

K. D. K. COLLEGE OF ENGINEERING  
Department Of Mechanical Engineering

. COURSE OUTCOMES  
Third Semester B. Tech

**BTME301T Mathematics – III**

After successful completion of this course the student will be able to:

- CO301.1 Apply Laplace Transform to solve ordinary differential equations, Integral equations and Integro-differential Equations.
- CO301.2 Apply Fourier series in the analysis of periodic functions in terms sine and cosine encountered in engineering problems and Fourier Transform to solve integral equations.
- CO301.3 Learn the concept of differentiating, integrating and expanding of analytic functions in complex numbers and their applications such as evaluation of integrals of complex functions
- CO301.4 Solve partial differential equations of first order, higher order with constant coefficients and of second order using method of separation of variables.
- CO301.5 Analyze real world scenarios to recognize when matrices are appropriate, formulate problems about the scenarios, creatively model these scenarios in order to solve the problems using multiple approaches.

**BTME302T Manufacturing Processes**

After successful completion of this course the student will be able to:

- CO302.1 Understand the importance of manufacturing processes, techniques of pattern making and moulding with their properties. Design gating system along with selection of different types of melting furnaces and special casting process.
- CO302.2 Get acquainted with the basic concept of joining process, welding process and its types, defects and application.
- CO302.3 Get acquainted with the forming process for metal, mechanics of forming process along with different types of rolling machine.
- CO302.4 Understand and define press working process along with its classification, types and terminology, different types of dies and introduction to shaping operation.
- CO302.5 Understand introduction to plastics, ceramics and glasses, its properties, application, forming and its shaping.

**BTME303T Fluid Mechanics**

After successful completion of this course the student will be able to:

- CO303.1 Analyze fluid behaviors based on properties and identify fluid flow types in practical applications.
- CO303.2 Apply fluid statics principles to assess pressure distributions, determine buoyancy, and analyze stability.
- CO303.3 Demonstrate proficiency in solving fluid dynamics problems using the Navier Stokes equation, Bernoulli's equation, and related principles in various engineering scenarios.
- CO304.4 Differentiate laminar and turbulent flows, apply dimensional analysis techniques, and interpret dimensionless parameters.
- CO305.5 Calculate energy losses in pipes, understand fluid behavior in series and parallel configurations, and analyze lift and drag forces.

### **BTME304T Kinematics Of Machines**

After successful completion of this course the student will be able to:

- CO304.1 Perform kinematic and dynamic analysis (Displacement, Velocity, acceleration, Inertia forces) of a given mechanism using graphical method.
- CO304.2 Understand the concept of compliant mechanisms.
- CO304.3 Conceive or synthesize new mechanisms for specific requirements .
- CO304.4 Construct cam profiles and analysis the follower motion.
- CO304.5 Understand Geometry of gear, its types, analysis of forces and motions of gear teeth. Study of gear trains and governors.

### **BTME302P Manufacturing Processes Lab**

After successful completion of this course the student will be able to:

- CO302P.1 Think in core concept of their engineering application by studying various topics involved in branch specific applications.
- CO302P.2 Understand the relevance and importance of the Different manufacturing techniques and real life application in industry.
- CO302P.3 Design the gating and riser system needed for casting and requirements to achieve defect free casting.
- CO302P.4 Analyze the welding process behavior and requirements to achieve sound welded joint while welding different similar and dissimilar engineering material
- CO302P.5 Understand the plastic, glass and ceramic Processing

### **BTME305P Machine Drawing and Solid Modeling Lab.**

After successful completion of this course the student will be able to:

- CO305P.1 Interpret and describe basic elements of standard machine drawing like lines, dimensions, tolerances, symbols etc
- CO305P.2 Create 2-D detailing, sectional views of machine elements from given isometric view.
- CO305P.3 Understand and apply concepts of GD&T for creating part and assembly drawing.

### **BTME306T Material Science & Engineering**

After successful completion of this course the student will be able to:

- CO306.1 Student will be capable to distinguish micro structure and analyze the effect to crystalline nature of metals, construct and analyze Iron-Iron carbide equilibrium diagram.
- CO306.2 Student will be able to study the commercial steels with their applications and properties.
- CO306.3 Student will be able to analyze and implement suitable heat treatment processes.
- CO 306.4 Student will be able to analyze the Cast Iron and their properties.
- CO 306.5 Student will be able to perceive the basics of powder Metallurgy for powder metallurgical components

### **BTME307P Skill Devepment-(Basics of Computer Aided Drafting) Practical**

Students will learn

- CO307P.1 How to create simple parts, assemblies and drawings.
- CO307P.2 How to use different feature-based tools to build, review and modify a model.
- CO307P.3 How to create and analyze assemblies and how to produce a drawing with different views.
- CO307P.4 Learn how to dimension the drawing and annotate the views.

## **BTME308P Sports/Yoga/NSS/NCC Practical**

- CO308P.1 Through sports, students should be able to build a wide range of abilities and skills such as leadership, confidence, teamwork, patience, self-reliance, trust, and many more which facilitate the overall development of an individual. Students should learn to manage time between their lectures, sports, and personal life
- CO308P.2 . To introduce basic wellness principles and practices of Yoga to students for wellness in their daily lives to bring peace and harmony in the society
- CO308P.3 Understand and identify the needs and problems of the community in which they work, also develop among them a sense of social and civic responsibility.
- CO308P.4 To create an organized, trained and motivated youth, create soldiers for the nation, develop the leadership skills in the youth.