degrees at the same time. Studying dual degrees will provide you with the most competitive advantage and give you diverse knowledge in multiple fields and disciplines. Undergraduate and Postgraduate students can study two-degree programs in multiple fields and fulfill the coursework and program requirements

## **Diploma and Post Graduate Diploma Programs Offered by Parul University as Dual Degree**

### **Diploma Programs**

- Native Mobile Application Development
- AR VR (Augmented Reality Virtual Reality)
- Neural Network and Deep Learning
- Blockchain Technology (Online Mode)
- Robotics and Automation
- Industrial Design

- Infection Prevention Control and Patient Safety
- Biomedical Instrumentation
- Green and Sustainable Technology
- Digital Marketing (Online Mode)
- Computer Application and Business Management
- Financial Services and Portfolio Management (Online Mode)
- Bharatnatyam
- Theatre
- Music
- Industrial Automation
- Cyber Crimes and Security Laws
- Regulatory Affairs
- Semiconductor Technology
- Game Design & Development
- Business Analytics (Online Mode)
- Journalism

**Program Fees – 25000/- (Duration – 1 year)**

## PG Diploma Programs

- Intellectual Property Rights
- Digital and social Media Marketing
- Industrial Relations and Personnel Management (Online Mode)
- Labour Law
- Diabetic Educator

**Program Fees – 30000/- (Duration – 1 year)**

## For More Information Contact to:

Sr. No.	Name of Staff	Contact Number	Room No.	Location
1.	Mr. Ankit Dudrejiya, Manager	+917486009889	122	Subhashchandra Bose Bhawan (Agriculture Building), Parul University
2.	Mr. Ravi Kadramekar, Deputy Manager	+919510971637	122	

# Centre for Distance and Online Education (CDOE)

## Backdrop

The Centre for Distance & Online Education (CDOE) at Parul University is committed to democratizing access to quality higher education by leveraging flexible, technology-enabled learning modes. Our mission is to empower learners—especially working professionals, remote learners, and lifelong learners—with UGC-approved, digitally delivered programmes that maintain the highest academic standards.

## Key Features & Strengths

- **UGC-Recognized & Regulated:** The programs offered under CDOE comply with UGC (OL & ODL) regulations, ensuring equivalence with regular-mode degrees.
- **NAAC A++ Accredited University:** Parul University's institutional reputation adds strength and credibility to its distance and online and distance program offerings.
- **Diverse Program Portfolio:** CDOE offers a wide range of undergraduate and postgraduate online and distance programs—spanning Arts, Commerce, Science, Management, Computer Applications and more.
- **Flexible Learning Mode:** Examinations for Online learners are conducted in online mode to suit remote learners.
- **Scholarship & Dual Degree Options:** Offered programs include scholarship options and dual degree options to maximize value for students.
- **Global & Virtual Exposure:** Through virtual classrooms and global exchange programs, learners get exposure to international perspectives and best practices.

## Why Choose CDOE, Parul?

- **Accessibility & Convenience:** Learn from anywhere, anytime, without needing to relocate to campus.
- **Quality & Credibility:** Degrees awarded are recognized and equivalent to traditional formats under UGC norms.
- **Industry-Relevant Curriculum:** Programs are designed to meet evolving industry needs, with input from domain experts and faculty.
- **Learner Support & Resources:** Digital libraries, faculty mentors, technical support, and online study materials ensure smooth learning experiences.
- **Career Advancement & Upskilling:** Ideal for professionals aiming to progress in their careers without interrupting work commitments.



The list of program offerings is as below:-

S.No	Type	Programme Name	Program me Name.1	Durati on	Eligibility	Lump Sum Fee	Annual Fee	Semester Fee
1	Online Learning (OL)	Bachelor of Arts	B.A.	3 Years	10+2 Examination or any other equivalent Examination	₹ 70000.00	₹ 90000 ₹ 30,000 per year	₹111000 ₹18,500 per semester
2	Online Learning (OL)	Bachelor of Business Administration	B.B.A.	3 Years	10+2 Examination or any other equivalent Examination	₹ 70000.00	₹ 90000 ₹ 30,000 per year	₹111000 ₹18,500 per semester
3	Online Learning (OL)	Bachelor of Computer Application	B.C.A.	3 Years	10+2 Examination or any other equivalent Examination "	₹ 70000.00	₹ 90000 ₹ 30,000 per year	₹ 111000 ₹ 18,500 per semester
4	Online Learning (OL)	Master of Business Administration	M.B.A.	2 Years	Graduates with minimum 50% marks (45% for SC/ST/OBC category)	₹ 90000.00	₹ 1,10,000.00 ₹ 55,000 per year	₹ 1,50,000.00 ₹37,500 per semester
5	Online Learning (OL)	Master of Computer Application	M.C.A.	2 Years	Graduates with minimum 50% marks (45% for SC/ST/OBC category)	₹ 80000.00	₹ 1,00,000.00 ₹ 50,000 per year	₹ 1,20,000.00 ₹30,000 per semester
6	Online Learning (OL)	Master of Commerce	M. Com	2 Years	Graduates with minimum 50% marks (45% for SC/ST/OBC category)	₹ 40000.00	₹ 1,00,000.00 ₹ 50,000 per year	₹ 60,000.00 ₹15,000 per semester

7	Online Learning (OL)	Master of Arts - Journalism & Mass Communication	M.A. - J.M.C.	2 Years	Graduates with minimum 50% marks (45% for SC/ST/OBC category)	₹ 40000.00	₹ 1,00,000.00 ₹ 50,000 per year	₹ 60,000.00 ₹15,000 per semester
8	Online Learning (OL)	Master of Arts - English Language Teaching	M.A. - E.L.T.	2 Years	Graduates with minimum 50% marks (45% for SC/ST/OBC category)	₹ 40000.00	₹ 1,00,000.00 ₹ 50,000 per year	₹ 60,000.00 ₹15,000 per semester
9	Online Learning (OL)	Master of Social work	M. S. W.	2 Years	Graduates with minimum 50% marks (45% for SC/ST/OBC category)	₹ 40000.00	₹ 1,00,000.00 ₹ 50,000 per year	₹ 60,000.00 ₹15,000 per semester
10	Online Learning (OL)	Master of Science - Applied Mathematics	M. Sc. - Applied Mathematics	2 Years	Graduates with minimum 50% marks (45% for SC/ST/OBC category) with mathematics at the 10+2	₹ 40000.00	₹ 50,000.00 ₹ 25,000 per year	₹ 60,000.00 ₹15,000 per semester
11	Open & Distance Learning (ODL)	Bachelor of Arts - Economics (Hons)	B. Arts - Economics (Hons)	4 Years	10+2 Examination or any other equivalent Examination	₹ 85000.00	₹ 1,20,000.00 ₹ 30,000 per year	₹ 1,48,000.00 ₹18,500 per semester
12	Open & Distance Learning (ODL)	Bachelor of Arts -English (Hons)	B.Arts-English (Hons)	4 Years	10+2 Examination or any other equivalent Examination	₹ 85000.00	₹ 1,20,000.00 ₹ 30,000 per year	₹ 1,48,000.00 ₹18,500 per semester

13	Open & Distance Learning (ODL)	Bachelor of Arts - Political Science (Hons)	B. Arts - Political Science (Hons)	4 Years	10+2 Examination or any other equivalent Examination	₹ 85000.00	₹ 1,20,000.00 ₹ 30,000 per year	₹ 1,48,000.00 ₹18,500 per semester
14	Open & Distance Learning (ODL)	Bachelor of Arts - Sociology (Hons)	B.Arts- Sociology (Hons)	4 Years	10+2 Examination or any other equivalent Examination	₹ 85000.00	₹ 1,20,000.00 ₹ 30,000 per year	₹ 1,48,000.00 ₹18,500 per semester
15	Open & Distance Learning (ODL)	Bachelor of Science - Mathematics (Hons)	B.Sc - Mathematics (Hons)	4 Years	10+2 Examination or any other equivalent Examination	₹ 85000.00	₹ 1,20,000.00 ₹ 30,000 per year	₹ 1,48,000.00 ₹18,500 per semester
16	Open & Distance Learning (ODL)	Bachelor of Social Work (Hons)	B.S.W - (Hons)	4 Years	10+2 Examination or any other equivalent Examination	₹ 85000.00	₹ 1,20,000.00 ₹ 30,000 per year	₹ 1,48,000.00 ₹18,500 per semester
17	Open & Distance Learning (ODL)	Bachelor of Business Administration (Hons)	B.B.A (Hons)	4 Years	10+2 Examination or any other equivalent Examination	₹ 85000.00	₹ 1,20,000.00 ₹ 30,000 per year	₹ 1,48,000.00 ₹18,500 per semester
18	Open & Distance Learning (ODL)	Bachelor of Computer Application (Hons)	B.C. A (Hons)	4 Years	10+2 Examination or any other equivalent Examination	₹ 85000.00	₹ 1,20,000.00 ₹ 30,000 per year	₹ 1,48,000.00 ₹18,500 per semester
19	Open & Distance Learning (ODL)	Bachelor of Commerce (Hons)	B.Com (Hons)	4 Years	10+2 Examination or any other equivalent Examination	₹ 85000.00	₹ 1,20,000.00 ₹ 30,000 per year	₹ 1,48,000.00 ₹18,500 per semester

20	Open & Distance Learning (ODL)	Master of Business Administration	MBA	2 Years	Graduates with minimum 50% marks (45% for SC/ST category)	₹ 90000.00	₹ 1,10,000.00 ₹ 55,000 per year	₹ 1,50,000.00 ₹ 37,500 per semester
21	Open & Distance Learning (ODL)	Master of Computer Application	MCA	2 Years	Graduates with minimum 50% marks (45% for SC/ST/OBC category)	₹ 80000.00	₹ 1,00,000.00 ₹ 50,000 per year	₹ 1,20,000.00 ₹ 30,000 per semester
22	Open & Distance Learning (ODL)	Master of Commerce	M. Com	2 Years	Graduates with minimum 50% marks (45% for SC/ST/OBC category)	₹ 40000.00	₹ 50,000.00 ₹ 25,000 per year	₹ 60,000.00 ₹ 15,000 per semester
23	Open & Distance Learning (ODL)	Master of Arts - English Language Teaching	M.A. - ELT	2 Years	Graduates with minimum 50% marks (45% for SC/ST/OBC category)	₹ 40000.00	₹ 50,000.00 ₹ 25,000 per year	₹ 60,000.00 ₹ 15,000 per semester
24	Open & Distance Learning (ODL)	Master of Arts (Economics)	M.Arts (Economics)	2 Years	Graduates with minimum 50% marks (45% for SC/ST/OBC category)	₹ 40000.00	₹ 50,000.00 ₹ 25,000 per year	₹ 60,000.00 ₹ 15,000 per semester
25	Open & Distance Learning (ODL)	Master of Arts (English Literature)	M. Arts (English Literature)	2 Years	Graduates with minimum 50% marks (45% for SC/ST/OBC category)	₹ 40000.00	₹ 50,000.00 ₹ 25,000 per year	₹ 60,000.00 ₹ 15,000 per semester
26	Open & Distance Learning (ODL)	Master of Arts (Geography)	M.Arts (Geography)	2 Years	Graduates with minimum 50% marks (45% for SC/ST/OBC category)	₹ 40000.00	₹ 50,000.00 ₹ 25,000 per year	₹ 60,000.00 ₹ 15,000 per semester

The learner can register and log in at <https://admissions.paruluniversity.ac.in/student/login> for your admission formalities.

### **Parul University**

### **Faculty of Engineering & Technology**

### **Work Integrated Programs 2025-26**

#### **Available M.Tech Programmes: -**

- M.Tech in Computer Engineering
- M.Tech in Structural Engineering
- M.Tech in Transportation Engineering
- M.Tech in Construction Project Management
- M.Tech in Chemical Engineering
- M.Tech in CAD/CAM Engineering

#### **Eligibility for Admission: -**

- Professional working in Registered Industry/ Organization (Central/State)/ Private/ Public Limited Company/ MSMEs located within 50 km radial distance from the institute.
- Minimum of ONE-year Full Time/ Regular Working Experience
- A candidate with 4 yrs. Bachelor's Degree or equivalent (level 6.00)
- Obtained at least 50% marks (45% for reserved category) in the qualifying examination at the UG Level.

#### **Available B.Tech Programmes: -**

- B.Tech in Electrical Engineering
- B.Tech in Mechanical Engineering
- B.Tech in Chemical Engineering
- B.Tech in Computer Science Engineering

#### **Eligibility for Admission: -**

- Professional working in Registered Industry/ Organization (Central/State)/ Private/ Public Limited Company/ MSMEs located within 50 km radial distance from the institute.
- Minimum of ONE-year Full Time/ Regular Working Experience
- A candidate must meet the Lateral eligibility criteria as per AICTE norms.
- Obtained a minimum 3-year Diploma in Engineering/Technology with at least 45% marks (40% for reserved category) in the qualifying examination.

#### **General Guidelines: -**

- Classes will be conducted every Saturday and Sunday from 7:30 AM to 4:30 PM for all courses in physical mode only.
- Compulsory needed to maintain minimum attendance criteria.
- An appointment Letter, Salary Slip & Letter of Association along with a No Objection Certificate (NOC) from employers, must and have to be submitted during the time of admission.
- It is mandatory for every candidate to appear for all examinations (Mid-semester and End-Semester) and have to score minimum marks as per university norms.
- Examination will be conducted in physical mode, following the same process as regular students.

### **Why Choose Parul University's WIP?**

- Improved and efficient means of upgrading their existing technical skills
- Opportunity to boost career growth in their existing organization
- Application of theory and trending technologies learnt from classroom to workplace for better consistent outcomes
- Better understanding of practical knowledge and applications
- Can pursue further studies without leaving current job & professional aspirations
- A seamless balance between work and academics through flexible learning
- An industry-relevant curriculum specially designed for working professional

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