



# ADIKAVI NANNAYA UNIVERSITY :: RAJAMAHENDRAVARAM

## UG PROGRAMMS

### MINOR COURSES

(w.e.f:2023-24)

#### SCIENCE MINOR

S.No	Course	Semester II	Semester III	Semester IV	Semester V
1	Animation	1. Basic Drawing (T) Basic Drawing Lab (P)	2. 2D Animation(T) 2D Animation Lab (P)	3. Introduction to 3D(T) Introduction to 3D Lab (P) 4. Compositing – I(T) Compositing - I Lab (P)	5. Advanced 3D (T) Advanced 3D Lab (P) 6. Compositing – II(T) Compositing - II Lab (P)
2	Applied Mathematics	1. Differential Equations	2. Solid Geometry	3. Optimization Techniques Vector Calculus	4. Laplace Transforms Integral Transforms
3	Bio Chemistry	1. Biomolecules - (T) Biomolecules - Lab (P)	2. Analytical techniques- (T) Analytical techniques-Lab(P)	3. Bioenergetics and Metabolism of Carbohydrates and Lipids- (T) Bioenergetics and Metabolism of Carbohydrates and Lipids- Lab (P) 4. Clinical Biochemistry- (T) Clinical Biochemistry- Lab (P)	5. Nutritional Biochemistry - (T) Nutritional Biochemistry - Lab (P) 6. Enzymology- (T) Enzymology- Lab (P)
4	Bio-Technology	1. Biomolecules and Analytical Techniques (T) Biomolecules and Analytical Techniques Lab (P)	2. Plant and Animal Biotechnology -(T) Plant and Animal Biotechnology – Lab (P)	3. Immunology – (T) Immunology – Lab (P) 4. Bioinformatics and Biostatistics (T) Bioinformatics and Biostatistics Lab (P)	5. Industrial Biotechnology – (T) Industrial Biotechnology- Lab (P) 6. Food & Nutritional Biotechnology –(T) Food & Nutritional Biotechnology-Lab(P)
5	Botany	1. Non-vascular Plants –(T) Non-vascular Plants – Lab (P)	2. Vascular Plants –(T) Vascular Plants – Lab (P)	3. Anatomy and Embryology of Angiosperms–(T) Anatomy and Embryology of Angiosperms– Lab (P) 4. Plant Ecology, Biodiversity and Phytogeography–(T) Plant Ecology, Biodiversity and Phytogeography– Lab (P)	5. Cell Biology and Genetics–(T) Cell Biology and Genetics–Lab (P) 6. Plant Physiology and Metabolism–(T) Plant Physiology and Metabolism Lab–(P)

6	Cloud Computing	1. Computer Networks (T) Computer Networks Lab (P)	2. Cloud Computing(T) Cloud Computing Lab (P)	3. AWS for Cloud Computing(T) AWS for Cloud Computing Lab (P) 4. Data Mining and Data warehousing(T) Data Mining and Data warehousing Lab (P)	5. Python Programming(T) Python Programming Lab (P) 6. Data Analytics Methods(T) Data Analytics Methods Lab (P)
7	Chemistry	1. General & Inorganic Chemistry - (T) General & Inorganic Chemistry - Lab (P)	2. Fundamentals in Organic Chemistry - (T) Fundamentals in Organic Chemistry -Lab (P)	3. Physical Chemistry-II (States of Matter, Phase Rule & surface Chemistry) - (T) Physical Chemistry-II (States of Matter, Phase Rule & surface Chemistry) - Lab (P) 4. General & Physical Chemistry - (T) General & Physical Chemistry - Lab (P)	5. 5A) Analytical Methods in Chemistry- Quantitative analysis(T) Analytical Methods in Chemistry- Quantitative analysis Lab (P) (OR) 5B) Environmental Chemistry(T) Environmental Chemistry Lab (P) 6. 6A) Chromatography and Instrumental methods of Analysis(T) Chromatography and Instrumental methods of Analysis Lab (P) (OR) 7. 6B) Green Chemistry and Nanotechnology(T) Green Chemistry and Nanotechnology Lab (P)
8	Organic Chemistry	1. Fundamentals in Organic Chemistry(T) Fundamentals in Organic Chemistry Lab (P)	2. Organic Chemistry(T) Organic Chemistry Lab (P)	3. Spectroscopy(T) Spectroscopy Lab (P) 4. Organic Chemistry(T) Organic Chemistry Lab (P)	5. Green Chemistry & Nanotechnology(T) Green Chemistry & Nanotechnology Lab (P) 6. Analysis of Organic Compounds(T) Analysis of Organic Compounds Lab (P)
9	Computer Science	1. Problem Solving using C - (T) Problem Solving using C- Lab (P)	2. Object Oriented Programming using Java- (T) Object Oriented Programming using Java- Lab (P)	3. Database Management System(T) Database Management System(P) 4. Object Oriented Software Engineering(T) Object Oriented Software Engineering(P)	5. Web Applications Development using PHP & MYSQL(T) Web Applications Development using PHP & MYSQL Lab (P) 6. Internet of Things(T) Internet of Things Lab (P)
10	Cyber Forensics	1. Fundamentals of Computer(T) Fundamentals of Computer Lab (P)	2. Cyber Security(T) Cyber Security Lab (P)	3. Cyber Tools & Techniques(T) Cyber Tools & Techniques Lab (P) 4. Digital Forensics(T) Digital Forensics Lab (P)	5. Mobile Forensics(T) Mobile Forensics Lab (P) 6. Multimedia Forensics & Speaker Identification(T) Multimedia Forensics & Speaker Identification Lab (P)

11	Computer Applications	1. Office Automation Tools(T) Office Automation Tools Lab (P)	2. Database Management System(T) Database Management System Lab (P)	3. Python Programming(T) Python Programming Lab (P) 4. Operating Systems(T) Operating Systems Lab (P)	5. Web Programming(T) Web Programming Lab (P) 6. Web Development Using PHP & MySQL(T) Web Development Using PHP & MySQL Lab (P)
12	Data Science	1. R Programming(T) R Programming Lab (P)	2. Python Programming for Data Analysis(T) Python Programming for Data Analysis Lab (P)	3. Data visualization using Tableau(T) Data visualization using Tableau Lab (P) 4. Data visualization using python(T) Data visualization using python Lab (P)	5. Supervised Machine Learning with Python(T) Supervised Machine Learning with Python Lab (P) 6. Unsupervised Machine Learning with Python(T) Unsupervised Machine Learning with Python Lab (P)
13	Electronics	1. Fundamental of Electricity and Electronics(T) Fundamental of Electricity and Electronics Lab (P)	2. Semiconductor devices and Materials(T) Semiconductor devices and Materials Lab(P)	3. Electrical and electronics instrumentation(T) Electrical and electronics instrumentation Lab (P) 4. Microprocessor system(T) Microprocessor system Lab (P)	5. Cellular Mobile Communication(T) Cellular Mobile Communication Lab (P) 6. Computer Network(T) Computer Network Lab (P)
14	Food Science and Technology	1. Food Biochemistry(T) Food Biochemistry Lab (P)	2. Food Microbiology(T) Food Microbiology Lab (P)	3. Food Additives and toxicology(T) Food Additives and toxicology Lab (P) 4. Food Packaging(T) Food Packaging Lab (P)	5. Food Safety and Quality Control(T) Food Safety and Quality Control Lab (P) 6. Baking Science & Technology(T) Baking Science & Technology Lab (P)
15	Forensic Science	1. Forensic Science and Criminology(T) Forensic Science and Criminology Lab (P)	2. Crime Scene Management(T) Crime Scene Management Lab (P)	3. Forensic Biology and DNA Fingerprinting(T) Forensic Biology and DNA Fingerprinting Lab (P) 4. Forensic Chemistry(T) Forensic Chemistry Lab (P)	5. Forensic Physics(T) Forensic Physics Lab (P) 6. Instrumentation(T) Instrumentation Lab (P)
16	Geology	1. Geology and Branches of Geology(T) Geology and Branches of Geology Lab (P)	2. Crystallography & Mineralogy(T) Crystallography & Mineralogy Lab (P)	3. Elements of Petrology(T) Elements of Petrology Lab (P) 4. Structural Geology(T) Structural Geology Lab (P)	5. Economic Geology(T) Economic Geology Lab (P) 6. Indian Geology & Stratigraphy(T) Indian Geology & Stratigraphy Lab (P)

17	Human Genetics	1. Principles of Genetics(T) Principles of Genetics Lab (P)	2. Human Molecular Genetics(T) Human Molecular Genetics Lab (P)	3. Clinical genetics and Genetic Counselling(T) Clinical genetics and Genetic Counselling Lab (P) 4. Developmental and behavioural genetics(T) Developmental and behavioural genetics Lab (P)	5. Human Genome Project and Genome(T) Human Genome Project and Genome Lab (P) 6. Cellular and Molecular Immunology(T) Cellular and Molecular Immunology Lab (P)
18	Micro-Biology	1. Introduction to Microbiology (T) Introduction to Microbiology Lab (P)	2. Biomolecules &Enzymology (T) Biomolecules &Enzymology Lab (P)	3. Molecular Biology and Microbial Genetics(T) Molecular Biology and Microbial Genetics Lab (P) 4. Microbial Physiology and Metabolism(T) Microbial Physiology and Metabolism Lab (P)	5. Immunology & Medical Microbiology(T) Immunology & Medical Microbiology Lab (P) 6. Applied Microbiology(T) Applied Microbiology Lab (P)
19	Physics	1. Mechanics and Properties of Matter(T) Mechanics and Properties of Matter (P)	2. Optics(T) Optics Lab (P)	3. Electricity and Magnetism(T) Electricity and Magnetism Lab (P) 4. Modern Physics(T) Modern Physics Lab (P)	5. Applications of Electricity & Electronics(T) Applications of Electricity & Electronics Lab (P) 6. Electronic Instrumentation(T) Electronic Instrumentation Lab (P)
20	Statistics	1. Descriptive Statistics(T) Descriptive Statistics Lab (P)	2. Statistical Methods(T) Statistical Methods Lab (P)	3. Design and Analysis of Experiments(T) Design and Analysis of Experiments Lab (P) 4. Numerical Analysis(T) Numerical Analysis Lab (P)	5. Applied Statistics(T) Applied Statistics Lab (P) Computational Statistics and R 6. Programming(T) Computational Statistics and R Programming Lab (P)
21	Mathematics	1. Differential Equations & Problem Solving Sessions(T) Differential Equations & Problem Solving Sessions Lab (P)	2. Group Theory &Problem Solving Sessions(T) Group Theory &Problem Solving Sessions Lab (P)	3. Ring Theory & Problem Solving Sessions(T) Ring Theory & Problem Solving Sessions Lab (P) 4. Introduction to Real Analysis & Problem Solving Sessions(T) Introduction to Real Analysis & Problem Solving Sessions Lab (P)	5. Linear Algebra &Problem Solving Sessions(T) Linear Algebra &Problem Solving Sessions Lab (P) 6. Vector Calculus & Problem solving Sessions(T) Vector Calculus & Problem solving Sessions Lab (P)

22	Zoology	1. Animal Diversity-I Biology of Non- Chordates (T) Animal Diversity-I Biology of Non- Chordates Lab (P)	2. Animal Diversity-II Biology of Chordates(T) Animal Diversity-II Biology of Chordates Lab (P)	3. Embryology(T) Embryology Lab (P) 4. Animal Physiology: Life Sustaining Systems(T) Animal Physiology: Life Sustaining Systems Lab (P)	5. Poultry Management-I (Poultry Farming)(T) Poultry Management-I (Poultry Farming) Lab (P) 6. Poultry Management-II (Poultry Production and Management)(T) Poultry Management-II (Poultry Production and Management) Lab (P)
----	---------	---	--	--	--

### ARTS MINOR

<i>S.No</i>	<i>Course</i>	<i>Semester II</i>	<i>Semester III</i>	<i>Semester IV</i>	<i>Semester V</i>
1	Accounting	1. Financial Accounting	2. Advanced Accounting	3. Corporate Accounting 4. Cost and Management Accounting	5. Stock Markets 6. Stock Markets Analysis
2	Commerce	1. Business Management	2. Banking Theory and Practice	3. Cost and Management Accounting 4. Auditing	5. Customer Relationship Management 6. Digital Marketing
3	Finance Management	1. Fundamentals of Financial Management	2. Money, Banking and Financial Markets	3. Derivatives & Risk Management 4. Portfolio Management	5. Stock Market Operations 6. Project Management
4	Insurance Management	1. Principles and Practice of Life Insurance	2. Principles and Practice of General Insurance	3. Fire and Motor Insurance 4. Health Insurance	5. Agricultural and Rural Insurance 6. Digital Insurance
5	Economics	1. Microeconomics	2. Macroeconomics	3. India and A.P Economy 4. Statistics for Economics	5. Inferential Statistics and Software Packages 6. Urban Entrepreneurship and MSMEs
6	History	1. Science and Human Past	2. Medieval Indian Society: (Polity, Economy, and Culture) (1206 C.E - 1707 C.E)	3. Indian National Movement (1857 C.E -1947 C.E) 4. Social and Cultural History of Andhra Pradesh	5. Tourism and Hospitality Services 6. Journalism and Editing Techniques
7	Human Resource Management	1. Principles of HRM	2. Change Management	3. Talent Management 4. Training and Development	5. Labour Legislations and Compensation Management 6. Organisation Behaviour
8	Political Science	1. Fundamentals of Political Science	2. Indian Constitution	3. Indian Government 4. Dynamics of Indian Political System	5. E-Governance 6. Local Administration

9	Public Administration	1. Introduction to Public Administration	2. Theory of Public Administration	3. Public Relations and communications Skills 4. Social Welfare Administration	5. Public Policy 6. Administrative Law
10	Social Work	1. Basic Methods of Social Work	2. Social Problems and Social Legislations	3. Social work practice with government and NGOs 4. Professional Competence for Social Work Practice	5. Integrated Social Work Practice and Field Work 6. Social Welfare Administration Skills
11	Sociology	1. Sociological Analysis	2. Perspectives in Indian Society	3. Urban sociology & Urban Development 4. Rural sociology & Rural Development	5. Sociology of Disasters 6. Sociology of tribal society in India
12	Special English	1. An Introduction to English Literature (600-1500)	2. An Introduction to Romantic Literature (1798-1837)	3. An Introduction to Victorian Literature (1837-1900) 4. Glimpses of World Literature	5. Writing for Media 6. Creative Writing and Literary Appreciation
13	Special Telugu	1. ఆధునిక కవితా పరిచయం	2. ఆధునిక కావ్యం	3. తెలుగు నాటకం 4. తెలుగులో బాలసాహిత్యం	5. తెలుగు బాషా స్వరూపం 6. లలిత కళలు 7. అనువాద రచన 8. తెలుగు బోధనా పద్ధతులు
14	Business Management	1. Principles of Management	2. Organisation Behaviour	3. Marketing Management 4. Human Resource Management	5. Financial Management 6. Managerial Communications
15	Digital Marketing	1. Fundamentals of Digital Marketing	2. Social Media Marketing	3. Affiliate Marketing 4. Search Engine Optimisation	5. E-Mail Marketing 6. Mobile Marketing
16	FINANCE (For Commerce and Other Majors)	1. Financial Services	2. Financial Markets	3. Financial Management 4. Investment Management	5. Financial Reporting 6. Security Analysis and Portfolio Management