

**COMPUTING AND SYSTEM DESIGN**

**DOMAIN IN-CHARGE : DR. REKHA SHARMA**

**OBJECTIVES**

- To understand fundamental concepts of computer Organization and Architecture.
- To design and develop system software.
- To design computing based systems and develop applications useful for society.
- To develop logical and creative thinking for problem solving.
- To enhance the performance of hardware / software.

**FACULTY**

- Mrs. Ashwini Patil
- Mrs. Tarumayi Nagle
- Mrs. Deepali Joshi
- Mrs. Anushree Patkar
- Mr. Swapnil Wahi
- Mr. Chandan Nighat

**SUBJECT AREAS**

Computer organization and Architecture, Discrete Mathematics, Analysis of Algorithms, Digital Logic Design And Analysis, Operating System, Theory of Computer Science, System Programming & Compiler Construction, Microprocessor, Advanced Microprocessor, Parallel & Distributed, High Performance Computing, Advance Operating System, Advance Algorithm, Embedded Systems, Quantum computation, Complexity Theory.

**PROJECT AREAS**

Mobile Based Applications, Localization of linux, Robotics, Parallel Programming, IOT based Application, Virtualization System Programming, Optimization of Compiler, Home Automation System, Approximation algorithms, Adaptive Computing.

**TECHNOLOGIES**

Arduino kit, Raspberry Pi kit, Android OS, Net frame work, Programming Languages: C/C++, Java, Go, R programming, Python, Open ML etc.

**INDUSTRIES**

Intel , IBM, Google, Apple, Oracle

**UPCOMING TRENDS**

Data Analytics, IOT, High Performance Computing, Real Time OS and Embedded System, Quantum Computing, Ubiquitous Computing etc.

**COMMUNICATION NETWORKING AND WEB ENGINEERING**

**DOMAIN IN CHARGE : DR. ANAND KHANDARE**

**OBJECTIVES**

- Build an understanding of the fundamental concepts of data communication.
- Build an understanding of the fundamental concepts of computer networking.
- Allow the student to gain expertise in some specific areas of networking, wireless communication.
- Allow the student to gain expertise in overall security of computer.
- To gain knowledge in web development.
- To gain knowledge in Mobile development.
- To create and deploy applications in cloud.

**FACULTY**

- Dr. R.R. Sedamkar
- Dr. Zahir Alam
- Mrs. Lydia Suganya
- Mrs. Niki Modi
- Mr. Swapnil Bhagat

**SUBJECT AREAS**

Computer Network, Network Security, Mobile Computing, Web technology, Internet technologies, Cloud Computing, Wireless communication, IOT, Network Programming, Software Defined Network

**PROJECT AREAS**

Wireless Security & App development, Software defined network, Internet of things, Mobile Communication.

**TECHNOLOGIES**

Software defined network, Android simulator, XML, Meteor

**INDUSTRIES**

CISCO, NETGEAR, D-Link, Microsoft, Amazon, Tata Communication, IBM, IBM security, Symantec, RSA, BlackBerry

**UPCOMING TRENDS**

SD-WAN, Automation and orchestration, Cloud networking, Visibility and analytics, Spectrum Allocation, Driverless Everything, Security, Privacy and Hiding Bodies in the Cloud, LiFi Lights, Molecular Communication

**MULTIMEDIA SYSTEM DESIGN AND DEVELOPMENT**

**DOMAIN IN CHARGE : DR. VIDYADHARI SINGH**

**OBJECTIVES**

- The students will be able to create graphic based animation for their presentations.
- They will be able to apply various image and video processing techniques.

**FACULTY**

- Mrs. Foram Shah
- Ms. Pranjali Santhe
- Mr. Aniket Mishra
- Mrs. Poonam Joshi
- Ms. Priti Ruma
- Mrs. Pandit Savitri Saachi

**SUBJECT AREAS**

Computer Graphics, Image Processing, Video Processing, Animation, Computer Vision, Human Computer Interaction, Multimedia System, ARVR (Augmented Reality & Virtual Reality)

**PROJECT AREAS**

Speaker identification, 3D modelling of objects, Video Compression, Image Processing, Development

**TECHNOLOGIES**

Unity, Unreal, CryEngine, Blender, Photoshop, CorelDraw, Indesign, MatLab

**INDUSTRIES**

Nvidia, AMD, Red Chilli VFX, CreatFX, Adobe, Ubisoft, Gameloft, Electronic Arts, PlayStation, Xbox

**UPCOMING TRENDS**

Digital Spherical Display, Digital Spokesperson (Live Actor), Multicast Backbone, SML (Synchronized Multimedia Language), Animation, Android Application, MIDI, Hyper Media Documents, HDTV & UDTV, 3-D Technologies & Holography

**SOFTWARE DEVELOPMENT AND INFORMATION MANAGEMENT SYSTEM**

**DOMAIN IN CHARGE : DR. RASHMI K. THAKUR**

**OBJECTIVES**

- To focus on processing and managing the retrieval of data from databases.
- To identify the areas where databases can be used with various techniques to handle huge data.
- To analyze and identify the problems and design and choose relevant models and algorithms which can be applied.
- To study various algorithms to find patterns to predict and forecast, so as to improve the performance.
- To explore and research current trends and technologies in the domain.

**FACULTY**

- Dr. Sheetal Rathi
- Dr. Harshali P. Patil
- Mrs. Veena Kulkarni
- Dr. Prachi Janrao
- Mr. Shailesh Sangle
- Mr. Loukik Salvi
- Mrs. Deepali Joshi

**SUBJECT AREAS**

Database Management System, Structured and Object Oriented Analysis and Design, Distributed Databases, Software Engineering, Project management, Enterprise Resource Planning, Software Architecture, Data warehousing, and mining, Big data analytics, Data Science.

**PROJECT AREAS**

Automated Timetable Generator, Smart Delivery System, Online Canteen Management System using Payment Gateway Student Management System, Billing System using Raspberry-pi, Roadways Safety Suggestions, Learning Management System, Smart Automated Computer Education Management System for Indigent Students (SACEMS), Realtime monitoring and control in irrigation system

**TECHNOLOGIES**

Microsoft SQL Server, MongoDB, mysql, Java, Php, C++, Python Programming, R, Weka, Orange, Eclipse, Odoo, Power bi, Tableau, Rational Rows, staruml, Github, Cloud era, VMware etc.

**INDUSTRIES**

Oracle, Microsoft, Infosys, Accenture, IBM

**UPCOMING TRENDS**

Real Time Database Systems, Parallel and Distributed Databases, Database Security, Data Mining, Distributed Data Mining, Big Data Analytics, Recommender System, Sentiment Analysis, Twitter Analytics, Predictive Analytics

**INTELLIGENT SYSTEM DESIGN & DEVELOPMENT**

**DOMAIN IN CHARGE : DR. MEGHARANI PATIL**

**OBJECTIVES**

- To understand basic knowledge representation, problem solving, and learning methods of intelligent system.
- To assess the applicability, strengths, and weaknesses of the basic knowledge representation, problem solving, and learning methods in solving particular engineering problems.
- To develop intelligent systems by assembling solutions to concrete computational problems.

**FACULTY**

- Mrs. Shiwani Gupta
- Mrs. Vaishali Nirgude
- Dr. Manish Rana
- Mr. Vikas Singh
- Ms. Anam Khan
- Mrs. Tarunima Mukharjee

**SUBJECT AREAS**

Artificial Intelligence, Soft Computing, Machine Learning, Deep Learning, Natural Language Processing, Robotics, Human Machine Interaction

**PROJECT AREAS**

Intelligent Chatbot, Search Engines, Robots Recommender Systems, Smart Home Systems, Self Driving Cars, Smart mobiles, Smart Agriculture system, Disaster management system, Vehicle/Ambulance tracking system, Medical wearable devices, Intelligent traffic management, Intelligent Tutoring / Training system, Intelligent Tourist

**TECHNOLOGIES**

AI Tools and Frameworks : Scikit Learn, TensorFlow, Theano, Caffe, MxNet, Keras, PyTorch, CNTK, Auto ML, OpenNN, H2O( Open Source AI Platform), Google ML Kit , Specific expert system tools, R Programming, Python Programming, Java Programming

**INDUSTRIES**

AlBrain, Amazon, Apple, CloudMinds, Facebook, Google, IBM, Intel, Iris AI, Twitter, CCC, Veritone, LogicMonitor, nate, People.ai, Ascent, Osaro, Riskified, Nvidia, Nuro, Tempus, Ascent, DataRobot, Freenome, Grammarly, CloudMinds, H2O.ai, Nauto, OpenAI, Sift Science, SoundHound, Vicarious, Zoox, Zymogen

**UPCOMING TRENDS**

Greater Cloud and AI collaboration, AI solutions for IT AIOps, AI for structuring data, AI Ethics, Large scale adoption of AI in the IT industry, Augmented Processes, Voice and Language Driven Intelligence, Deep learning, AI replacing workers, Internet of Things (IoT), Breakthroughs in emotional understanding, AI in shopping and customer service, Ethical questions, A problem with representation, Language learning, Positive reinforcement