B. Sc. (Hons.) Electronics Science

Program Outcomes

Graduate Attributes in B. Sc. (Hons.) Electronics Science

Graduates Attributes in B.Sc. (Hons.) Electronic Science Graduates Attributes (**GA**s) form a set of individually assessable outcomes that are the components indicative of the graduate's potential to acquire competence to practice at the appropriate level. The Graduate Attributes of B.Sc. (Hons) Electronic Science are listed below:

GA1. Scholarship of Knowledge: Acquire in-depth knowledge of specific discipline or professional area, including wider and global perspective, with an ability to discriminate, evaluate, analyze and synthesize existing and new knowledge, and integration of the same for enhancement of knowledge.

GA2. Critical Thinking: Analyze complex scientific/technological problems critically; apply independent judgment for synthesizing information to make intellectual and/or creative advances for conducting research in a wider theoretical, practical and policy context.

GA3. Problem Solving: Think laterally and originally, conceptualize and solve scientific/technological problems, evaluate a wide range of potential solutions for those problems and arrive at feasible, optimal solutions after considering public health and safety, cultural, societal and environmental factors in the core areas of expertise.

GA4. Usage of modern tools: Create, select, learn and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modeling, to complex scientific/technological activities with an understanding of the limitations.

GA5. Collaborative and Multidisciplinary work: Possess knowledge and understanding of group dynamics, recognize opportunities and contribute positively to collaborativemultidisciplinary scientific research, demonstrate a capacity for self-management and teamwork, decision-making based on open-mindedness, objectivity and rational analysis in order to achieve common goals and further the learning of themselves as well as others.

GA6. Communication: Communicate with the scientific/technological community, and with 10 society at large, regarding complex scientific/technological activities confidently and effectively, such as, being able to comprehend and write effective reports and design documentation by adhering to appropriate standards, make effective presentations, and give and receive clear instructions.

GA7. Life-long Learning: Recognize the need for, and have the preparation and ability to engage in life-long learning independently, with a high level of enthusiasm and commitment to improve knowledge and competence continuously.

GA8. Ethical Practices and Social Responsibility: Acquire professional and intellectual integrity, professional code of conduct, ethics of research and scholarship, consideration of the impact of research outcomes on professional practices and an understanding of responsibility to contribute to the community for sustainable development of society.

Qualification descriptors for B.Sc. (Hons.) Electronic Science programme:

Some of the expected learning outcomes that a student should be able to demonstrate on completion of a B.Sc. (Hons) Electronic Science programme may include the following:

Knowledge & Understanding

- Demonstrate extensive knowledge of the disciplinary foundation in the various areas of Electronics, as well as insight into contemporary research and development.
- Demonstrate specialized methodological knowledge in the specialized areas of Electronics about professional literature, statistical principles and reviewing scientific work.

Skills & Ability

- Demonstrate ability to apply electronics knowledge & experimental skills critically and systematically for assessment and solution of complex electronics problems and issues related to communication systems, embedded systems, computers networks, robotics, VLSI Design and fabrication and other specialized areas of electronics.
- Demonstrate ability to model, simulate and evaluate the phenomenon and systems in the advanced areas of electronics.
- Demonstrate ability to apply one‘s electronics knowledge, experimental skills, scientific methods & advanced design, simulation and validation tools to identify and analyze complex real life problems and frame technological solutions for them.
- Demonstrate ability to design and develop industrial products, processes and electronics systems while taking into account the circumstances and needs of individuals, organizations and society with focus on economical, social and environmental aspects.

Competence

- Communicate his or her conclusions, knowledge & arguments effectively and professionally both in writing and by means of presentation to different audiences in both national and international context.

- Ability to work in collaborative manner with others in a team, contributions to the management, planning and implementations.
- Ability to independently propose research/developmental projects, plan its implementation, undertake its development, evaluate its outcomes and report its results in proper manner.
- Ability to identify the personal need for further knowledge relating to the current and emerging areas of study by engaging in lifelong learning in practices.

Program Specific Outcomes

Aims of Bachelor Degree Programme in B.Sc. (Hons) Electronic Science

The overall aims of the B.Sc. (Hons) Electronic Science are:

- Provide students with learning experiences that develop broad knowledge and understanding of key concepts of electronic science and equip students with advanced scientific/technological capabilities for analyzing and tackling the issues and problems in the field of electronics.
- Develop ability in student‘s to apply knowledge and skills they have acquired to the solution of specific theoretical and applied problems in electronics.
- Develop abilities in students to design and develop innovative solutions for benefits of society, by diligence, leadership, team work and lifelong learning.
- Provide students with skills that enable them to get employment in industries or pursue higher studies or research assignments or turn as entrepreneurs.

Program Learning Outcomes for B.Sc. (Hons.) Electronic Science

The following program outcomes have been identified for B.Sc. (Hons.) Electronic Science:

PLO1	Ability to apply knowledge of mathematics & science in solving electronics related problems
PLO2	Ability to design and conduct electronics experiments, as well as to analyze and interpret data
PLO3	Ability to design and manage electronic systems or processes that conforms to a given specification within ethical and economic constraints
PLO4	Ability to identify, formulate, solve and analyze the problems in various disciplines of electronics
PLO5	Ability to function as a member of a multidisciplinary team with sense of ethics, integrity and social responsibility
PLO6	Ability to communicate effectively in term of oral and written communication skills
PLO7	Recognize the need for, and be able to engage in lifelong learning
PLO8	Ability to use techniques, skills and modern technological/scientific/engineering software/tools for professional practices