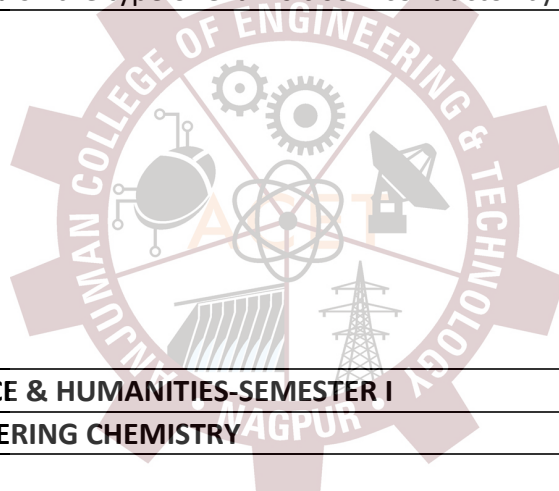


**ANJUMAN COLLEGE OF ENGINEERING AND TECHNOLOGY**  
**Science and Humanities Department**  
**Course outcomes**

<b>DEPARTMENT OF SCIENCE &amp; HUMANITIES-SEMESTER I</b>	
<b>Name of Course: MATHEMATICS I</b>	
<b>Course code: BESI-1</b>	
On the completion of the Subject Course the students will be able to:	
<b>Sr. No.</b>	<b>Course Outcomes</b>
BESI-1.1	Analyze and Apply the concept for higher order derivatives of a function using rules of differentiation and evaluate limit which are having indeterminate form.
BESI-1.2	Demonstrate the concept of ordinary derivatives into partial derivatives and Apply them to find extreme values of the functions of two variables and series approximation of the function of two variables.
BESI-1.3	Classify and apply solution of system of homogeneous and non-homogeneous equation by using concept of rank.
BESI-1.4	Apply the concept of first order differential equation to construct simple electrical circuit.
BESI-1.5	Applying the concept of higher order differential equation in electrical and mechanical problem to find analytical solution.
BESI-1.6	Define Cartesian and polar form of complex no to solve various problems.

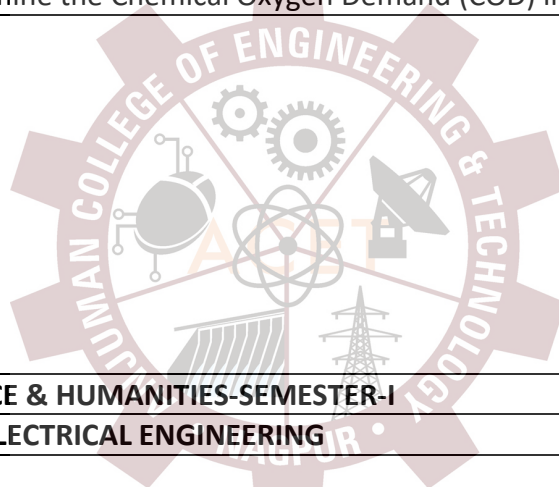
<b>DEPARTMENT OF SCIENCE &amp; HUMANITIES-SEMESTER I</b>	
<b>Name of Course: ENGINEERING PHYSICS</b>	
<b>Course code: BESI-2T</b>	
On the completion of the Subject Course the students will be able to:	
<b>Sr. No.</b>	<b>Course Outcomes</b>
BESI-2T.1	Explain Compton effect & De Broglie theory & illustrate with experiments & numerical.
BESI-2T.2	Explain the concept of wave packet & Heisenberg uncertainty principle for different cases like one dimensional potential well, barrier tunneling single slit electron diffraction.
BESI-2T.3	Compare different crystal structure SC, BCC, FCC
BESI-2T.4	Evaluate different unit cell parameter.
BESI-2T.5	Student shall be able to Describe different types of semiconductor intrinsic, extrinsic (n-type ,p-type) , p-n junction and transistor

<b>DEPARTMENT OF SCIENCE &amp; HUMANITIES-SEMESTER I</b>	
<b>Name of Course: ENGINEERING PHYSICS PRACTICAL</b>	
<b>Course code: BESI-2P</b>	
On the completion of the Subject Course the students will be able to:	
<b>Sr. No.</b>	<b>Course Outcomes</b>
BESI-2P.1	Identify V-I characteristics of Tunnel diode.
BESI-2P.2	Compare the V-I Characteristics of Silicon/Germanium Diode in forward and reserves bias mode.
BESI-2P.3	Explain the V-I Characteristics of Zener Diode in forward and reserves bias mode.
BESI-2P.4	Calculate energy band gap by using semiconductor diode.
BESI-2P.5	Differentiate CE/CB mode of Bipolar Junction Transistor.
BESI-2P.6	Distinguish the type of extrinsic semiconductor by using Hall effect



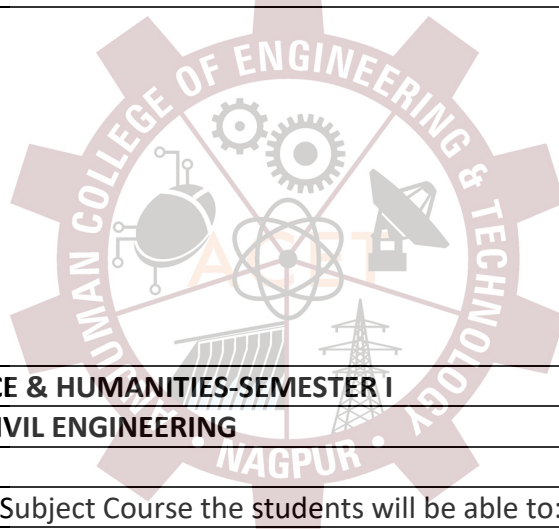
<b>DEPARTMENT OF SCIENCE &amp; HUMANITIES-SEMESTER I</b>	
<b>Name of Course: ENGINEERING CHEMISTRY</b>	
<b>Course code: BESI-3T</b>	
On the completion of the Subject Course the students will be able to:	
<b>Sr. No.</b>	<b>Course Outcomes</b>
BESI-3T.1	Identify hardness and list out various methods of water softening with Lime-Soda and Zeolite calculations.
BESI-3T.2	Summarize the internal treatment of boiler feed water, treatment of brackish and sewage waste water.
BESI-3T.3	Recognise various conditions responsible for corrosion and its preventive measures.
BESI-3T.4	Recall and classify methods of OPC manufacturing, various cement properties parameter, its applicability.
BESI-3T.5	Explain and Discuss the 12 principles of Green Chemistry, its significance in today's scenario and application of different battery as an alternative source of energy.

<b>DEPARTMENT OF SCIENCE &amp; HUMANITIES-SEMESTER I</b>	
<b>Name of Course: ENGINEERING CHEMISTRY PRACTICAL</b>	
<b>Course code: BESI-3P</b>	
On the completion of the Subject Course the students will be able to:	
<b>Sr. No.</b>	<b>Course Outcomes</b>
BESI-3P.1	Recall different types of volumetric analysis methods.
BESI-3P.2	Assess the quality of water by determination of hardness using complexometric titration.
BESI-3P.3	Distinguish between different types of alkalinity present in water.
BESI-3P.4	Estimate the amounts of Copper and Iron present in industrial effluents by different types of redox titrations.
BESI-3P.5	Determine the Chemical Oxygen Demand (COD) in waste water sample.



<b>DEPARTMENT OF SCIENCE &amp; HUMANITIES-SEMESTER-I</b>	
<b>Name of Course: BASIC ELECTRICAL ENGINEERING</b>	
<b>Course code: BESI-4T</b>	
On the completion of the Subject Course the students will be able to:	
<b>Sr. No.</b>	<b>Course Outcomes</b>
BESI-4T.1	Explain basic electrical quantities & laws
BESI-4T.2	Explain various Magnetic circuit terminologies
BESI-4T.3	Explain fundamentals of single phase and three phase AC circuit & their evaluation
BESI-4T.4	Explain & evaluate working of 1 ph transformer efficiency & regulation
BESI-4T.5	Explain, classify various electrical engineering fundamentals

<b>DEPARTMENT OF SCIENCE &amp; HUMANITIES-SEMESTER I</b>	
<b>Name of Course: BASIC ELECTRICAL ENGINEERING PRACTICAL</b>	
<b>Course code: BESI-4P</b>	
On the completion of the Subject Course the students will be able to:	
<b>Sr. No.</b>	<b>Course Outcomes</b>
BESI-4P.1	Apply and deduce the principles of Electrical Engineering through experimental work
BESI-4P.2	Connect the circuit to perform the experiment, measure, analyze the observed data & come to the conclusion
BESI-4P.3	Organize reports based on performed experiments with effective demonstration of diagrams and characteristics /graph
BESI-4P.4	Understand & justify various Electrical Laws & Theorems
BESI-4P.5	Find out various Electrical constants such as Resistance, Inductance, capacitance & Impedance of various electrical circuits
BESI-4P.6	Perform various tests over transformer & find its efficiency & regulation.

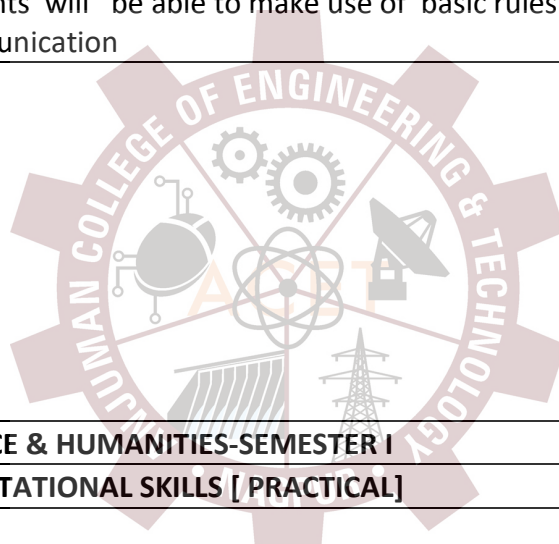


<b>DEPARTMENT OF SCIENCE &amp; HUMANITIES-SEMESTER I</b>	
<b>Name of Course: BASIC CIVIL ENGINEERING</b>	
<b>Course code: BESI-5T</b>	
On the completion of the Subject Course the students will be able to:	
<b>Sr. No.</b>	<b>Course Outcomes</b>
BESI-5T.1	Define and discuss the general concepts related to building, its component and various building materials.
BESI-5T.2	Discover the knowledge of Survey and various modes of transportation.
BESI-5T.3	Student shall be able to Discuss the importance of Environment.
BESI-5T.4	Identify natural Resources and explain Water Resource Engineering.
BESI-5T.5	Discuss the knowledge of various Instruments in Civil Engineering Structures and Sustainable Development.

<b>DEPARTMENT OF SCIENCE &amp; HUMANITIES-SEMESTER I</b>	
<b>Name of Course: ENGINEERING GRAPHICS -I</b>	
<b>Course code: BES1-6T</b>	
On the completion of the Subject Course the students will be able to:	
<b>Sr. No.</b>	<b>Course Outcomes</b>
BES1-6T.1	Define, Name & Draw Various Curve Profiles
BES1-6T.2	Explain, implement and make use of Basic Principles Of Orthographic Projections & apply for drawing projection of lines .
BES1-6T.3	Apply basic principles of orthographic projection for drawing projection of planes.
BES1-6T.4	Relate to basic principles of orthographic projection for drawing projection of solids
BES1-6T.5	Apply basic principles of orthographic projection for conversion of pictorial views into orthographic views
BES1-6T.6	Make use of isometric scale & apply acquired knowledge of graphics to convert orthographic views into pictorial views.

<b>DEPARTMENT OF SCIENCE &amp; HUMANITIES-SEMESTER I</b>	
<b>Name of Course: ENGINEERING GRAPHICS -I(Practical)</b>	
<b>Course code: BES1-6P</b>	
On the completion of the Subject Course the students will be able to:	
<b>Sr. No.</b>	<b>Course Outcomes</b>
BES1-6P.1	Define, Name & Draw Various Curve Profiles
BES1-6P.2	Explain, implement and make use of Basic Principles Of Orthographic Projections & apply for drawing projection of lines .
BES1-6P.3	Apply basic principles of orthographic projection for drawing projection of planes.
BES1-6P.4	Relate to basic principles of orthographic projection for drawing projection of solids
BES1-6P.5	Apply basic principles of orthographic projection for conversion of pictorial views into orthographic views
BES1-6P.6	Make use of isometric scale & apply acquired knowledge of graphics to convert orthographic views into pictorial views.

<b>DEPARTMENT OF SCIENCE &amp; HUMANITIES-SEMESTER I</b>	
<b>Name of Course: COMMUNICATION SKILLS [ PRACTICAL]</b>	
<b>Course code: BESI-7P</b>	
<b>Sr. No.</b>	<b>Course Outcomes</b>
BESI-7.1	Students will be able to understand basic concepts of reading, writing, speaking & listening skills and be able to identify barriers to communication & minimize them
BESI-7.2	Students will be able to construct basic business letters.
BESI-7.3	Students will be able to demonstrate presentation skills and public speaking.
BESI-7.4	Students will be able to demonstrate group discussion skills ,team spirit and self confidence.
BESI-7.5	Students will be able to make use of basic rules of phonology in communication



<b>DEPARTMENT OF SCIENCE &amp; HUMANITIES-SEMESTER I</b>	
<b>Name of Course: COMPUTATIONAL SKILLS [ PRACTICAL]</b>	
<b>Course code: BESI-3</b>	
On the completion of the Subject Course the students will be able to:	
<b>Sr. No.</b>	<b>Course Outcomes</b>
BESI-3.1	Understand fundamentals of computer and operating system with concepts of c-language.
BESI-3.2	Apply fundamentals of condition and iteration structures.
BESI-4.3	Describe fundamentals of array (1d&2d).
BESI-5.4	Understand fundamentals of pointer.
BESI-6.5	Understand basic operations on string.
BESI-7.6	Describe fundamentals of function

<b>DEPARTMENT OF SCIENCE &amp; HUMANITIES-SEMESTER-II</b>	
<b>Name of Course: MATHEMATICS -II</b>	
<b>Course code: BESII-1</b>	
On the completion of the Subject Course the students will be able to:	
<b>Sr. No.</b>	<b>Course Outcomes</b>
BESII-1.1	Explain concept of improper integrals & use it to evaluate Mean value & RMS value
BESII-1.2	Construct Cartesian & polar form of curve and can solve problem of solid revolution
BESII-1.3	Extend the concept of definite integral into multiple integrals
BESII-1.4	Apply the differentiation of vector identities and use it to evaluate problems of gradient divergence & curl
BESII-1.5	Apply the vector integration and apply it to solve line integral, surface integral and its simple application
BESII-1.6	Apply the basic concept of curve fitting and correlation and apply the concept of finite difference for equal and unequal intervals

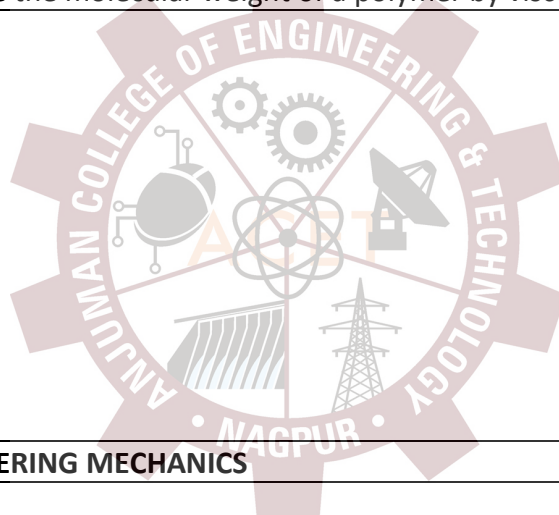
<b>DEPARTMENT OF SCIENCE &amp; HUMANITIES-SEMESTER-II</b>	
<b>Name of Course: ADVANCED PHYSICS</b>	
<b>Course code: BESII-2T</b>	
On the completion of the Subject Course the students will be able to:	
<b>Sr. No.</b>	<b>Course Outcomes</b>
BESII-2T.1	Memorize the basic concept of motion of charge particle in electric and magnetic field by sketch its trajectory in different cases.
BESII-2T.2	Explain the basic concept of interference of thin film, working principle of LASER
BESII-2T.3	Apply the concept of particle motion in electric and magnetic field in construction and working of devices like electron lens, CRO, Cyclotron and Bainbridge Mass Spectrometer.
BESII-2T.4	Classify optical fiber according to material and modes of propagation
BESII-2T.5	Explain, classify and analyze optical fiber, Nanoscience and nano material

<b>DEPARTMENT OF SCIENCE &amp; HUMANITIES-SEMESTER-II</b>	
<b>Name of Course: ADVANCED PHYSICS PRACTICAL</b>	
<b>Course code: BESII-2P</b>	
On the completion of the Subject Course the students will be able to:	
<b>Sr. No.</b>	<b>Course Outcomes</b>
BESII-2P.1	Identify the types of crystal by double reflection method.
BESII-2P.2	Illustrate the phenomenon of diffraction with the help of plane diffraction grating
BESII-2P.3	Calculate phase shift and unknown frequency using CRO.
BESII-2P.4	Calculate fringe width with the help of wedge shape thin film.
BESII-2P.5	Deduce Numerical Aperture and acceptance angle of an optical fiber.
BESII-2P.6	Measure radius of curvature of Plano convex lenses by using Newton's ring.

<b>DEPARTMENT OF SCIENCE &amp; HUMANITIES-SEMESTER-II</b>	
<b>Name of Course: MATERIALS CHEMISTRY</b>	
<b>Course code: BESII-3T</b>	
On the completion of the Subject Course the students will be able to:	
<b>Sr. No.</b>	<b>Course Outcomes</b>
BESII-3T.1	Classify different sources of heat energy and identify their applications, estimate GCV, NCV with elementary knowledge of Rocket Propellants.
BESII-3T.2	Estimate quantity of air required for combustion of different fuels at NTP.
BESII-3T.3	Develop basic knowledge of petroleum refining, it's yield and quality improvement.
BESII-3T.4	Classify lubrication mechanisms for machineries working at different conditions and choice of lubricants required for specific machines.
BESII-3T.5	Discuss the significance of nano-materials in day-to-day life and concept of various advanced materials available for industrial applications.

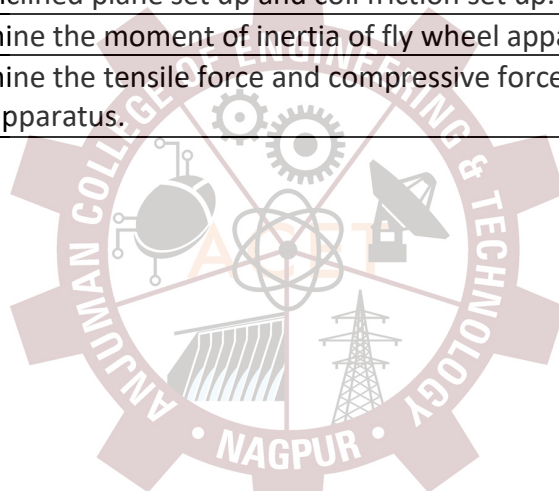


<b>DEPARTMENT OF SCIENCE &amp; HUMANITIES-SEMESTER-II</b>	
<b>Name of Course: MATERIALS CHEMISTRY PRACTICAL</b>	
<b>Course code: BESII-3P</b>	
On the completion of the Subject Course the students will be able to:	
<b>Sr. No.</b>	<b>Course Outcomes</b>
BESII-3P.1	Select the basic instruments used for analyzing the properties and selection of lubricants.
BESII-3P.2	Justify the quantitative parameter of fuel.
BESII-3P.3	Predict the results based on the practical and theoretical observations of fuel and lubricants.
BESII-3P.4	Assess the quality of lubricants by titration method.
BESII-3P.5	Determine the molecular weight of a polymer by viscosity measurements.



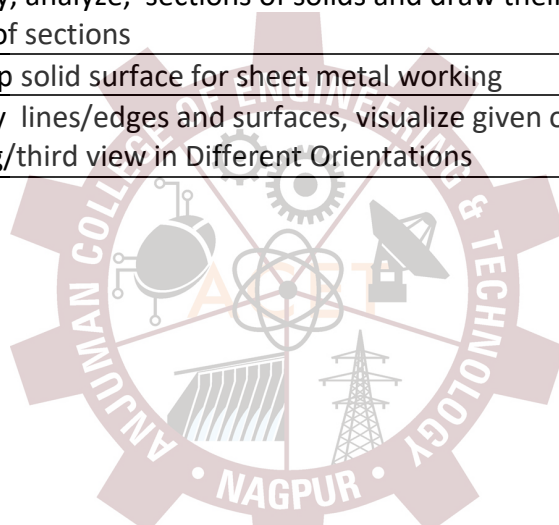
<b>Name of Course: ENGINEERING MECHANICS</b>	
<b>Course code: BESII-4T</b>	
On the completion of the Subject Course the students will be able to:	
<b>Sr. No.</b>	<b>Course Outcomes</b>
BESII-4T.1	Determine resultants and apply conditions of static equilibrium to plane force systems.
BESII-4T.2	Develop complete and correct free body diagrams and Write the appropriate equilibrium equations from the free body diagrams.
BESII-4T.3	Analyze systems that include frictional forces.
BESII-4T.4	Locate the centroid of area, moment of inertia, product of inertia of various shape.
BESII-4T.5	Apply the theorem of virtual work on beam, frame and link problem.
BESII-4T.6	Determine the effect of impact of two colliding bodies.

<b>DEPARTMENT OF SCIENCE &amp; HUMANITIES-SEMESTER II</b>	
<b>Name of Course: ENGINEERING MECHANICS PRACTICAL</b>	
<b>Course code: BESII-4P</b>	
On the completion of the Subject Course the students will be able to:	
<b>Sr. No.</b>	<b>Course Outcomes</b>
BESII-4P.1	Determine the reactions at the support of simply supported beam.
BESII-4P.2	Determine the law of machine of single purchase crab, double purchase crab and differential axle and wheel.
BESII-4P.3	Determine the coefficient of friction of different surfaces at different angles using inclined plane set up and coil friction set up.
BESII-4P.4	Determine the moment of inertia of fly wheel apparatus.
BESII-4P.5	Determine the tensile force and compressive force in the members of jib crane apparatus.



<b>DEPARTMENT OF SCIENCE &amp; HUMANITIES-SEMESTER II</b>	
<b>Name of Course: ADVANCED ELECTRICAL ENGINEERING</b>	
<b>Course code: BESII-5</b>	
On the completion of the Subject Course the students will be able to:	
<b>Sr. No.</b>	<b>Course Outcomes</b>
BESII-5.1	Summarize generation of electrical energy through various generating stations & explain basic protective devices
BESII-5.2	Explain construction, working & application of DC machine
BESII-5.3	Illustrate domestic tariff & define various illumination terminologies
BESII-5.4	Demonstrate & recall construction, working & application of single phase & three phase Induction motor
BESII-5.5	Explain & classify various electrical machines & power generation concepts

<b>DEPARTMENT OF SCIENCE &amp; HUMANITIES-SEMESTER II</b>	
<b>Name of Course: ENGINEERING GRAPHICS -II</b>	
<b>Course code: BES1I -6P</b>	
On the completion of the Subject Course the students will be able to:	
<b>Sr. No.</b>	<b>Course Outcomes</b>
BESII-6P.1	Explain and demonstrate use of CAD
BESII-6P.2	make use of CAD for drawing, dimensioning, editing modifying, saving and printing/plotting the drawings
BESII-6P.3	Classify, analyze, sections of solids and draw their projections and true shape of sections
BESII-6P.4	Develop solid surface for sheet metal working
BESII-6P.5	Identify lines/edges and surfaces, visualize given orthographic views, add a missing/third view in Different Orientations



<b>DEPARTMENT OF SCIENCE &amp; HUMANITIES-SEMESTER II</b>	
<b>Name of Course: WORKSHOP</b>	
<b>Course code: BESII-7</b>	
On the completion of the Subject Course the students will be able to:	
<b>Sr. No.</b>	<b>Course Outcomes</b>
BESII-7.1	Read Job Drawing, Identify & Select Proper Material, Tools, Equipments & Process / Machines For Making The Required Job.
BESII-7.2	Use Basic Marking & Measuring Instruments To Inspect The Job For Conforming With Desired Dimension & Shape .
BESII-7.3	Observe & Follow Precautions /Safety Measures During Various Operations
BESII-7.4	Make use of tools and equipments of workshop and prepare jobs using knowledge of fitting, carpentry, welding and smithy

<b>DEPARTMENT OF SCIENCE &amp; HUMANITIES-SEMESTER II</b>	
<b>Name of Course: ETHICAL SCIENCE</b>	
<b>Course code: BESII-8</b>	
On the completion of the Subject Course the students will be able to:	
<b>Sr. No.</b>	<b>Course Outcomes</b>
BESII-8.1	Discuss culture, social engineering and socio-legal awareness.
BESII-8.2	Explain the importance of industrial psychology which would prepare them for occupational roles.
BESII-8.3	Demonstrate leadership skills.
BESII-8.4	Recognize the role of government in industrial sectors
BESII-8.5	Identify impact of industrialization and urbanization on society and structure of work organization

