JAWAHAR LAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR
ANANTHAPURAMU - 515 002 (A.P)
RESEARCH & DEVELOPMENT

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Professor of CSE. &
Director

Date: 29.10.2022

IMPORTANT CIRCULAR/NOTICE

Sub: JNTUA – R & D – Ph.D. – M.Tech/M.Pharmacy – Subjects offered –
Course work - Intimation - Reg.
Ref: Regulations for the academic year 2021-22.

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All the Ph.D. Research Scholars admitted during the academic year 2021-22 are hereby informed that as per Ph.D. Regulations scholars can pursue their course work along with M.Tech/M.Pharmacy students at JNTUA Constituent Institutions and Research Centers of JNTUA.

In this context, Constituent Units/Research centres offering P.G. programmes along with the courses offered in the first semester are shown in the Annexure appended with this circular. Hence, the scholars are advised to register for the subjects /courses related to their area of research and Constituent Units/Research Centers opted to attend for course work. The registration forms are to be submitted to the under signed on or before 05.11.2022.

The scholars are advised to approach the respective Principals of JNTUA Constituent Institutions/Ph.D Research centers of JNTUA where they will be carrying out their course work for detailed information.

DIRECTOR

Constituent Uints/Research Centres P.G. Courses offered M.Tech/M.Parmacy

S.No	Constituent/Research centers	Dept.	Specialization		Courses offered M.Tech-I Sem
1.	JNTUA College of Engineering (Autonomous) :: Ananthapuramu	CE	STRUCTURAL ENGINEERING	1	Advanced Structural Analysis
				2	Advanced Concrete Technology
				3	Theory and Analysis of Plates
				4	Experimental Stress Analysis
				5	Research Methodology and IPR
			COMPUTER AIDED STRUCTURAL ENGINEERING	1	Matrix Methods of Structural Analysis
				2	Advanced Concrete Technology
				3	C++ and Data Structures
				4	Experimental Stress Analysis
				5	Research Methodology and IPR
			ENVIRONMENTAL ENGINEERING	1	Water Supply Systems
				2	Air Pollution and Control
				3	Environmental Chemistry and Micro Biology
				4	Finite Element Methods
				5	Research Methodology and IPR
		EEE	ELECTRICAL POWER SYSTEMS	1	Advanced Power System Protection
				2	Power System Security and State Estimation
				3	Modeling and Analysis of HVDC Systems
				4	Electric Vehicle Engineering
				5	Research Methodology and IPR
			CONTROL SYSTEMS	1	Modern Control Systems
				2	Adaptive Control Theory
				3	Advanced Digital Signal Processing
				4	Intelligent Control Systems
				5	Research Methodology and IPR
			POWER AND INDUSTRIAL DRIVES	1	Switched Mode Power Converters
				2	Machine Modeling and Analysis
				3	Power Electronic Control of DC Drives
				4	Wind Energy Conversion Systems
				5	Research Methodology and IPR
			RELIABILITY ENGINEERING	1	System Reliability Concepts
				2	Life Testing & Reliability Estimation
				3	Software Reliability
				4	Reliability in Engineering Design
				5	Research Methodology and IPR
		ME	REFRIGERATION AND AIR CONDITIONING	1	Advanced Refrigeration
				2	Advanced Thermodynamics
				3	Conduction and Radiation Heat Transfer
				4	Principles of Air Conditioning
				5	Research Methodology and IPR
			ENERGY SYSTEMS	1	Conduction and Radiation Heat Transfer
				2	Renewable Energy Sources
				3	Applied Solar Energy Engineering
				4	Reliability & Safety Engineering
				5	Research Methodology and IPR
			INTERNAL COMBUSTION ENGINEERING	1	Advanced Thermodynamics
				2	Advanced Heat & Mass Transfer
				3	Combustion and Emission in Engines

				4	Advanced Fluid Mechanics
				5	Research Methodology and IPR
		ECE	ADVANCED MANUFACTURING SYSTEMS	1	Automation in Manufacturing
				2	Computer Aided Manufacturing
				3	Special Manufacturing Processes
				4	Design for Manufacturing and Assembly
				5	Research Methodology and IPR
			DIGITAL ELECTRONICS AND COMMUNICATION SYSTEMS	1	Advanced Digital System Design
				2	Wireless and Mobile Communication
				3	Fuzzy Systems and Neural Networks
				4	Advanced Digital Signal Processing
				5	Research Methodology and IPR
			VLSI SYSTEM DESIGN	1	CMOS Analog IC Design
				2	CMOS Digital IC Design
				3	Microchip Fabrication Techniques
				4	FPGA Architecture and Applications
				5	Research Methodology and IPR
		CSE	COMPUTER SCIENCE	1	Advanced Computer Networks
				2	Fundamentals of Data Science
				3	Agile Secure Software Engineering
				4	Distributed Systems
				5	Research Methodology and IPR
			SOFTWARE ENGINEERING	1	Advances in Software Engineering
				2	Service Oriented Architecture
				3	Advanced Data Structures and Algorithms
				4	Software Architecture & Design Patterns
				5	Research Methodology and IPR
			ARTIFICIAL INTELLIGENCE	1	Fundamentals of Artificial Intelligence
				2	Soft Computing
				3	Digital Image Processing
				4	Advanced Data Structures and Algorithms
				5	Research Methodology and IPR
		Chemical Engg.	NANO TECHNOLOGY	1	Physics and Chemistry of Nano-materials
				2	Synthesis of Nanostructures
				3	Mathematical Modeling and Simulation
				4	Solar Energy and Harvesting Techniques
				5	Research Methodology and IPR
2.	JNTUA College of Engineering Pulivendula	EEE	ELECTRICAL POWER SYSTEMS	1	Economic Operation of Power Systems
				2	Advanced Power System Protection
				3	Modelling and Analysis of HVDC Systems
				4	Modern Control Theory
				5	Solar & Wind Energy Conversion Systems
				6	Reliability Engineering and Applications to Power Systems
				7	Power System Optimization
				8	Electric Vehicle Engineering
				9	Research Methodology and IPR
		ME	CAD/CAM	1	Geometric Dimensioning and Tolerancing
				2	Advanced Finite Element Methods
				3	Design of Hydraulic & Pneumatic systems
				4	Advances in Manufacturing Technology
				5	Research Methodology and IPR
		ECE	DECS	1	Advanced Digital System Design
				2	Wireless and Mobile Communications
				3	CMOS Digital IC Design

No.	College	Dept	Specialization	#	Subject
				4	5G Communications
				5	Advanced Digital System Design Lab
				6	Wireless and Mobile Communications Lab
				7	Research Methodology and IPR
				8	English for Research Paper Writing
		CSE	CSE	1	Advanced Data structures and algorithms
				2	Machine Learning
				3	IOT
				4	Data Science
				5	Research Methodology and IPR
				6	Pedagogy
3.	G. Pulla Reddy Engineering College (Autonomous): Kurnool	CSE	Computer Science and Engineering	1	Advanced Data structures and Algorithms
				2	Software Engineering and Applications
				3	Artificial Intelligence
				4	Cryptography & Network Security
				5	Natural Language Processing
				6	Research Methodology & IPR
		ECE	VLSI & Embedded Systems	1	Digital VLSI Design
				2	Advanced Embedded Systems
				3	Advanced Digital System Design Using Verilog
				4	Research Methodology & IPR
		EEE	Automation & Robotics	1	Industrial Automation Systems
				2	Power Electronics & Drives
				3	Neural Networks & Fuzzy Logic
				4	Machine Learning
				5	Digital Control Systems
				6	Research Methodology & IPR
		ME	Advanced Manufacturing Technology	1	Advanced Production Technology
				2	Advanced Materials Engineering
				3	Advanced Finite Element Analysis
				4	Research Methodology & IPR
		CE	Structural Engineering	1	Theory of Elasticity
				2	Advanced Structural Analysis
				3	Theory of Plates
				4	Applications of Cement & Composites
				5	Bridge Engineering
				6	Research Methodology & IPR
4.	S V College of Engineering Tirupati	ECE	VLSI Design	1	CMOS Analog IC Design
				2	CMOS Digital IC Design
				3	Microchip Fabrication Techniques
				4	Nanomaterials & Nanotechnology
				5	CAD for VLSI
				6	Device Modelling
				7	CPLD and FPGA Architectures and Applications
				8	ASIC Design
5.	RGMCET	CE	Structural Engineering	1	Structural Dynamics
				2	Theory of Elasticity
				3	Engineering Mathematics
				4	Analysis of Shells and Folded Plates
				5	Research Methodology & IPR
				6	Structural Design Lab-I
				7	Structural Engineering Lab-I
				8	Continuous Comprehensive Evaluation
				9	English for Research Paper Writing and Documentation
		EEE	Power Electronics	1	Analysis of Power Electronic Converters
				2	Power Electronic Control of DC Drives
				3	Modeling & Analysis of Electrical Machines

				4	Modern Control Theory
				5	Research Methodology & IPR
				6	Power Converters Lab
				7	DC Drives Lab
				8	Continuous Comprehensive Evaluation
				9	English for Research Paper Writing and Documentation
		MECH	Machine Design	1	Experimental Stress Analysis
				2	Finite Element Analysis
				3	Theory of Plasticity
				4	Computational Methods in Engineering
				5	Research Methodology & IPR
				6	Audit Course 1
				7	Simulation Lab
				8	Computer Aided Design Lab
				9	Continuous Comprehensive Evaluation
		ECE	Embedded Systems	1	Embedded 'C'
				2	ARM Based Embedded System Design
				3	Advanced DSP and Applications
				4	Advanced Computer Networks
				5	Constitution of India
				6	ARM Based Embedded System Design Lab
				7	Embedded Systems Programming Lab
				8	Continuous Comprehensive Evaluation –I
				9	Research Methodology & IPR
		CSE	Computer Science	1	Mathematical Foundations of Computer Science
				2	Advanced Data Structures and Algorithms
				3	Operating Systems
				4	Software Engineering
				5	Research Methodology & IPR
				6	Constitution of India
				7	Advanced Data Structures and Algorithms Lab
				8	OSLab
				9	Continuous Comprehensive Evaluation
6.	K.S.R.M. COLLEGE OF ENGINEERING (AUTONOMOUS), KADAPA – 516005	CE	Geotechnical Engineering	1	Advanced Soil Mechanics
				2	Advanced Foundation Engineering
				3	Program Elective Course – I 1. Soil Structure Interaction 2. Ground Improvement Techniques 3. Geoenvironmental Engineering
				4	Program Elective Course – II 1. Critical Soil Mechanics 2. FEM in Geotechnical Engineering 3. Pavement Analysis and Design 4. Research Methodology & IPR
				5	Audit Course – I 1. English for Research Paper Writing 2. Disaster Management 3. Sanskrit for Technical Knowledge
		EEE	Power Systems	1	Advanced Power System Protection
				2	Power System Dynamics – I
				3	Program Elective Course – I 1. Energy Conversion Systems 2. Smart grid Technologies 3. Wind and Solar Energy Systems
				4	Program Elective Course – II 1. Mathematical Methods for Power Engineering 2. Electrical Power Distribution System 3. Electric and Hybrid Vehicles

				5	Research Methodology and IPR
		ECE	Embedded Systems & VLSI	1	RTL Simulation and Synthesis with PLDs
				2	Microcontrollers and Programmable Digital Signal Processors
				3	Research methodology and IPR
				4	Professional Elective Course – I 1. Parallel Processing 2. Digital Signal and Image Processing 3. VLSI signal processing 4. Design for testability
				5	Professional Elective Course – II 1. Programming Languages for Embedded Systems. 2. Micro-Electro Mechanical systems. 3. CAD of Digital System 4. CPLD, FPGA architectures and applications.
		ME	Renewable Energy	1	Advanced Thermodynamics and Fluid Mechanics
				2	Introduction to Renewable Energy systems
				3	Professional Elective Course – I 1. Hydrogen and Fuel Cell Technologies 2. Wind Energy Technology 3. Process Modeling and Simulation in Renewable Energy Systems
				4	Professional Elective Course –II 1. Energy Storage Technology 2. Energy Conservation by Waste Heat Recovery 3. Developing Energy Efficiency and Renewable Energy Projects
				5	Research Methodology & IPR
		CSE	Artificial Intelligence & Data Science	1	Machine Learning
				2	Artificial Intelligence
				3	Professional Elective Course – I 1. Big Data Analytics 2. Information Retrieval 3. NLP
				4	Professional Elective Course-II 1. Data Visualization Techniques 2. Distributed Systems 3. Medical Image Processing
				5	Research Methodology & IPR
7.	Annamacharya Institute of Technology and Sciences ::Rajampet	CE	Structural Engineering	1	Advanced Structural Analysis
				2	Theory of Elasticity and Plasticity
				3	Stability of Structures
				4	Structural Health Monitoring, repair and Rehabilitation of Structures
				5	Research Methodology and IPR (Mandatory Learning Course)
				6	Disaster Management (Audit Course)
		EEE	Electrical Power System	1	Advanced Power System Analysis
				2	Advanced power System Protection
				3	Wind and Solar System
				4	Hybrid Electric Vechile
				5	Research Methodology and IPR
				6	Disaster Management
		ME	Machine Design	1	Advanced Mechanisms
				2	Advanced Mechanies of Solids
				3	Materials Technology
				4	Tribology

			5	Fracture Mechanics
			6	Gear Engineering
	ECE	Embedded Systems	1	Modern Digital System Design
			2	Micro Computer System Deign
			3	Embedded System Concepts
			4	System Modelling and Simulation
			5	Research Methodology & IPR
			6	Advanced Computer Architecture
	CSE	Computer Science & Engineering	1	Mathematical Foundations of Computer Science
			2	Advanced Data Structures
			3	Machine Learning
			4	Data Analytics
			5	Research Methodology and IPR
			6	Disaster Management

Pharmacy

S. No.	Constituent/Research centers	Specialization	Courses offered M. Pharmacy (I Sem)
1.	Raghavendra Institute of Pharmaceutical Education and Research (RIPER) – Autonomous	Pharmaceutical Analysis	1. Modern Pharmaceutical Analytical Techniques. 2. Advanced Pharmaceutical Analysis. 3. Quality Control and Quality Assurance. 4. Food Analysis.
		Pharmaceutical Quality Assurance	1. Modern Pharmaceutical Analytical Techniques. 2. Quality Management system. 3. Quality Control and Quality Assurance. 4. Product development and Technology transfer.
		Pharmaceutics.	1. Modern Pharmaceutical Analytical Techniques 2. Drug Delivery System 3. Modern Pharmaceutics 4. Regulatory Affairs
		Pharmacy Practice	1. Clinical Pharmacy Practice. 2. Pharmacotherapeutics - I 3. Hospital and Community Pharmacy. 4. Clinical Research.
		Pharmacology	1. Modern Pharmaceutical Analytical Techniques. 2. Advanced Pharmacology-I 3. Pharmacological and Toxicological Screening Methods – I 4. Cellular and Molecular 5. Pharmacology
		Industrial Pharmacy	1. Modern Pharmaceutical 1. Analytical Techniques. 2. Pharmaceutical 3. Formulation Development. 4. Novel drug delivery systems 5. Intellectual Property Rights
		Pharmaceutical Chemistry	1. Modern Pharmaceutical Analytical Techniques. 2. Advance Organic Chemistry- I 3. Advance Medicinal Chemistry 4. Chemistry of Natural Products
2.	Sri Venkateswara College of Pharmacy (Autonomous), Chittoor	Pharmacology	1 Modern Pharmaceutical Analytical Techniques 2 Advanced Pharmacology-I 3 Clinical Pharmacology and Pharmacotherapeutics 4 Cellular and Molecular Pharmacology

		Pharmaceutics	1	Modern Pharmaceutical Analytical Techniques
			2	Advanced Physical Pharmaceutics
			3	Modern Pharmaceutics-I
			4	Advanced Biopharmaceutics & Pharmacokinetics
		Regulatory Affairs	1	Good Regulatory Practices
			2	Drug Regulatory Affairs
			3	Total quality Management
			4	Documentation and Regulatory Writing
		Pharmacy Practice	1	Pharmacotherapeutics-I
			2	Clinical Pharmacy Practice
			3	Hospital & Community Pharmacy
			4	Clinical Research
3.	Seven Hills College of Pharmacy (Autonomous), Tirupati	Pharmaceutics	1	Drug Delivery System (21S03101)
			2	Modern Pharmaceutics (21S03102)
			3	Regulatory Affairs (21S03103)
		Pharmaceutical Analysis	1	Modern Pharmaceutical Analytical Techniques (21S01101)
			2	Advanced Pharmaceutical Analysis (21S07101)
			3	Pharmaceutical Validation (21S07102)
			4	Food Analysis (21S07103)
		Pharmacology	1	Advanced Pharmacology-I (21S01102)
			2	Pharmacological and Toxicological ScreeningMethods-I (21S01103)
			3	Cellular and Molecular Pharmacology (21S01104)
4.	Annamacharya college of pharmacy, Rajampet	Pharmaceutics		Modern Pharmaceutical Analytical Techniques
				Advanced Physical Pharmaceutics
				Modern Pharmaceutics - I
				Advanced Biopharmaceutics& Pharmacokinetics
		Pharmacology		Modern Pharmaceutical Analytical Techniques
				Advanced Pharmacology – I
				Clinical Pharmacology andPharmacotherapeutics
				Cellular and Molecular Pharmacology

		Pharmaceutical Quality Assurance	Modern Pharmaceutical Analytical Techniques
			Quality Management System
			Quality control and Quality Assurance
			Product development and Technology Transfer
		Pharmaceutical Chemistry	Modern Pharmaceutical Analytical Techniques
			Advanced Organic Chemistry-I
			Advanced Medicinal Chemistry-I
			Chemistry of Natural Products
		Pharm. D (PB)	Pharmacotherapeutics – I & II
			Pharmacotherapeutics – III
			Hospital Pharmacy
			Clinical Pharmacy
			Biostatistics & Research Methodology
			Biopharmaceutics&Pharmacokinetics
			Clinical Toxicology

S NO	Department	SNO	Courses offered 1st semester&3rd semester
1	JNTUA School of Management Studies, Ananthapuramu	1	Management & Organizational Behaviour
		2	Business Environment & Law
		3	Managerial Economics
		4	Financial Accounting for Managers
		5	Statistics for Managers
		6	Management Information Systems
2		1	Strategic Management
		2	Green Business Management
		3	Product and Brand Management
		4	Human Resource Development
		5	Financial Institutions and Services
		6	Labor laws and Legislation
		7	Investment and Portfolio Management
		8	Performance Management
		9	Auditing and Taxation
		10	Advertising and Sales Promotion Management
		11	Entrepreneurship Development
		12	Project Management