Programme Educational Objectives (PEO)

Name of Programme: Bachelor of Technology (Computer Engineering)

A graduate in the discipline of Computer Engineering is generally expected to have three kinds of knowledge. First, the graduate should have conceptual knowledge of the core topics of Computer Science. Second, she/he should have knowledge of mathematical formalism underlying various programming concepts. Third, graduates in the discipline of Computer Engineering should have the knowledge of the state of the technologies and tools so that he/she can apply the principles of Computer Science to solve real-life problems from diverse application domains. The programme of B.Tech in Computer Engineering at Dr. Babasaheb Ambedkar Technological University (DBATU) essentially aims to meet these broad expectations. At the same time, the program intends to comply with the courses and syllabus available at National Program on Technology Enhanced Learning (NPTEL) and SWAYAM. The following specific educational objective aims to achieve these global and regional expectations.

Objective Identifier	Objectives
PEO1	To provide knowledge of sound mathematical principles underlying various programming concepts.
PEO2	To develop an ability to understand complex issues in the analysis, design, implementation and operation of information systems.
PEO3	To provide knowledge of mechanisms for building large-scale computer-based systems.
PEO4	To develop an ability to provide computer-based solutions to the problems from other disciplines of science and engineering.
PEO5	To impart skills necessary for adapting rapid changes taking place in the field of information and communication technologies.
PEO6	To provide knowledge of ethical issues arising due to deployment of information and communication technologies in the society on large scale.

Programme Outcomes (PO)

After undergoing the learning process of four years, students of B.Tech. (Computer Engineering) at Dr. Babasaheb Ambedkar Technological University will have an ability to build information systems and provide computer based solutions to real life problems. The graduates of this programme will demonstrate following abilities and skill sets.

Outcome Identifier	Outcomes
PO1	The graduates will possess the knowledge of various discrete mathematical structures, Logic and numerical techniques.
PO2	The graduates will have an ability to apply mathematical formalism of Finite Automata and Probability in modeling and analysis of systems.
PO3	The graduates will have knowledge of core programming paradigms such as database orientation, object orientation, and agent orientation and concepts essential to implement software based system.
PO4	The graduates will have an ability to analyze problem, specify algorithmic solutions to them and to evaluate alternative solutions.
PO5	The graduate will have broad understanding of the impact of a computer based solutions in economic, environmental and social context and will demonstrate use of analytical tools in gathering requirements and distilling relevant information to provide computer based solutions.
PO6	The graduates will demonstrate the ability to build human centric interfaces to computers.
PO7	The graduates will posses the knowledge of advanced and emerging topics in the fields of operating systems, databases and computer networks.
PO8	The graduates will posses skills necessary to communicate design engineering ideas. The skills set include verbal, written and listening skills.
PO9	The graduates will understand ethical issues in providing computer based solutions also they will have an ability and attitude to address the ethical issues.
PO10	The graduates will understand the role of system software such as operating systems, database management systems, compilers, middle-ware and internet protocols in realizing distributed information environment

Graduate Attributes / ABET's Criteria

The Graduate Attributes are the knowledge skills and attitudes which the students have at the time of graduation. These Graduate Attributes identified by National Board of Accreditation are as follows:

(a) Engineering knowledge: An ability to apply knowledge of mathematics, science and engineering.

(b) Problem analysis: An ability to design and conduct experiments as well as to analyze and interpret data.

(c) Design / development of solutions: An ability to design a system, a component, or process, to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.

(d) Individual and team work: An ability to function on multidisciplinary teams.

(e) Problem Solving: An ability to identify, formulate and solve engineering problems.

(f) Ethics: An understanding of professional and ethical responsibility.

(g) Communication: An ability to communicate effectively.

(h) Environment and sustainability: The broad education necessary to understand the impact of engineering solutions in a global, economical, environmental and social context.

(i) Life-long learning: Recognition of the need for and an ability to engage in life-long learning.

(j) A knowledge of technology: Aknowledge of contemporary issues, and state of art technology

(k) Modern tool usage: An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

(l) Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply in multidisciplinary environments.

Mapping of Programme Outcomes with Graduate Attributes / ABET's Criteria

	A	B	C	D	E	F	G	H	I	J	K	L
PO1	X											
PO2	X								X			
PO3		X	X									
PO4			X		X							
PO5			X					X				X
PO6					X							
PO7										X		
PO8							X					
PO9						X						
PO10											X	