1st Year Even Semester

EEE 1201 Electrical Circuits II
Contact hours/week :3 Credits: 3
Polyphase system, balanced and unbalanced three phase circuit analysis. Two-port network analysis. Coupled
circuit. Introduction to filter.

EEE 1202 Electrical Circuits II Sessional
Contact hours/week :3/2 Credits: 0.75
Sessional based on the theory of course EEE 1201.

EEE 1203 Electronics I
Contact hours/week: 3 Credits: 3
Signals, their origin and processing in electronic system. Development of electronic processing devices; Vacuum
tubes and semiconductor devices; P-N junction semiconductor diodes; Application of diode as rectifier, Zener diode
and its application.
BJT, FET, MOSFET : Characteristics, Biasing techniques, Stabilization factors, Compensation. Equivalent circuits,
single stage amplifiers at midband frequencies. Power amplifiers. Heat sink.

EEE 1204 Electronics I Sessional
Contact hours/week: 3 Credits: 1.5
Sessional based on the theory of course EEE 1203.

ME 1200 Engineering Drawing
Contact hour/week: 3 Credit : 1.5
Introduction. Orthographic projections. Pictorial views. Drawing standards and practices. Interpenetrating of
surfaces. Development of surfaces. Machine drawings. Technical sketching. Introduction to computer aided
drawing.

Math 1201 Engineerng Mathematics II
Contact hours/week: 3 Credits: 3
Ordinary differential equations: Degree and order of ODE, Formation of differential equations, Solution of first order
Differential equations by various methods, Solution of first order but higher degree ODE, Solution of general linear

equations of second and higher order with constant coefficients, Solution of homogeneous linear equations and its
applications, Solutions of Differential equations of higher order when dependent and independent variable are absent,
Solution of differential equation by the method based on factorization of operators.
Partial differential equations: Four rules for solving simultaneous equations of the form dxP=dyQ=dzr; Lagrange's
method of solving PDE of order one, Integral surfaces passing through a given curve, Non linear PDE of order one (Complete, Particular, Singular and general integrals) ; Standard forms *f(p,q)=0, z=px+qy+f(p,q), f(p,q,z) = 0, f1 (x,p)= f2(y,q)*, Charpit's method, Second order PDE; Its nomenclature and classifications to canonical (Standard) parabolic,elliptic, hyperbolic, Solution by separations of variables, Linear PDE with constants coefficients.
Series solution: Solution of differential equations in series by the method of Frobenius, Bessel's functions, Legendre's
Polynomials and their properties.

Chem 1211 Chemistry
Contact hours/week : 3 Credits: 3
Different types of chemical bonds and their properties. Modern concepts of acids and bases. Problems involving acid base titration. Properties and uses of noble gases. Electrochemistry, Mechanism of electrolytic conduction, Transport number, Kohl-Rausch's law. Ionization of water and concept of pH. Different types of cells, Cell emf. Single electrode potentials, their determination and application. Secondary Cells or Accumulators, lead accumulator and alkaline accumulator. Different types of solutions. Factors influencing the solubility of a substance, solution of gas in liguids. Colligative properties of dilute solution. Le-chatelier's theorem and some of its important industrial applications. Thermochemistry, chemical kinetics.

Chem 1212 Chemistry Sessional
Contact hours/week : 3/2 Credits: 0.75
Laboratory experiments based on theory of course Chem 1211.

Hum 1211 Financial Account & Economic Analysis
Contact hours/week : 3 Credits: 3
Accountancy:
Basic accounting principles, Transaction, Journal, Ledger and Accounts. Cash book, Bank Reconciliation statement.
Preparation of Financial Statement. Cost Accounts and its objects. Cost classification. Elements of costs, preparation
of cost sheet. Overhead allocation. Use of Relevant costs in Decision-Making, Standard costing. Material cost
variance. Break even analysis.
Economics:

Definition of Economics. Economics and Engineering.
Micro-Economics: The theory of demand and supply and their elasticity. Price determination. Nature of an economic theory, applicability of economic theories to the problems of developing countries. Indifference curve technique. Marginal analysis. Production, production function, types of productivity. Rational region of production of an engineering firm. Concepts of market and market structure. Cost analysis and cost function. Small scale production and large scale production. Optimization. Theory of distribution.
Macro-Economics: Savings, investment, employment, National income analysis. Inflation. Monetary policy, fiscal policy and trade policy with reference to Bangladesh. Economics of development and planning.