

LinuXpert Systems, Chennai (NPTEL - January 2018 to June 2018 Courses List)

No	Name of the Discipline	12 Weeks (Course Starts : January 22, 2018)	8 Weeks (Course Starts : February 5, 2018)	4 Weeks (Course Starts : February 5, 2018)
1	Computer Science and Engineering	1. Computer Organization and Architecture: A Pedagogical Aspect	1. Introduction to Modern Application Development	1. Real Time Operating System
		2. Social Network	2. Advanced Graph Theory	2. An Introduction to Probability in Computing
		3. Embedded Systems Design	3. Wireless Adhoc and Sensor Networks	
		4. VLSI Physical Design	4. Introduction to Soft Computing	
		5. Cryptography and Network Security	5. Data Mining	
		6. Introduction to Internet of Things	6. Database Management System	
		7. Problem Solving through Programming in C	7. Cloud Computing	
		8. Synthesis of Digital Systems	8. AI: Constraint Satisfaction	
		9. Artificial Intelligence: Knowledge Representation and Reasoning	9. Design and Analysis of Algorithms	
		10. Introduction to Machine Learning	10. Programming, Data Structures and Alorithms using Python	
		11. Reinforcement Learning	11. Introduction to Haskell Programming	
		12. Introduction to Human Computer Interaction		
		13. Information Security - IV		
		14. Programming, Data Structures and Algorithms		
		15. Data Science for Engineers		
2	Mathematics	1. Numerical Linear Algebra	1. Calculus for Economics, Commerce and Management	1. Numerical Methods: Finite Difference Approach
		2. Chaotic Dynamical Systems	2. Multivariable Calculus	
		3. Stochastic Processes		
3	Physics	1. Atomic and Molecular Physics	1. Advanced Condensed Matter Physics	
		2. Nuclear and Particle Physics	2. Fiber Optics	
		3. Semiconductor Optoelectronics	3. Principles and Applications of NMR Spectroscopy	
4	Chemistry	1. Chemistry of Main Group Elements	1. Introduction to Molecular Thermodynamics	1. Metal Mediated Synthesis - I
		2. Transition Metal Organomettalic Chemistry: Principles to Applications		2. Organometallic Chemistry
		3. A Study Guide in Organic Retrosynthesis: Problem Solving Approach		
		4. Introduction to Chemical Thermodynamics and Kinetics		
		5. Biochemistry		
		6. Quantum Computing		
5	Humanities and Social Sciences	1. An Introduction to Microeconomics	1. Emotional Intelligence	1. Sociology of Science
		2. Sociological Perspectives on Modernity	2. Strategic Performance Management	2. Psychiatry - An Overview
		3. Introduction to Cognitive Psychology	3. Postmodernism in Literature	3. How the Brain Creates Mind
		4. Patent Law for Engineers and Scientists	4. Introduction to Advanced Cognitive Processes	4. Postcolonial Literature
			5. Enhancing Soft Skills and Personality	5. Introduction to Indian Art - An Appreciation
			6. Folk and Minor Art in India	6. Perspective on Neurolinguistics
			7. Speaking Effectively	7. Patent Drafting for Beginners
			8. Language and Mind	8. Business English Communication
			9. Educational Leadership	9. Brief Introduction to Psychology
			10. Appreciating Carnatic Music	10. Great Experiments in Psychology
			11. Literary Theory and Literary Criticism	
6	Electrical Engineering	1. Antennas	1. Analog Circuits	1. Basics of Software-defined Radios and Practical Applications
		2. Analog IC Design	2. Digital Switching-I	
		3. Basic Electronics	3. An Introduction to Coding Theory	
		4. Control Engineering	4. Optimization Techniques for Digital VLSI Design	
		5. Electromagnetic Theory	5. Electronics Enclosures Thermal Issues	
		6. Power System Engineering	6. Probability Foundations for Electrical Engineers	

		7. Biomedical Signal Processing		
		8. Principles of Signals and Systems		
		9. Industrial Automation and Control		
		10. Microprocessors and Microcontrollers		
		11. Deep Learning for Visual Computing		
		12. Principles of Communication Systems-I		
		13. Mathematical Methods and Techniques in Signal Processing		
		14. Integrated Circuits, MOSFETs, Op-Amps and their Applications		
7	Civil Engineering	1. Energy Efficiency, Acoustics and Daylighting in Building	1. Hydration, Porosity and Strength of Cementitious Materials	1. Electronic Waste Management - Issues and Challenges
		2. Mechanics of Materials	2. Digital Land Surveying and Mapping (DLS&M)	2. Digital Elevation Models and Applications
		3. Applied Environmental Microbiology	3. Earth Sciences for Civil Engineering - (Part I and II)	3. Introduction to Geographic Information Systems
		4. Soil Mechanics / Geotechnical Engineering-I	4. Sustainable Engineering Concepts and Life Cycle Analysis	4. Photogeology in Terrain Evaluation - Part 1
		5. Mineral Resources: Geology, Exploration, Economics and Environment		
		6. Introduction to Mineral Processing		
8	Ocean Engineering	1. Computer Methods of Structural Analysis of Offshore Structures		
		2. Water Economics and Governance		
		3. Reliability of Offshore Structures		
9	Architecture		1. Housing Policy and Planning	1. Principles and Applications of Building Science
			2. Architectural Conservation and Historic Preservation	2. Visual Communication Design for Digital Media
10	Management	1. Six Sigma	1. Managing Services	1. Research Writing
		2. Quality Design and Control	2. Project Management	2. Management of New Products and Services
		3. Financial Statement Analysis and Reporting	3. Consumer Behavior	3. Services Marketing - A Practical Approach
		4. Design and Analysis of Experiments	4. Total Quality Management-II	
		5. Business Analytics for Management Decision	5. Systems Engineering: Theory and Practice	
		6. Business Analysis and Data Mining Modeling using R	6. Supply Chain Analytics	
		7. Soft Skills for Business Negotiations and Marketing Strategies	7. Principles of Human Resource Management	
			8. Foundation Course in Managerial Economics	
			9. Practitioners Course in Descriptive, Predictive and Prescriptive Analytics	
11	Multidisciplinary	1. Rheology of Complex Materials	1. Health Research Fundamentals	1. Digital and the Everyday: From Codes to Cloud
		2. Virtual Reality Engineering	2. Introduction to Research	2. Effective Engineering Teaching in Practice
			3. Matlab Programming for Numerical Computation	3. Outcome based Pedagogic Principles for Effective Teaching
12	Chemical Engineering	1. Heat Transfer	1. Engineering Thermodynamics	1. Mechanical Operations
		2. Fluidization Engineering	2. Waste to Energy Conversion	2. Measurement Technique in Multiphase Flows
		3. Applied Time-Series Analysis	3. Natural Gas Engineering	3. An Introduction to Cardiovascular Fluid Mechanics
		4. Chemical Process Instrumentation	4. Multiphase Microfluids	4. Inductive Couple Plasma Atomic Emission Spectrometry (ICP-AES) for Pollution Monitoring
		5. Transport Processes I: Heat and Mass Transfer	5. Soft Nano Technology	5. Introduction to Process Modeling in the Membrane Separation Process
			6. Measurement Technique in Multiphase Flows	
			7. Thermodynamics of Fluid Phase Equilibria	
			8. Chemical Applications of Symmetry and Group Theory	
13	Mechanical Engineering	1. Operations Management	1. Product Design and Manufacturing	1. Computer Numeric Control of Machine Tools and Processes
		2. Introduction to Composites	2. Basics of Finite Element Analysis-I	2. Principles of Vibration Control
		3. Spray Theory	3. Transport Phenomena in Materials	3. Metal Cutting and Machine Tools
		4. Advanced Fluid Mechanics	4. Gear and Gear Unit Design: Theory and Practice	4. Product Design and Development
		5. Convective Heat Transfer	5. Traditional and Non Traditional Optimization Tools	5. Two Phase Flow and Heat Transfer

		6. Manufacturing Process Technology I & II	6. Design Practice	
		7. Fundamentals of Nuclear Power Generation	7. Mechanism and Robot Kinematics	
		8. Machinery Fault Diagnosis and Signal Processing	8. Mechanics of Machining	
		9. Compliant Mechanisms: Principles and Design	9. Advances in Welding and Joining Technologies	
		10. Introduction to Mechanical Micro Machining	10. Engineering Mechanics: Statics and Dynamics	
		11. Theory of Production Processes	11. Fluid Machines	
		12. Experimental Stress Analysis	12. Automatic Control	
			13. Failure Analysis and Prevention	
			14. Mechanical Measurement Systems	
			15. Joining Technologies for Metals	
			16. Steam and Gas Power Systems	
			17. Engineering Economic Analysis	
			18. Surface Engineering of Nanomaterials	
			19. Introduction to Mechanical Vibration	
			20. Modelling and Simulation of Dynamic Systems	
			21. Introduction to Machining and Machining Fluids	
14	Metallurgical and Materials Engineering	1. Physics of Materials	1. Iron Making	
		2. Material Characterization	2. Materials Science and Engineering	
		3. Introduction to Materials Science and Engineering	3. Theory and Practice of Non Destructive Testing	
			4. Fundamentals of Electronic Materials and Devices	
			5. Principles of Polymer Synthesis	
			6. Heat Treatment and Surface Hardening-I	
			7. An Introduction to Materials: Nature and Properties (Part 1: Structure of Materials)	
15	Aerospace Engineering		1. Fundamentals of Combustion (Part 1)	1. Aircraft Maintenance
			2. Introduction to Airplane Performance	
16	Biotechnology and Biosciences	1. Bioinformatics: Algorithms and Applications	1. Introductory Mathematical Methods for Biologists	1. Demystifying the Brain
		2. Aspects of Biochemical Engineering	2. Medical Biomaterials	2. Principles of Downstream Techniques in Bioprocess
			3. Introduction to Proteomics	3. Bioreactors
			4. Interactomics	4. Introduction to Dynamical Models in Biology
			5. Bioenergy	5. Introduction to Professional Scientific Communication
				6. Bio-Electrochemistry
				7. Bio-Energetics of Life Processes
				8. Human Molecular Genetics