



**Criterion I
Curricular Aspects**

Key Indicator 1.3 Curriculum Enrichment

1.3.1 Institution integrates crosscutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability into the Curriculum

The following are the Programme specific Cross Cutting Courses integrated in to the Curriculum of various programmes offered

S.No.	Programme	Subject Code	Title of the Subject	Cross Cutting Issues				Description
				Professional ethics	Gender	Human Value	Environment and Sustainability	
1.	All I Year UG (Common Courses)	22CY2102	Environmental Studies				✓	Environmental studies are a multidisciplinary academic field which systematically studies human interaction with the environment and understand environmental problems & potentially offer solutions to them.



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2.		22HE1071	Universal Human Values			✓		Higher Educational Institutions (HEIs) indeed have a responsibility to build a strong society. Therefore, there is a need to create high quality practices and environment backed with human values and professional ethics in Higher Educational Institutions (HEIs).
3.		21MC1091	Indian Constitution	✓		✓		Sensitization of student towards self, family (relationship), society and nature. This course helps the strengthening of self-reflection.
4.	All II year UG (Common Courses)	22MC2093	Social Services and Community Development			✓		Acquire knowledge and active participation in Social Services and Community Development
5.		22MC2092	Heritage of Tamil			✓		Understand influence of Tamil language in Indian culture
6.		22MC3191/ 22MC4191	Essence of Indian tradition knowledge/Value Education	✓		✓		Indian Traditional Knowledge system evolved over centuries through the culture of various committees
7.		22HE4101	IPR and Start-Ups	✓				The importance of IP for Startups may seem little on the day they begin operations, but they ultimately create intellectual property in the course of business. As the well-known adage “prevention is better than cure” implies, the majority of IPR laws advocate this for the reasons stated.
8.		20AC2093	Personality Development through Life Enlightenment Skills	✓		✓		Students can learn to achieve the highest goal happily. They become a person with stable mind, pleasing personality and determination.



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9.		20AC2091	Value Education		✓	✓		Values education therefore promotes tolerance and understanding above and beyond our political, cultural and religious differences, putting special emphasis on the defense of human rights, the protection of ethnic minorities and the most vulnerable groups, and the conservation of the environment.
10.		20AC2092	Stress Management by Yoga			✓		Study this course for overcome stress and achieve overall health of body and mind
11.	BE Aeronautical Engineering	19AE6304	Intellectual Property Rights (IPR)	✓				Intellectual property rights (IPR) refers to the legal rights given to the inventor or creator to protect his invention or creation for a certain period of time.[1] These legal rights confer an exclusive right to the inventor/creator or his assignee to fully utilize his invention/creation for a given period of time.
12.	BE Civil Engineering	22CE3203	Water Supply and Waste Water Engineering				✓	Water supply and wastewater engineering ensures access to clean water while managing and treating waste, critical for preserving ecosystems and ensuring sustainable water resources for future generations.
13.		22CE4251	Surveying and Levelling				✓	Surveying and leveling are fundamental practices in civil engineering, ensuring accurate measurement and analysis of land, crucial for urban planning, infrastructure development, and environmental conservation.
14.		22CE4252	Soil Mechanics				✓	Soil mechanics studies the behavior of soil under different conditions, guiding



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								construction practices to ensure stability, safety, and sustainability in infrastructure projects, vital for environmental protection and urban development.
15.	21CE5306	Professional Ethics and Laws for Civil Engineers	✓					Ethics is an important topic for engineers of every level and field. When you become a professional engineer, however, you are held to a higher standard
16.	21CE5207	Transport of Water and Wastewater					✓	Acquire skills in fluid mechanics, water and sewer system design, and software tools for analysis, preparing for careers in civil engineering or entrepreneurship in water infrastructure design, management, and consultancy
17.	21CE5208	Soil Properties and Behaviour					✓	Gain knowledge in soil classification, behavior, and engineering properties, essential for careers in geotechnical engineering. Acquire skills for solving soil-related issues and understanding suitability for foundation design. Prepare for entrepreneurship in soil testing and consultancy services.
18.	21CE6203	Wastewater Engineering					✓	Wastewater contains elements toxic to humans and the ecosystem. Wastewater treatment facilities help to purify the water and eliminate situations like what is currently seen in developing countries
19.	21CE6001	Water and Wastewater Testing Lab					✓	Water testing results can provide in-the-moment values and aid in determining the best course of action for a specific water body,



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								whether a treatment is needed or an aeration system should be installed.
20.		21CE6304	Groundwater Engineering				✓	This subjects deals the groundwater affects the project by impacting the function and design of the facility, and the cost of its construction.
21.		21CE6306	Disaster Preparedness and Planning			✓	✓	Preparing for disasters saves countless lives, speeds up people's recovery and saves money. The IFRC supports National Societies to continually improve their local preparedness and response capacity ultimately preventing and reducing the impacts of disasters on communities.
22.	BE Computer Science Engineering	21CS6402	Green Computing				✓	Green technology, is the use of computers and other computing devices and equipment in energy-efficient and eco-friendly ways. Organizations that use green computing methods often deploy energy-efficient central processing units (CPUs), servers, peripherals and power systems.
23.		21CS6191	Principles of Management			✓		Principles of management provide frameworks for effective leadership, decision-making, and organizational strategy, fostering efficient operations, employee satisfaction, and sustainable growth, crucial for achieving business objectives and adapting to evolving market dynamics.
24.		19IT7003	Professional Readiness for Innovation,			✓		Professional readiness for innovation, employability, and entrepreneurship equips individuals with adaptive skills, creative



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			Employability & Entrepreneurship					
								thinking, and entrepreneurial mindset, empowering them to thrive in dynamic work environments, drive innovation, and contribute to economic growth and societal progress.
25.	BE Electrical and Electronics Engineering	21EE5202	Renewable and Non Renewable Energy Sources				✓	Renewable energy sources like solar, wind, and hydroelectric power offer sustainable alternatives to fossil fuels, reducing carbon emissions and environmental impact, while non-renewable sources such as coal, oil, and natural gas are finite and contribute to climate change and pollution, highlighting the urgency of transitioning to renewable energy for long-term environmental sustainability.
26.		19EE7302	Electrical Energy Utilization and Conservation				✓	Electrical energy utilization involves optimizing the efficiency of electrical systems and devices to minimize waste and maximize productivity, while conservation efforts focus on reducing overall energy consumption through efficient technologies, behavioral changes, and policy interventions, essential for mitigating environmental impact and ensuring long-term sustainability of energy resources.
27.		19EE8308	Energy Auditing and Energy Management				✓	Energy auditing evaluates energy usage to identify inefficiencies, while energy management implements strategies to optimize efficiency and reduce consumption, crucial for cost savings and environmental sustainability.



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28.	BE Electronics and Communication Engineering	21EC6181	Principles of Management	✓				Principles of management entail fundamental guidelines for effective leadership, decision-making, and organizational efficiency, essential for achieving goals, fostering innovation, and sustaining growth in diverse business environments.
29.		19EC8307	Professional Ethics in Engineering	✓				Professional ethics encompass the personal and corporate standards of behavior expected of professionals. The word professionalism originally applied to vows of a religious order.
30.	BE Electronics and Instrumentation Engineering	19EI8181	Disaster Management			✓	✓	Understand the Scope and types of disasters, objectives of disaster management, vulnerability. Elements of disaster management: preparedness, assessment, recovery, rehabilitation and management.
31.		19EI8182	Total Quality Management	✓		✓		Total Quality Management (TQM) integrates quality principles across all organizational functions, driving continuous improvement and customer satisfaction.
32.		19EI8183	Professional Ethics for Engineers	✓		✓		Professional ethics for engineers uphold integrity, guiding ethical decision-making and ensuring the safety and welfare of society.
33.		19EI8184	Principles of Management	✓		✓		Principles of management provide foundational strategies for effective leadership and organizational success in dynamic business landscapes.
34.	BE Mechanical Engineering	21ME6305	Energy Conservation and Management				✓	Energy Conservation and Management is to understand and analyze the energy data of industries and carryout energy audit in



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									industries. Also to evaluate the economic feasibility of energy projects and propose energy saving procedures in industrial and commercial applications.
35.	BE Mechanical Engineering	22CE6401	Climate Change and its Impact				✓		Climate change exacerbates global warming, leading to extreme weather events, rising sea levels, and biodiversity loss, threatening ecosystems, livelihoods, and the well-being of present and future generations.
36.		22CE6402	Environment and Social Impact Assessment				✓		Environment and Social Impact Assessment (ESIA) evaluates the potential environmental and social consequences of projects, guiding sustainable decision-making and mitigating adverse impacts on ecosystems, communities, and cultural heritage.
37.		22ME6401	Renewable Energy System				✓		Renewable energy systems harness natural resources like sunlight, wind, and water to generate clean electricity, reducing dependence on fossil fuels and mitigating environmental impact, crucial for sustainable energy production and combating climate change.
38.		22MT7401	Project Management		✓				Project management involves planning, organizing, and controlling resources to achieve specific objectives within defined constraints, ensuring efficient execution, stakeholder satisfaction, and successful project outcomes in various industries and sectors
39.									



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40.	BE Mechatronics Engineering	22MT3201	Solid and Fluid Mechanics				✓	Solid and fluid mechanics analyze the behavior of materials under different conditions, guiding the design and construction of structures, machines, and systems, essential for ensuring safety, reliability, and efficiency in engineering applications.
41.		22MT4202	Meteorology and Measurements				✓	Meteorology and measurements encompass the analysis and monitoring of atmospheric conditions, pivotal for weather forecasting and understanding climate dynamics.
42.	B.Tech Information Technology	21IT6181	Software Project Management	✓		✓		Software project management involves planning, organizing, and overseeing the development and deployment of software applications, ensuring timely delivery, quality assurance, and stakeholder satisfaction through effective coordination of resources and processes.
43.	B.Tech Agricultural Engineering	21AG5302	Sustainable Agriculture and Food Security				✓	Employability-To study the importance of sustainable agriculture for the growing population, various resources required and their sustainability, Importance of science, food security and ecological balance.
44.		21AG5203	Principles and Practices of Crop Production				✓	Principles and practices of crop production involve applying scientific knowledge and techniques to cultivate crops efficiently, sustainably, and profitably, encompassing soil management, plant nutrition, pest control, and crop rotation strategies for optimal yield and environmental stewardship.



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45.	21AG5252	Surveying and Levelling					✓	Surveying and leveling entail precise measurement and analysis of land topography, guiding urban planning, infrastructure development, and environmental conservation efforts through accurate mapping and elevation determination.
46.	21AG5252	Soil and Water Conservation Engineering					✓	Soil and water' conservation practices play an important role in conservation of water' and soil on the earth surface. It enhance saving of natural resources in long run agriculture.
47.	21AG6201	Hydrology and Water Resources Engineering					✓	Engineering Hydrology and its applications are inevitable for planning and building hydraulic structures. It is important for solving the various existing water-related problems such as problems regarding the quantity of water, control
48.	21AG6202	Solar and Wind Energy Engineering					✓	Wind and solar energy can be used to power the greenhouse to produce fresh water without the support of energy sources from fossil fuels. Nowadays, most of the water desalination uses fossil fuels, and therefore, it contributes to rising levels of greenhouse gases
49.	21AG6303	Disaster Management				✓	✓	Disaster management plays an integral role in keeping communities safe. It involves coordinating the resources, such as pollution control systems, and responsibilities, such as following best practice policies, needed to prevent, prepare for, respond to, and recover from emergencies.



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50.	BE Biomedical Engineering	21BM6301	Biomaterials and Artificial organs				✓	Biomaterials play a crucial role in the design and functionality of artificial organs and medical devices. This course provides an in-depth exploration of the fundamental principles, properties, and applications of biomaterials in the context of artificial organ development. Students will examine the interplay between materials science, biology, and engineering to understand the complex requirements for creating biocompatible and functional implants.
51.		21BM5301	Medical Physics	✓			✓	The medical physicist not only ensures the safety of the imaging modality but also plays an important role in communicating the various features available with the imaging modalities that can be used in optimizing imaging protocols.
52.		21BM5302	Robotics in Medicine				✓	Robots in the medical field are transforming how surgeries are performed, streamlining supply delivery and disinfection, and enabling providers to focus on engaging with and caring for patients.
53.		21BM5304	Medical Ethics and Standards	✓			✓	It provides privacy, confidentiality and truthfulness in the doctor-patient relationship
54.		21BM5305	Intellectual Property Rights	✓				IP largely secures ROI because it allows companies to block direct competitors and thus obtain and retain an exclusive market share for the lifetime of the patent, once the product has passed the preclinical and clinical trial phases



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								and has obtained marketing approval from the regulatory agencies	
55.	B.Tech Food Technology	21BM6301	Biomaterial and Artificial Organs			✓		Biomaterials are materials meant to be inserted into the body to replace or repair damaged organs or tissues.	
56.		21BM6303	Biomedical Waste Management			✓	✓	Biomedical waste management is significant to defend the environment and health of the population.	
57.		22FT3201	Food Microbiology					✓	Food microbiology studies microorganisms in food, assessing their impact on food safety, quality, and shelf life, guiding food production, preservation, and hygiene practices to prevent foodborne illnesses and ensure consumer health and well-being.
58.		22FT4204	Food Analysis and Quality Control					✓	Food analysis and quality control ensure adherence to safety and nutritional standards, vital for maintaining product integrity and consumer satisfaction in the food industry.
59.		21FT6181	Professional Ethics in Engineering	✓					The goal of studies on engineering ethics is to sensitize engineers to important ethical issues before they are confronted with them.
60.		BE Chemical Engineering	21CH6181	Professional Ethics in Engineering	✓				To enable the students to create an awareness on Engineering Ethics and Human Values, to instill Moral and Social Values and Loyalty and to appreciate the rights of others.
61.			ME Computer-Aided Design and	20RM1153	Research Methodology and IPR	✓			



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								detailed method of data collection, analysis and interpretation. It is therefore, based on the nature of the research problem being addressed
62.	Computer-Aided Manufacturing (CAD/CAM)	20CC3302	Industrial Safety Management				✓	There is a requirement of industrial safety in order to prevent any kind of incident resulting in the accidents causing loss of life and permanent disability of the employees in the organization, damages to machines and material which can cause the organizational level losses
63.	ME Applied Electronics	16AP2307	Research Methodology	✓				A research methodology gives research legitimacy and provides scientifically sound findings. It also provides a detailed plan that helps to keep researchers on track, making the process smooth, effective and manageable.
64.		20AE1204	Research Methodology	✓				Research methodology provides students with the necessary knowledge to undertake better research and conceivably become successful career researchers. Moreover, teaching research methodology to students has become more critical than ever because of the changing nature of data.
65.	ME Computer Science and Engineering	16CP2201	Research Methodology	✓				Correct choice of research methodology helps in determining the success and overall quality of your research study and its documentation. Furthermore, becoming familiar with the research methods used by an area of study allows you to understand it more effectively.



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66.		16CP2304	Network and Information Security			✓		Network security is important for home networks as well as in the business world. Most homes with high-speed internet connections have one or more wireless routers, which could be exploited if not properly secured.
67.		16CP3309	Green Computing				✓	The key mission of green computing is to reduce energy consumption. This not only cuts energy costs for organizations, but it also reduces the carbon footprint, particularly of IT assets.
68.		20RM1161	Research Methodology and IPR	✓				IPR yields exclusive rights to the creators or inventors. It encourages individuals to distribute and share information and data instead of keeping it confidential. It provides legal defense and offers the creators the incentive of their work. It helps in social and financial development.
69.		20CP3402	Cyber Security	✓				Cyber security is the protection to defend internet-connected devices and services from malicious attacks by hackers, spammers, and cybercriminals. The practice is used by companies to protect against phishing schemes, ransomware attacks, identity theft, data breaches, and financial losses.
70.		16ENX315	Information and Network Security		✓	✓		Network security is critical because it prevents cybercriminals from gaining access to valuable data and sensitive information.
71.	16CM326	Cyber Security		✓	✓		Cyber security is crucial because it safeguards all types of data against theft and loss.	



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72.		20CM1205	Research Methodology and IPR	✓					Research is an endeavour to discover answers to intellectual and practical problems through the application of scientific method
73.	Masters in Computer Application	21CA2301	Cyber Security		✓	✓			Cyber security is the art of protecting networks, devices and data from unauthorized access or criminal use and the practice of ensuring confidentiality, integrity and availability of information.
74.		21CA2302	Green Computing					✓	Reduce the use of hazardous materials, maximize energy efficiency during the product's lifetime, the recyclability or biodegradability of defunct products and factory waste.
75.		21CA2303	Human Computer Interaction						HCI is crucial in designing intuitive interfaces that people with different abilities and expertise usually access.
76.		21CA2304	Professional Ethics		✓				An organization that introduces the workplace ethics program aligns the behavior of employees. As a result, this fosters openness, partnership, and trust. Moreover, when employees know supervisors' expectations they perform better in their jobs.
77.		21CA3308	Research Methodology		✓				A research methodology gives research legitimacy and provides scientifically sound findings. It also provides a detailed plan that helps to keep researchers on track, making the process smooth, effective and manageable.
78.			16BA1201	Management Principles and Organizational Behaviour	✓				



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79.	Master of Business Administration	16BA1208	Corporate Governance and Corporate Social Responsibilities	✓				The relationship between good corporate governance and social responsibility helps corporations keep things in good balance.
80.		16BA3301	Consumer Behaviour & Marketing Research	✓		✓		Consumer behavior as your main focus on marketing research is essential to understand customers' buying decisions and how they look at products.
81.		20BA1202	Managerial Economics				✓	Managerial Economics assists the managers of a firm in a rational solution of obstacles faced in the firm's activities. It makes use of economic theory and concepts. It helps in formulating logical managerial decisions. The key of Managerial Economics is the microeconomic theory of the firm.
82.		20BA1205	Organizational Behaviour	✓			✓	The importance of studying organizational behavior. At its core, organizational behavior analyzes the effect of social and environmental factors that affect the way employees or teams work. The way people interact, communicate, and collaborate is key to an organization's success.
83.		20BA3306	Consumer Behaviour				✓	Understanding the importance of consumer behaviour is critical for any marketer. By learning how and why people choose one product or service over another, marketers can: identify which products or services people want – and just as importantly, identify which products and services they don't want.



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84.	20BA3362	International Health Management	✓		✓		Studying International Healthcare Management can lead to a career in hospital or healthcare management in a variety of public and private organizations around the world. It comprehend the reforms in the health care sector with an international perspective.
85.	20BA3363	Public Health Systems and Health Insurance			✓		The public health practice helps improve the housing pattern of populations in concordance with their health care requirements. It also helps them adopt healthy behaviors and improves their immunity and coping skills.
86.	20BA3364	Health Care Laws and Ethics			✓		Comprehend the various legal frame work for hospitals and the laws relating to consumer protection act.
87.	20BA3371	Fertilizer Technology Management			✓	✓	Fertilizers replenish nutrients removed by previous crops and supplement the supply of nutrients from the soil to a level that will produce the farmer's target yield. Fertilizer may also improve the quality of human food, stock feed, and fiber. It visualize the different manure and fertilizers used in different crops according to soil
88.	20BA3372	Management of Agro Chemicals				✓	Agrochemicals are one of the key inputs for crop protection and better yield during pre-harvest stage. Judicious use of crop protection chemicals supports sustainable farm management and delivers socio-economic benefits to meet the challenges of feeding an ever-growing population.



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89.		20BA3373	Management of Floriculture and Landscaping				✓	Floriculture is one of the most potential components of the Horticulture Industry, being important from aesthetic, social and economic points of view. It has the potential for generating employment opportunities round-the-year and earning foreign exchange.
90.		20BA4201	Indian Ethos and Human Values	✓				Indian Ethos is helpful to form the character of a human being. All religions guide regarding the purpose of life and the importance of the law of karma.
91.	ME Embedded System	20ES2302	Research Methodology	✓				It provides a detailed plan that helps to keep researchers on track, making the process smooth, effective and manageable.




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