Modi Institute of Technology, Kota

An Engg. College Approved by AICTE & Affiliated to RTU
Branches: B.Tech- ME / EE / ECE / CE / IT / EEE &M.Tech – Digital Communication
Nayagaon, Rawatbhata Road, Kota – 324010, Raj. M. No- 7665439788,
Website: www.mitkota.com Email: mitkota1@gmail.com

Department of Mechanical Engineering

List of Course Outcomes

II Year – III Semester
3ME2 – 01 : Advance Engineering Mathematics

After completion of the course, students would be able to:

CO1: Understand numerical difference method, interpolation techniques, numerical differentiation and integration.
CO2: Use numerical methods to solve first and second order differential equations, polynomial and transcendental equations.
CO3: Know the concept of Laplace Transformation and its application for real world problem.
CO4: Calculate Fourier Transformation to solve field problems.
CO5: Apply the Z-transform and its application to differential equation.

Mr. Vijay Varshney (O/C Exam)	Mr. Pankaj Jain HOD (First Year)	Mrs. SeemaArya HOD (CSE)
Mr.JitendraYadvendra HOD (EE)	Mr. AbhishekChattri Dy. Registrar	Dr.Barkha Gupta HOD (ME)

Dr. VikasSoni
Principal

Cc to:-

Hon'ble Vice-Chairman Sir for kind information.
Hon'ble Group Director Sir for kind information.
Undersigned.
HOD's & I/C's. / First Year Coordinator.
Registrar Office/NAAC Coordinator/All Member Concerned/ Accountant

Modi Institute of Technology, Kota

An Engg. College Approved by AICTE & Affiliated to RTU
Branches: B.Tech- ME / EE / ECE / CE / IT / EEE &M.Tech – Digital Communication
Nayagaon, Rawatbhata Road, Kota – 324010, Raj. M. No- 7665439788,
Website: www.mitkota.com Email: mitkota1@gmail.com

Department of Mechanical Engineering

List of Course Outcomes

II Year – III Semester
3ME1-02/4ME1-02 : Technical Communication

After completion of the course, students would be able to:

CO1: Develop effective technical communication skills in listening, speaking, reading and writing using different technical tools.

CO2: Critically read different kinds of technical documents; analyze, organize and summarize them.

CO3: Write effective academic texts, e.g. Official Notes, Letters, E-mail, Resume, Job Application, and Minutes of Meetings in good English with regards to both language and style.

CO4: Present relevant scientific content in advance technical writing of reports, project proposals and technical article

CO5: Give technical and scientific presentations in order to improve the written and oral communication of colleagues through peer response.

Mr. Vijay Varshney (O/C Exam)	Mr. Pankaj Jain HOD (First Year)	Mrs. SeemaArya HOD (CSE)
Mr.JitendraYadvendra HOD (EE)	Mr. AbhishekChattri Dy. Registrar	Dr.Barkha Gupta HOD (ME)

Dr. VikasSoni
Principal

Cc to:-

Hon'ble Vice-Chairman Sir for kind information.
Hon'ble Group Director Sir for kind information.
Undersigned.
HOD's & I/C's. / First Year Coordinator.
Registrar Office/NAAC Coordinator/All Member Concerned/ Accountant

Modi Institute of Technology, Kota

An Engg. College Approved by AICTE & Affiliated to RTU
Branches: B.Tech- ME / EE / ECE / CE / IT / EEE &M.Tech – Digital Communication
Nayagaon, Rawatbhata Road, Kota – 324010, Raj. M. No- 7665439788,
Website: www.mitkota.com Email: mitkota1@gmail.com

Department of Mechanical Engineering

List of Course Outcomes

II Year – III Semester
3ME3 – 04 :Engineering Mechanics

After completion of the course, students would be able to:

CO1: Solve system of forces and trusses by applying principles of equilibrium condition and virtual work.

CO2: Determine centroid, moment of inertia and solve problems related to lifting machines.

CO3: Compute friction of ladder, wedge, and belt; evaluate power transmission by belt drives.

CO4: Calculate position, velocity and acceleration of particles and rigid bodies using principles of kinematics and kinetics.

CO5: Use work energy principle, impulse momentum principle, law of energy conservation to solve the problems of linear and angular motion.

Mr. Vijay Varshney (O/C Exam)	Mr. Pankaj Jain HOD (First Year)	Mrs. SeemaArya HOD (CSE)
Mr.JitendraYadvendra HOD (EE)	Mr. AbhishekChattri Dy. Registrar	Dr.Barkha Gupta HOD (ME)

Dr. VikasSoni
Principal

Cc to:-

Hon'ble Vice-Chairman Sir for kind information.
Hon'ble Group Director Sir for kind information.
Undersigned.
HOD's & I/C's. / First Year Coordinator.
Registrar Office/NAAC Coordinator/All Member Concerned/ Accountant

Modi Institute of Technology, Kota

An Engg. College Approved by AICTE & Affiliated to RTU
Branches: B.Tech- ME / EE / ECE / CE / IT / EEE &M.Tech – Digital Communication
Nayagaon, Rawatbhata Road, Kota – 324010, Raj. M. No- 7665439788,
Website: www.mitkota.com Email: mitkota1@gmail.com

Department of Mechanical Engineering

List of Course Outcomes

II Year – III Semester
3ME4 – 05 :Engineering Thermodynamics

After completion of the course, students would be able to:

CO1: Describe concept of thermodynamics; Zeroth and First law and its applications.

CO2: Explain second law of thermodynamics, Entropy, Availability and their applications.

CO3: Estimate thermodynamic properties of substances in steam and gas of ideal and real mixture.

CO4: Derive various thermodynamic relations and analyze different power cycle.

CO5: Compute COP of vapour compression cycle with reheat, regeneration, bleeding extraction and cogeneration cycle.

Mr. Vijay Varshney (O/C Exam)	Mr. Pankaj Jain HOD (First Year)	Mrs. SeemaArya HOD (CSE)
Mr.JitendraYadvendra HOD (EE)	Mr. AbhishekChattri Dy. Registrar	Dr.Barkha Gupta HOD (ME)

Dr. VikasSoni
Principal

Cc to:-

Hon'ble Vice-Chairman Sir for kind information.
Hon'ble Group Director Sir for kind information.
Undersigned.
HOD's & I/C's. / First Year Coordinator.
Registrar Office/NAAC Coordinator/All Member Concerned/ Accountant

Modi Institute of Technology, Kota

An Engg. College Approved by AICTE & Affiliated to RTU
Branches: B.Tech- ME / EE / ECE / CE / IT / EEE &M.Tech – Digital Communication
Nayagaon, Rawatbhata Road, Kota – 324010, Raj. M. No- 7665439788,
Website: www.mitkota.com Email: mitkota1@gmail.com

Department of Mechanical Engineering

List of Course Outcomes

II Year – III Semester
3ME4 – 06 :Material Science and Engineering

After completion of the course, students would be able to:

CO1: Sketch crystal structure, crystal imperfection and their effect on materials.

CO2: Analyze different phases transformation of materials and draw various types of equilibrium diagram.

CO3: Explain concept of heat treatment and its various processes.

CO4: Describe polymers, their properties and constitution of alloy steels.

CO5: Illustrate testing for mechanical properties of materials, classification of steels. Discuss the concept of ceramics and nanomaterial.

Mr. Vijay Varshney (O/C Exam)	Mr. Pankaj Jain HOD (First Year)	Mrs. SeemaArya HOD (CSE)
Mr.JitendraYadvendra HOD (EE)	Mr. AbhishekChattri Dy. Registrar	Dr.Barkha Gupta HOD (ME)

Dr. VikasSoni
Principal

Cc to:-

Hon'ble Vice-Chairman Sir for kind information.
Hon'ble Group Director Sir for kind information.
Undersigned.
HOD's & I/C's. / First Year Coordinator.
Registrar Office/NAAC Coordinator/All Member Concerned/ Accountant

Modi Institute of Technology, Kota

An Engg. College Approved by AICTE & Affiliated to RTU
Branches: B.Tech- ME / EE / ECE / CE / IT / EEE &M.Tech – Digital Communication
Nayagaon, Rawatbhata Road, Kota – 324010, Raj. M. No- 7665439788,
Website: www.mitkota.com Email: mitkota1@gmail.com

Department of Mechanical Engineering

List of Course Outcomes

II Year – III Semester
3ME4 – 07 :Mechanics of Solids

After completion of the course, students would be able to:

CO1: Define the various types of stresses and strains and derive their relationships to solve problems.

CO2: Draw SFD, BMD for different support and loading conditions of beam. Evaluate shear stress distribution for various cross sections of beam.

CO3: Discuss members having combined loading, calculate principal planes, stress and strain. Also discuss the theories of elastic failure.

CO4: Compute torsional shear stress and power transmission for various shafts. Calculate crippling load of column for different end conditions.

CO5: Determine deflection of beams using area moment method and direct integration method. Evaluate the stresses in thin walled pressure vessels.

Mr. Vijay Varshney (O/C Exam)	Mr. Pankaj Jain HOD (First Year)	Mrs. SeemaArya HOD (CSE)
Mr.JitendraYadvendra HOD (EE)	Mr. AbhishekChattri Dy. Registrar	Dr.Barkha Gupta HOD (ME)

Dr. VikasSoni
Principal

Cc to:-

Hon'ble Vice-Chairman Sir for kind information.
Hon'ble Group Director Sir for kind information.
Undersigned.
HOD's & I/C's. / First Year Coordinator.
Registrar Office/NAAC Coordinator/All Member Concerned/ Accountant

Modi Institute of Technology, Kota

An Engg. College Approved by AICTE & Affiliated to RTU
Branches: B.Tech- ME / EE / ECE / CE / IT / EEE &M.Tech – Digital Communication
Nayagaon, Rawatbhata Road, Kota – 324010, Raj. M. No- 7665439788,
Website: www.mitkota.com Email: mitkota1@gmail.com

Department of Mechanical Engineering

List of Course Outcomes

II Year – III Semester
3ME4 – 21 :Machine Drawing Practice

After completion of the course, students would be able to:

CO1: Interpret the drawings of machine components and develop assembly drawing and bill of materials.

CO2: Prepare part drawing of machine using the standard convections regarding fits, tolerances and surface finish.

CO3: Demonstrate the knowledge of CAD software and its features.

CO4: Create two dimensional objects, modify and dimension them to form more complex machine parts of engineering importance.

CO5: Develop three dimensional models on software.

Mr. Vijay Varshney (O/C Exam)	Mr. Pankaj Jain HOD (First Year)	Mrs. SeemaArya HOD (CSE)
Mr.JitendraYadvendra HOD (EE)	Mr. AbhishekChattri Dy. Registrar	Dr.Barkha Gupta HOD (ME)

Dr. VikasSoni
Principal

Cc to:-

Hon'ble Vice-Chairman Sir for kind information.
Hon'ble Group Director Sir for kind information.
Undersigned.
HOD's & I/C's. / First Year Coordinator.
Registrar Office/NAAC Coordinator/All Member Concerned/ Accountant

Modi Institute of Technology, Kota

An Engg. College Approved by AICTE & Affiliated to RTU
Branches: B.Tech- ME / EE / ECE / CE / IT / EEE &M.Tech – Digital Communication
Nayagaon, Rawatbhata Road, Kota – 324010, Raj. M. No- 7665439788,
Website: www.mitkota.com Email: mitkota1@gmail.com

Department of Mechanical Engineering

List of Course Outcomes

II Year – III Semester
3ME4 – 22 :Material Testing Lab

After completion of the course, students would be able to:

CO1: Explore crystal structures, crystal defects and identification of material.
CO2: Compare and examine microstructure and conduct hardness and impact test.
CO3: Operate UTM to perform tensile, compressive and bending test of given material to find elastic constant.
CO4: Find torsional rigidity and fatigue strength via machines.
CO5: Understand various heat treatments and their effect on material properties.

Mr. Vijay Varshney (O/C Exam)	Mr. Pankaj Jain HOD (First Year)	Mrs. SeemaArya HOD (CSE)
Mr.JitendraYadvendra HOD (EE)	Mr. AbhishekChattri Dy. Registrar	Dr.Barkha Gupta HOD (ME)

Dr. VikasSoni
Principal

Cc to:-

Hon'ble Vice-Chairman Sir for kind information.
Hon'ble Group Director Sir for kind information.
Undersigned.
HOD's & I/C's. / First Year Coordinator.
Registrar Office/NAAC Coordinator/All Member Concerned/ Accountant

Modi Institute of Technology, Kota

An Engg. College Approved by AICTE & Affiliated to RTU
Branches: B.Tech- ME / EE / ECE / CE / IT / EEE &M.Tech – Digital Communication
Nayagaon, Rawatbhata Road, Kota – 324010, Raj. M. No- 7665439788,
Website: www.mitkota.com Email: mitkota1@gmail.com

Department of Mechanical Engineering

List of Course Outcomes

II Year – III Semester
3ME4 – 23 :Basic Mechanical Engineering Lab

After completion of the course, students would be able to:

CO1: Explain the application of mechanical engineering systems.
CO2: Learn about various tools and fixtures using hands on assembly and dis-asssembly of machines.
CO3: Elobrate the mechanical construction of machines.
CO4: Understand the complex mechanical systems via cut section, animation and industrial visit.
CO5: Identify the specification of machines and materials.

Mr. Vijay Varshney (O/C Exam)	Mr. Pankaj Jain HOD (First Year)	Mrs. SeemaArya HOD (CSE)
Mr.JitendraYadvendra HOD (EE)	Mr. AbhishekChattri Dy. Registrar	Dr.Barkha Gupta HOD (ME)

Dr. VikasSoni
Principal

Cc to:-

Hon'ble Vice-Chairman Sir for kind information.
Hon'ble Group Director Sir for kind information.
Undersigned.
HOD's & I/C's. / First Year Coordinator.
Registrar Office/NAAC Coordinator/All Member Concerned/ Accountant

Modi Institute of Technology, Kota

An Engg. College Approved by AICTE & Affiliated to RTU
Branches: B.Tech- ME / EE / ECE / CE / IT / EEE &M.Tech – Digital Communication
Nayagaon, Rawatbhata Road, Kota – 324010, Raj. M. No- 7665439788,
Website: www.mitkota.com Email: mitkota1@gmail.com

Department of Mechanical Engineering

List of Course Outcomes

II Year – III Semester
3ME4 – 24 :Programming using MATLAB

After completion of the course, students would be able to:

CO1: Use MATLAB as an effective tool in science and engineering.
CO2: Create and troubleshoot basic m scripts. Explore problems of arrays and matrix.
CO3: Plot datasets.
CO4: Solve differential equation. File handling and data analyzing.
CO5: Apply MATLAB tool box and graphic function.

Mr. Vijay Varshney (O/C Exam)	Mr. Pankaj Jain HOD (First Year)	Mrs. SeemaArya HOD (CSE)
Mr.JitendraYadvendra HOD (EE)	Mr. AbhishekChattri Dy. Registrar	Dr.Barkha Gupta HOD (ME)

Dr. VikasSoni
Principal

Cc to:-

Hon'ble Vice-Chairman Sir for kind information.
Hon'ble Group Director Sir for kind information.
Undersigned.
HOD's & I/C's. / First Year Coordinator.
Registrar Office/NAAC Coordinator/All Member Concerned/ Accountant

Modi Institute of Technology, Kota

An Engg. College Approved by AICTE & Affiliated to RTU
Branches: B.Tech- ME / EE / ECE / CE / IT / EEE &M.Tech – Digital Communication
Nayagaon, Rawatbhata Road, Kota – 324010, Raj. M. No- 7665439788,
Website: www.mitkota.com Email: mitkota1@gmail.com

Department of Mechanical Engineering

List of Course Outcomes

II Year – IV Semester
4ME2 – 01: Data Analytics

After completion of the course, students would be able to:

CO1: Understand multivariate statistics and data screening.
CO2: Analyze different techniques of regression and variance.
CO3: Apply logistic regression and Discriminant Analysis with classification accuracy.
CO4: Explain principal component analysis and cluster analysis.
CO5: Develop variable models for data analysis.

Mr. Vijay Varshney (O/C Exam)	Mr. Pankaj Jain HOD (First Year)	Mrs. SeemaArya HOD (CSE)
Mr.JitendraYadvendra HOD (EE)	Mr. AbhishekChattri Dy. Registrar	Dr.Barkha Gupta HOD (ME)

Dr. VikasSoni
Principal

Cc to:-

Hon'ble Vice-Chairman Sir for kind information.
Hon'ble Group Director Sir for kind information.
Undersigned.
HOD's & I/C's. / First Year Coordinator.
Registrar Office/NAAC Coordinator/All Member Concerned/ Accountant

Modi Institute of Technology, Kota

An Engg. College Approved by AICTE & Affiliated to RTU
Branches: B.Tech- ME / EE / ECE / CE / IT / EEE &M.Tech – Digital Communication
Nayagaon, Rawatbhata Road, Kota – 324010, Raj. M. No- 7665439788,
Website: www.mitkota.com Email: mitkota1@gmail.com

Department of Mechanical Engineering

List of Course Outcomes

II Year – IV Semester
3ME1-03/4ME1-03: Managerial Economics and Financial Accounting

After completion of the course, students would be able to:

CO1: Define basic concept of economics and its associated problems.
CO2: Analyze demand and supply functions and forecast.
CO3: Describe theory of production and cost analysis.
CO5: Understand market structure and pricing policies.
CO6: Create financial statements like balance sheet, PLS etc.and analyze them.

Mr. Vijay Varshney (O/C Exam)	Mr. Pankaj Jain HOD (First Year)	Mrs. SeemaArya HOD (CSE)
Mr.JitendraYadvendra HOD (EE)	Mr. AbhishekChattri Dy. Registrar	Dr.Barkha Gupta HOD (ME)

Dr. VikasSoni
Principal

Cc to:-

Hon'ble Vice-Chairman Sir for kind information.
Hon'ble Group Director Sir for kind information.
Undersigned.
HOD's & I/C's. / First Year Coordinator.
Registrar Office/NAAC Coordinator/All Member Concerned/ Accountant

Modi Institute of Technology, Kota

An Engg. College Approved by AICTE & Affiliated to RTU
Branches: B.Tech- ME / EE / ECE / CE / IT / EEE &M.Tech – Digital Communication
Nayagaon, Rawatbhata Road, Kota – 324010, Raj. M. No- 7665439788,
Website: www.mitkota.com Email: mitkota1@gmail.com

Department of Mechanical Engineering

List of Course Outcomes

II Year – IV Semester
4ME3 – 04: Digital Electronics

After completion of the course, students would be able to:

CO1: Explain semiconductor devices and their application in engineering and science.
CO2: Describe Operational amplifier and its applications.
CO3: Explore Timing Circuits and Oscillators.
CO4: Apply fundamentals of digital electronics.
CO5: Understand electronic communication system.

Mr. Vijay Varshney (O/C Exam)	Mr. Pankaj Jain HOD (First Year)	Mrs. SeemaArya HOD (CSE)
Mr.JitendraYadvendra HOD (EE)	Mr. AbhishekChattri Dy. Registrar	Dr.Barkha Gupta HOD (ME)

Dr. VikasSoni
Principal

Cc to:-

Hon'ble Vice-Chairman Sir for kind information.
Hon'ble Group Director Sir for kind information.
Undersigned.
HOD's & I/C's. / First Year Coordinator.
Registrar Office/NAAC Coordinator/All Member Concerned/ Accountant

Modi Institute of Technology, Kota

An Engg. College Approved by AICTE & Affiliated to RTU
Branches: B.Tech- ME / EE / ECE / CE / IT / EEE &M.Tech – Digital Communication
Nayagaon, Rawatbhata Road, Kota – 324010, Raj. M. No- 7665439788,
Website: www.mitkota.com Email: mitkota1@gmail.com

Department of Mechanical Engineering

List of Course Outcomes

II Year – IV Semester
4ME4 – 05: Fluid Mechanics and Fluid Machines

After completion of the course, students would be able to:

CO1: Define fluid properties and describe its statics and flow characteristic to solve problems related to manometers, buoyancy and submerged bodies.
CO2: Analyze boundary layer, laminar flow and flow through pipes.
CO3: Formulate dimensional analysis and dimensionless parameters.
CO4: Explain Euler's equation; centrifugal pump and reciprocating pump.
CO5: Understand different turbines, their working principal and performance characteristic.

Mr. Vijay Varshney (O/C Exam)	Mr. Pankaj Jain HOD (First Year)	Mrs. SeemaArya HOD (CSE)
Mr.JitendraYadvendra HOD (EE)	Mr. AbhishekChattri Dy. Registrar	Dr.Barkha Gupta HOD (ME)

Dr. VikasSoni
Principal

Cc to:-

Hon'ble Vice-Chairman Sir for kind information.
Hon'ble Group Director Sir for kind information.
Undersigned.
HOD's & I/C's. / First Year Coordinator.
Registrar Office/NAAC Coordinator/All Member Concerned/ Accountant

Modi Institute of Technology, Kota

An Engg. College Approved by AICTE & Affiliated to RTU
Branches: B.Tech- ME / EE / ECE / CE / IT / EEE &M.Tech – Digital Communication
Nayagaon, Rawatbhata Road, Kota – 324010, Raj. M. No- 7665439788,
Website: www.mitkota.com Email: mitkota1@gmail.com

Department of Mechanical Engineering

List of Course Outcomes

II Year – IV Semester
4ME4 – 06: Manufacturing Processes

After completion of the course, students would be able to:

CO1: Classification of manufacturing process.
CO2: Describe preparation of mould and casting process.
CO3: Explain different forming processes like forging, rolling, extrusion, drawing etc.
CO4: Illustrate methods of metal joining process.
CO5: Elaborate powder metallurgy process and its application

Mr. Vijay Varshney (O/C Exam)	Mr. Pankaj Jain HOD (First Year)	Mrs. SeemaArya HOD (CSE)
Mr.JitendraYadvendra HOD (EE)	Mr. AbhishekChattri Dy. Registrar	Dr.Barkha Gupta HOD (ME)

Dr. VikasSoni
Principal

Cc to:-

Hon'ble Vice-Chairman Sir for kind information.
Hon'ble Group Director Sir for kind information.
Undersigned.
HOD's & I/C's. / First Year Coordinator.
Registrar Office/NAAC Coordinator/All Member Concerned/ Accountant

Modi Institute of Technology, Kota

An Engg. College Approved by AICTE & Affiliated to RTU
Branches: B.Tech- ME / EE / ECE / CE / IT / EEE &M.Tech – Digital Communication
Nayagaon, Rawatbhata Road, Kota – 324010, Raj. M. No- 7665439788,
Website: www.mitkota.com Email: mitkota1@gmail.com

Department of Mechanical Engineering

List of Course Outcomes

II Year – IV Semester
4ME4 – 07: Theory of Machines

After completion of the course, students would be able to:

CO1: Know about mechanism and machines; inversions of mechanism and calculate velocity and acceleration using different methods.
CO2: Understand the concept of friction devices, clutch and brakes.
CO3: Classify gears and solve numerical of gear and gear trains.
CO4: Draw cam profile for different type of motion and follower; learn principle of gyroscope and its application.
CO5: Examine balancing of rotating and reciprocating masses.

Mr. Vijay Varshney (O/C Exam)	Mr. Pankaj Jain HOD (First Year)	Mrs. SeemaArya HOD (CSE)
Mr.JitendraYadvendra HOD (EE)	Mr. AbhishekChattri Dy. Registrar	Dr.Barkha Gupta HOD (ME)

Dr. VikasSoni
Principal

Cc to:-

Hon'ble Vice-Chairman Sir for kind information.
Hon'ble Group Director Sir for kind information.
Undersigned.
HOD's & I/C's. / First Year Coordinator.
Registrar Office/NAAC Coordinator/All Member Concerned/ Accountant

Modi Institute of Technology, Kota

An Engg. College Approved by AICTE & Affiliated to RTU
Branches: B.Tech- ME / EE / ECE / CE / IT / EEE &M.Tech – Digital Communication
Nayagaon, Rawatbhata Road, Kota – 324010, Raj. M. No- 7665439788,
Website: www.mitkota.com Email: mitkota1@gmail.com

Department of Mechanical Engineering

List of Course Outcomes

II Year – IV Semester
4ME3 – 21: Digital Electronics Lab

After completion of the course, students would be able to:

CO1: Verify truth table of basic logic gates.

CO2: Realize an SOP and POS expression; realize various adder/ Subtractor using different gates.

CO3: Analyze truth tables of multiplexer.

CO4: Design a combinational circuit and derive display;realize the R-S, J-K and D-flip flops with and without clock signal.

CO5: Construct various counters; Perform input/output operations on registers using clock.

Mr. Vijay Varshney (O/C Exam)	Mr. Pankaj Jain HOD (First Year)	Mrs. SeemaArya HOD (CSE)
Mr.JitendraYadvendra HOD (EE)	Mr. AbhishekChattri Dy. Registrar	Dr.Barkha Gupta HOD (ME)

Dr. VikasSoni
Principal

Cc to:-

Hon'ble Vice-Chairman Sir for kind information.
Hon'ble Group Director Sir for kind information.
Undersigned.
HOD's & I/C's. / First Year Coordinator.
Registrar Office/NAAC Coordinator/All Member Concerned/ Accountant

Modi Institute of Technology, Kota

An Engg. College Approved by AICTE & Affiliated to RTU
Branches: B.Tech- ME / EE / ECE / CE / IT / EEE &M.Tech – Digital Communication
Nayagaon, Rawatbhata Road, Kota – 324010, Raj. M. No- 7665439788,
Website: www.mitkota.com Email: mitkota1@gmail.com

Department of Mechanical Engineering

List of Course Outcomes

II Year – IV Semester
4ME4 – 22: Fluid Mechanics Lab

After completion of the course, students would be able to:

CO1: Learn fluid properties measurement techniques; verify Bernoulli's theorem.
CO2: Calibrate flow rate measuring devices in pipes and open channel.
CO3: Find head loss, minor/major loss in pipes.
CO4: Analyze boundary layer phenomenon and calculate Reynold's number.
CO5: Conducting experiments and drawing characteristic curve of pumps and turbines.

Mr. Vijay Varshney (O/C Exam)	Mr. Pankaj Jain HOD (First Year)	Mrs. SeemaArya HOD (CSE)
Mr.JitendraYadvendra HOD (EE)	Mr. AbhishekChattri Dy. Registrar	Dr.Barkha Gupta HOD (ME)

Dr. VikasSoni
Principal

Cc to:-

Hon'ble Vice-Chairman Sir for kind information.
Hon'ble Group Director Sir for kind information.
Undersigned.
HOD's & I/C's. / First Year Coordinator.
Registrar Office/NAAC Coordinator/All Member Concerned/ Accountant

Modi Institute of Technology, Kota

An Engg. College Approved by AICTE & Affiliated to RTU
Branches: B.Tech- ME / EE / ECE / CE / IT / EEE &M.Tech – Digital Communication
Nayagaon, Rawatbhata Road, Kota – 324010, Raj. M. No- 7665439788,
Website: www.mitkota.com Email: mitkota1@gmail.com

Department of Mechanical Engineering

List of Course Outcomes

II Year – IV Semester
4ME4 – 23: Production Practice Lab

After completion of the course, students would be able to:

CO1: Operate Lathe machine and perform various operations on it.

CO2: Use grinding machine for making single point cutting tool and shaper to cut keyways andgrooves.

CO3: Explain milling machine, milling cutters and perform indexing to cut hexagonal nut/gear.

CO4: Prepare mould of given patterns; perform sand testing methods and welding.

CO5: Know about capstan lathe and itstool layout.

Mr. Vijay Varshney (O/C Exam)	Mr. Pankaj Jain HOD (First Year)	Mrs. SeemaArya HOD (CSE)
Mr.JitendraYadvendra HOD (EE)	Mr. AbhishekChattri Dy. Registrar	Dr.Barkha Gupta HOD (ME)

Dr. VikasSoni
Principal

Cc to:-

Hon'ble Vice-Chairman Sir for kind information.
Hon'ble Group Director Sir for kind information.
Undersigned.
HOD's & I/C's. / First Year Coordinator.
Registrar Office/NAAC Coordinator/All Member Concerned/ Accountant

Modi Institute of Technology, Kota

An Engg. College Approved by AICTE & Affiliated to RTU
Branches: B.Tech- ME / EE / ECE / CE / IT / EEE &M.Tech – Digital Communication
Nayagaon, Rawatbhata Road, Kota – 324010, Raj. M. No- 7665439788,
Website: www.mitkota.com Email: mitkota1@gmail.com

Department of Mechanical Engineering

List of Course Outcomes

II Year – IV Semester
4ME4 – 24: Theory of Machine Lab

After completion of the course, students would be able to:

CO1: Illustrate types of mechanism and its inversions with application.
CO2: Describe and plot profile for cam-follower arrangements.
CO3. Explain dynamometers, brakes, clutches, different gear boxes.
CO3: Verify torque relationship for gyroscope.
CO5: Perform wheel balancing, static and dynamic balancing.

Mr. Vijay Varshney (O/C Exam)	Mr. Pankaj Jain HOD (First Year)	Mrs. SeemaArya HOD (CSE)
Mr.JitendraYadvendra HOD (EE)	Mr. AbhishekChattri Dy. Registrar	Dr.Barkha Gupta HOD (ME)

Dr. VikasSoni
Principal

Cc to:-

Hon'ble Vice-Chairman Sir for kind information.
Hon'ble Group Director Sir for kind information.
Undersigned.
HOD's & I/C's. / First Year Coordinator.
Registrar Office/NAAC Coordinator/All Member Concerned/ Accountant

Modi Institute of Technology, Kota

An Engg. College Approved by AICTE & Affiliated to RTU
Branches: B.Tech- ME / EE / ECE / CE / IT / EEE &M.Tech – Digital Communication
Nayagaon, Rawatbhata Road, Kota – 324010, Raj. M. No- 7665439788,
Website: www.mitkota.com Email: mitkota1@gmail.com

Department of Mechanical Engineering

List of Course Outcomes

III Year – V Semester
5ME3 – 01: Mechatronic Systems

After completion of the course, students would be able to:

CO1: Identity components of the mechatronics system, and its representation as a block diagram.
CO2: Get familiar with the idea of signal processing and use interfaces like ADC, DAC, and digital I/O.
CO3: Explore sensors and actuators for different applications.
CO4 Analyze and control physical system and calculate stability analysis.
CO5: Describe microprocessor, microcontrollers, PLCs and other mechatronics systems.

Mr. Vijay Varshney (O/C Exam)	Mr. Pankaj Jain HOD (First Year)	Mrs. SeemaArya HOD (CSE)
Mr.JitendraYadvendra HOD (EE)	Mr. AbhishekChattri Dy. Registrar	Dr.Barkha Gupta HOD (ME)

Dr. VikasSoni
Principal

Cc to:-

Hon'ble Vice-Chairman Sir for kind information.
Hon'ble Group Director Sir for kind information.
Undersigned.
HOD's & I/C's. / First Year Coordinator.
Registrar Office/NAAC Coordinator/All Member Concerned/ Accountant

Modi Institute of Technology, Kota

An Engg. College Approved by AICTE & Affiliated to RTU
Branches: B.Tech- ME / EE / ECE / CE / IT / EEE &M.Tech – Digital Communication
Nayagaon, Rawatbhata Road, Kota – 324010, Raj. M. No- 7665439788,
Website: www.mitkota.com Email: mitkota1@gmail.com

Department of Mechanical Engineering

List of Course Outcomes

III Year – V Semester
5ME4 – 02: Heat Transfer

After completion of the course, students would be able to:

CO1: Recognize the fundamental rules of heat transport.
CO2: Investigate steady and unsteady state heat conduction for different geometries.
CO3: Find numerical solutions to heat transfer problems of forced and natural convection.
CO4: Calculate the heat flow from heat exchanger.
CO5: Describe heat transfer using thermal radiation and concept of black body.

Mr. Vijay Varshney (O/C Exam)	Mr. Pankaj Jain HOD (First Year)	Mrs. SeemaArya HOD (CSE)
Mr.JitendraYadvendra HOD (EE)	Mr. AbhishekChattri Dy. Registrar	Dr.Barkha Gupta HOD (ME)

Dr. VikasSoni
Principal

Cc to:-

Hon'ble Vice-Chairman Sir for kind information.
Hon'ble Group Director Sir for kind information.
Undersigned.
HOD's & I/C's. / First Year Coordinator.
Registrar Office/NAAC Coordinator/All Member Concerned/ Accountant

Modi Institute of Technology, Kota

An Engg. College Approved by AICTE & Affiliated to RTU
Branches: B.Tech- ME / EE / ECE / CE / IT / EEE &M.Tech – Digital Communication
Nayagaon, Rawatbhata Road, Kota – 324010, Raj. M. No- 7665439788,
Website: www.mitkota.com Email: mitkota1@gmail.com

Department of Mechanical Engineering

List of Course Outcomes

III Year – V Semester
5ME4 – 03: Manufacturing Technology

After completion of the course, students would be able to:

CO1: Comprehend and contrast the purposes and uses of various metal cutting instruments.
CO2: Describe different metal removal tools and the forces involved in machining.
CO3: Examine the characteristics and tool life.
CO4: Recognize different machining tools and their working. Also learn special purpose machines tools.
CO5: Categorize different high-velocity forming and grinding operations.

Mr. Vijay Varshney (O/C Exam)	Mr. Pankaj Jain HOD (First Year)	Mrs. SeemaArya HOD (CSE)
Mr.JitendraYadvendra HOD (EE)	Mr. AbhishekChattri Dy. Registrar	Dr.Barkha Gupta HOD (ME)

Dr. VikasSoni
Principal

Cc to:-

Hon'ble Vice-Chairman Sir for kind information.
Hon'ble Group Director Sir for kind information.
Undersigned.
HOD's & I/C's. / First Year Coordinator.
Registrar Office/NAAC Coordinator/All Member Concerned/ Accountant

Modi Institute of Technology, Kota

An Engg. College Approved by AICTE & Affiliated to RTU
Branches: B.Tech- ME / EE / ECE / CE / IT / EEE &M.Tech – Digital Communication
Nayagaon, Rawatbhata Road, Kota – 324010, Raj. M. No- 7665439788,
Website: www.mitkota.com Email: mitkota1@gmail.com

Department of Mechanical Engineering

List of Course Outcomes

III Year – V Semester
5ME4 – 04: Design of Machine Elements I

After completion of the course, students would be able to:

CO1: Apply the understanding of engineering principles such as choice of materials and manufacturing factors as well as knowledge of Indian Standard norms to design.

CO2: Know the manufacturing considerations for engineering components and design the different parts that are subject to direct stress.

CO3: Design members for bending such as beams, levers, and laminated springs.

CO4: Design different torsion-sensitive machine parts such shafts, thereby shaft couplings and keys.

CO5: Compute dimensions of threaded fasteners, Power screws and curved beams.

Mr. Vijay Varshney (O/C Exam)	Mr. Pankaj Jain HOD (First Year)	Mrs. SeemaArya HOD (CSE)
Mr.JitendraYadvendra HOD (EE)	Mr. AbhishekChattri Dy. Registrar	Dr.Barkha Gupta HOD (ME)

Dr. VikasSoni
Principal

Cc to:-

Hon'ble Vice-Chairman Sir for kind information.
Hon'ble Group Director Sir for kind information.
Undersigned.
HOD's & I/C's. / First Year Coordinator.
Registrar Office/NAAC Coordinator/All Member Concerned/ Accountant

Modi Institute of Technology, Kota

An Engg. College Approved by AICTE & Affiliated to RTU
Branches: B.Tech- ME / EE / ECE / CE / IT / EEE &M.Tech – Digital Communication
Nayagaon, Rawatbhata Road, Kota – 324010, Raj. M. No- 7665439788,
Website: www.mitkota.com Email: mitkota1@gmail.com

Department of Mechanical Engineering

List of Course Outcomes

III Year – V Semester
5ME4 – 05: Principles of Management

After completion of the course, students would be able to:

CO1: Learn variety of management principles, including Managerial Grid and planning, organizing, implementing, staffing, coordinating, managing, and motivating.
CO2: Elaborate contribution of management thinkers.
CO3: Explain appraisal strategy, organizational development, decision making etc.
CO4: Understand managerial practices of various renowned business leaders of India.
CO5: Describe organizational structure and leadership quality.

Mr. Vijay Varshney (O/C Exam)	Mr. Pankaj Jain HOD (First Year)	Mrs. SeemaArya HOD (CSE)
Mr.JitendraYadvendra HOD (EE)	Mr. AbhishekChattri Dy. Registrar	Dr.Barkha Gupta HOD (ME)

Dr. VikasSoni
Principal

Cc to:-

Hon'ble Vice-Chairman Sir for kind information.
Hon'ble Group Director Sir for kind information.
Undersigned.
HOD's & I/C's. / First Year Coordinator.
Registrar Office/NAAC Coordinator/All Member Concerned/ Accountant

Modi Institute of Technology, Kota

An Engg. College Approved by AICTE & Affiliated to RTU
Branches: B.Tech- ME / EE / ECE / CE / IT / EEE &M.Tech – Digital Communication
Nayagaon, Rawatbhata Road, Kota – 324010, Raj. M. No- 7665439788,
Website: www.mitkota.com Email: mitkota1@gmail.com

Department of Mechanical Engineering

List of Course Outcomes

III Year – V Semester
5ME4 – 12: Automobile Engineering

After completion of the course, students would be able to:

CO1: Describe and compare the structure, function, features, relative advantages and applications of various types of car chassis, body, frame, clutch and brakes and use a suitable diagram to illustrate their description.

CO2: Explain the elements of power transmission of an automobile such as gear boxes and drives i.e. front and all wheel drive, propeller shaft and differential etc.

CO3: Define steering geometry and mechanism; construction and features of various tyres; suspension system with neat sketches.

CO4: Discuss automotive electrical and electronic system; ignition system and automatic lighting.

CO5: Understand automotive air conditioning and various safety devices. the environmental implications of automobile emissions.

Mr. Vijay Varshney (O/C Exam)	Mr. Pankaj Jain HOD (First Year)	Mrs. SeemaArya HOD (CSE)
Mr.JitendraYadvendra HOD (EE)	Mr. AbhishekChattri Dy. Registrar	Dr.Barkha Gupta HOD (ME)

Dr. VikasSoni
Principal

Cc to:-

Hon'ble Vice-Chairman Sir for kind information.
Hon'ble Group Director Sir for kind information.
Undersigned.
HOD's & I/C's. / First Year Coordinator.
Registrar Office/NAAC Coordinator/All Member Concerned/ Accountant

Modi Institute of Technology, Kota

An Engg. College Approved by AICTE & Affiliated to RTU
Branches: B.Tech- ME / EE / ECE / CE / IT / EEE &M.Tech – Digital Communication
Nayagaon, Rawatbhata Road, Kota – 324010, Raj. M. No- 7665439788,
Website: www.mitkota.com Email: mitkota1@gmail.com

Department of Mechanical Engineering

List of Course Outcomes

III Year – V Semester
5ME3 – 21: Mechatronic Lab

After completion of the course, students would be able to:

CO1: Use transducers kit having LVDT, Strain gauge amplifier, reflective Opto transducer.
CO2: Understand the Mobile Robot working and programming.
CO3: Apply PLC programming for gates, timers, counters, sensors and different control system.
CO4: Make MATLAB Program for sample problems.
CO5: Learn simulation and analysis of PID controller using SIMULINK.

Mr. Vijay Varshney (O/C Exam)	Mr. Pankaj Jain HOD (First Year)	Mrs. SeemaArya HOD (CSE)
Mr.JitendraYadvendra HOD (EE)	Mr. AbhishekChattri Dy. Registrar	Dr.Barkha Gupta HOD (ME)

Dr. VikasSoni
Principal

Cc to:-

Hon'ble Vice-Chairman Sir for kind information.
Hon'ble Group Director Sir for kind information.
Undersigned.
HOD's & I/C's. / First Year Coordinator.
Registrar Office/NAAC Coordinator/All Member Concerned/ Accountant

Modi Institute of Technology, Kota

An Engg. College Approved by AICTE & Affiliated to RTU
Branches: B.Tech- ME / EE / ECE / CE / IT / EEE &M.Tech – Digital Communication
Nayagaon, Rawatbhata Road, Kota – 324010, Raj. M. No- 7665439788,
Website: www.mitkota.com Email: mitkota1@gmail.com

Department of Mechanical Engineering

List of Course Outcomes

III Year – V Semester
5ME4 – 22: Heat Transfer lab

After completion of the course, students would be able to:

CO1: Gain insight into the performance of thermal systems and calculate thermal constants.
CO2: Measure emissivity and determine Stefan Boltzmann Constant for radiation.
CO3: Understand the different ways in which heat and mass are transferred; Determine Critical Heat Flux in Saturated Pool Boiling.
CO4: Calculate the heat transfer coefficients for convection and condensation.
CO5: Compare effectiveness of heat exchangers.

Mr. Vijay Varshney (O/C Exam)	Mr. Pankaj Jain HOD (First Year)	Mrs. SeemaArya HOD (CSE)
Mr.JitendraYadvendra HOD (EE)	Mr. AbhishekChattri Dy. Registrar	Dr.Barkha Gupta HOD (ME)

Dr. VikasSoni
Principal

Cc to:-

Hon'ble Vice-Chairman Sir for kind information.
Hon'ble Group Director Sir for kind information.
Undersigned.
HOD's & I/C's. / First Year Coordinator.
Registrar Office/NAAC Coordinator/All Member Concerned/ Accountant

Modi Institute of Technology, Kota

An Engg. College Approved by AICTE & Affiliated to RTU
Branches: B.Tech- ME / EE / ECE / CE / IT / EEE &M.Tech – Digital Communication
Nayagaon, Rawatbhata Road, Kota – 324010, Raj. M. No- 7665439788,
Website: www.mitkota.com Email: mitkota1@gmail.com

Department of Mechanical Engineering

List of Course Outcomes

III Year – V Semester
5ME4 – 23: Production Engineering Lab

After completion of the course, students would be able to:

CO1: Illustrate the vital abilities for calibration and testing of diverse gauges.

CO2: Illustrate the vital aptitudes to gather information, perform investigation and translate comes about to draw substantial conclusions through standard test methods utilizing different metrology disobedient.

CO3: Utilize sine bar, bore gauge and slip gauges to measure required measurements.

CO4: Measure flatness, surface defects and degree of accuracy of surfaces.

CO5: Utilize suitable strategies to degree the cutting strengths amid turning, drilling and milling operations and degree chip-tool interface temperature amid turning utilizing thermocouple.

Mr. Vijay Varshney (O/C Exam)	Mr. Pankaj Jain HOD (First Year)	Mrs. SeemaArya HOD (CSE)
Mr.JitendraYadvendra HOD (EE)	Mr. AbhishekChattri Dy. Registrar	Dr.Barkha Gupta HOD (ME)

Dr. VikasSoni
Principal

Cc to:-

Hon'ble Vice-Chairman Sir for kind information.
Hon'ble Group Director Sir for kind information.
Undersigned.
HOD's & I/C's. / First Year Coordinator.
Registrar Office/NAAC Coordinator/All Member Concerned/ Accountant

Modi Institute of Technology, Kota

An Engg. College Approved by AICTE & Affiliated to RTU
Branches: B.Tech- ME / EE / ECE / CE / IT / EEE &M.Tech – Digital Communication
Nayagaon, Rawatbhata Road, Kota – 324010, Raj. M. No- 7665439788,
Website: www.mitkota.com Email: mitkota1@gmail.com

Department of Mechanical Engineering

List of Course Outcomes

III Year – V Semester
5ME4 – 24: Machine Design Practice I

After completion of the course, students would be able to:

CO1: Illustrate the information of selection of materials, properties, fits and tolerance.

CO2: Apply Indian Standard and manufacturing considerations to design machine elements under direct stresses.

CO3: Plan different machine components beneath bending stresses.

CO4: Design different machine components beneath twisting and torsion.

CO5: Plan different machine components beneath combined stresses.

Mr. Vijay Varshney (O/C Exam)	Mr. Pankaj Jain HOD (First Year)	Mrs. SeemaArya HOD (CSE)
Mr.JitendraYadvendra HOD (EE)	Mr. AbhishekChattri Dy. Registrar	Dr.Barkha Gupta HOD (ME)

Dr. VikasSoni
Principal

Cc to:-

Hon'ble Vice-Chairman Sir for kind information.
Hon'ble Group Director Sir for kind information.
Undersigned.
HOD's & I/C's. / First Year Coordinator.
Registrar Office/NAAC Coordinator/All Member Concerned/ Accountant

Modi Institute of Technology, Kota

An Engg. College Approved by AICTE & Affiliated to RTU
Branches: B.Tech- ME / EE / ECE / CE / IT / EEE &M.Tech – Digital Communication
Nayagaon, Rawatbhata Road, Kota – 324010, Raj. M. No- 7665439788,
Website: www.mitkota.com Email: mitkota1@gmail.com

Department of Mechanical Engineering

List of Course Outcomes

III Year – VI Semester
6ME3 – 01: Measurement and Metrology

After completion of the course, students would be able to:

CO1: Understand the concept of measurement, errors and calibration of measuring tools.
CO2: Explain linear and angular measurement instruments and comparators.
CO3: Describe form measurement and surface finish measurement.
CO4: Apply methods of power and torque measurement; explain working of CMM.
CO5: Outline various tools and methods for measurement of flow and temperature related properties.

Mr. Vijay Varshney (O/C Exam)	Mr. Pankaj Jain HOD (First Year)	Mrs. SeemaArya HOD (CSE)
Mr.JitendraYadvendra HOD (EE)	Mr. AbhishekChattri Dy. Registrar	Dr.Barkha Gupta HOD (ME)

Dr. VikasSoni
Principal

Cc to:-

Hon'ble Vice-Chairman Sir for kind information.
Hon'ble Group Director Sir for kind information.
Undersigned.
HOD's & I/C's. / First Year Coordinator.
Registrar Office/NAAC Coordinator/All Member Concerned/ Accountant

Modi Institute of Technology, Kota

An Engg. College Approved by AICTE & Affiliated to RTU
Branches: B.Tech- ME / EE / ECE / CE / IT / EEE &M.Tech – Digital Communication
Nayagaon, Rawatbhata Road, Kota – 324010, Raj. M. No- 7665439788,
Website: www.mitkota.com Email: mitkota1@gmail.com

Department of Mechanical Engineering

List of Course Outcomes

III Year – VI Semester
6ME4 – 02: Computer Integrated Manufacturing Systems (CIMS)

After completion of the course, students would be able to:

CO1: Describe the automation in production and importance of computers in manufacturing.
CO2: Explore CNC system and part programming.
CO3: Illustrate the use of computers in CAPP, production management and ERP.
CO4: Explain computer aided quality control and material handling system.
CO5: Describe the group technology, concurrent engineering, FMS, simulation, and AI concepts in CIM systems.

Mr. Vijay Varshney (O/C Exam)	Mr. Pankaj Jain HOD (First Year)	Mrs. SeemaArya HOD (CSE)
Mr.JitendraYadvendra HOD (EE)	Mr. AbhishekChattri Dy. Registrar	Dr.Barkha Gupta HOD (ME)

Dr. VikasSoni
Principal

Cc to:-

Hon'ble Vice-Chairman Sir for kind information.
Hon'ble Group Director Sir for kind information.
Undersigned.
HOD's & I/C's. / First Year Coordinator.
Registrar Office/NAAC Coordinator/All Member Concerned/ Accountant

Modi Institute of Technology, Kota

An Engg. College Approved by AICTE & Affiliated to RTU
Branches: B.Tech- ME / EE / ECE / CE / IT / EEE &M.Tech – Digital Communication
Nayagaon, Rawatbhata Road, Kota – 324010, Raj. M. No- 7665439788,
Website: www.mitkota.com Email: mitkota1@gmail.com

Department of Mechanical Engineering

List of Course Outcomes

III Year – VI Semester
6ME4 – 03: Mechanical Vibrations

After completion of the course, students would be able to:

CO1: Explain the basic concepts of sound, noise, and vibration and its regulation.

CO2: Identify situations involving free, forced, damped,undamped vibrations and derive equations of motion for undamped one-dimensional vibrations.

CO3: Compute principal mode and modeshapes for 2 DOF undamped forced system with harmonic excitation. Explain various vibration absorbers.

CO4: Use frequency response curves, phase angle graphs, vibration isolation, and transmissibility analysis to evaluate and resolve forced vibration problems.

CO5: Investigate and resolve issues concerning the vibration of systems with multiple degrees of freedom and continuous system.

Mr. Vijay Varshney (O/C Exam)	Mr. Pankaj Jain HOD (First Year)	Mrs. SeemaArya HOD (CSE)
Mr.JitendraYadvendra HOD (EE)	Mr. AbhishekChattri Dy. Registrar	Dr.Barkha Gupta HOD (ME)

Dr. VikasSoni
Principal

Cc to:-

Hon'ble Vice-Chairman Sir for kind information.
Hon'ble Group Director Sir for kind information.
Undersigned.
HOD's & I/C's. / First Year Coordinator.
Registrar Office/NAAC Coordinator/All Member Concerned/ Accountant

Modi Institute of Technology, Kota

An Engg. College Approved by AICTE & Affiliated to RTU
Branches: B.Tech- ME / EE / ECE / CE / IT / EEE &M.Tech – Digital Communication
Nayagaon, Rawatbhata Road, Kota – 324010, Raj. M. No- 7665439788,
Website: www.mitkota.com Email: mitkota1@gmail.com

Department of Mechanical Engineering

List of Course Outcomes

III Year – VI Semester
6ME4 – 04: Design of Machine Elements II

After completion of the course, students would be able to:

CO1: Design under variable loading by considering fatigue strength.

CO2: Design Piston, cylinder, connecting rod, and crankshaft for internal combustion engines.

CO3: Find dimensions of helical and torsional springs in tension, compression and variable stresses. Design belt drives.

CO4: Use Lewis and Buckingham equations to design spur, helical, bevel, and worm gears while taking wear and dynamic load into account.

CO5: Explain design procedure of sliding and journal bearing; selection of Anti-friction joint for various loads and load cycles, installation of the bearings, and maintenance technique.

Mr. Vijay Varshney (O/C Exam)	Mr. Pankaj Jain HOD (First Year)	Mrs. SeemaArya HOD (CSE)
Mr.JitendraYadvendra HOD (EE)	Mr. AbhishekChattri Dy. Registrar	Dr.Barkha Gupta HOD (ME)

Dr. VikasSoni
Principal

Cc to:-

Hon'ble Vice-Chairman Sir for kind information.
Hon'ble Group Director Sir for kind information.
Undersigned.
HOD's & I/C's. / First Year Coordinator.
Registrar Office/NAAC Coordinator/All Member Concerned/ Accountant

Modi Institute of Technology, Kota

An Engg. College Approved by AICTE & Affiliated to RTU
Branches: B.Tech- ME / EE / ECE / CE / IT / EEE &M.Tech – Digital Communication
Nayagaon, Rawatbhata Road, Kota – 324010, Raj. M. No- 7665439788,
Website: www.mitkota.com Email: mitkota1@gmail.com

Department of Mechanical Engineering

List of Course Outcomes

III Year – VI Semester
6ME4 – 05: Quality Management

After completion of the course, students would be able to:

CO1: Understand the meaning of quality management, control, policies and methods.

CO2: Utilize a variety of visual and mathematical techniques to model process quality using control charts, probability distributions, sampling distributions etc.

CO2: Describe different charts for variables, attributes and SQC for quality management.

CO4: Address quality assurance and standards, acceptance sampling and OC curve.

CO5: Explain the procedures for reliability of the product analysis, concept of Taguchi method.

Mr. Vijay Varshney (O/C Exam)	Mr. Pankaj Jain HOD (First Year)	Mrs. SeemaArya HOD (CSE)
Mr.JitendraYadvendra HOD (EE)	Mr. AbhishekChattri Dy. Registrar	Dr.Barkha Gupta HOD (ME)

Dr. VikasSoni
Principal

Cc to:-

Hon'ble Vice-Chairman Sir for kind information.
Hon'ble Group Director Sir for kind information.
Undersigned.
HOD's & I/C's. / First Year Coordinator.
Registrar Office/NAAC Coordinator/All Member Concerned/ Accountant

Modi Institute of Technology, Kota

An Engg. College Approved by AICTE & Affiliated to RTU
Branches: B.Tech- ME / EE / ECE / CE / IT / EEE &M.Tech – Digital Communication
Nayagaon, Rawatbhata Road, Kota – 324010, Raj. M. No- 7665439788,
Website: www.mitkota.com Email: mitkota1@gmail.com

Department of Mechanical Engineering

List of Course Outcomes

III Year – VI Semester
6ME5 – 12: NON Conventional Machining Methods

After completion of the course, students would be able to:

CO1: Classify advance machining process and their selection for required application.
CO2: Describe finishing processes and metal removal processes using AJM, WJC, USM.
CO3: Explain working of advance thermo electric machining process, LBM, PAM,EBM.
CO4: Elaborate principle of Electrochemical and chemical advanced machining process like ECM, ECG, ESD, Chemical machining.
CO5: Understand the concept of micro and nano machining.

Mr. Vijay Varshney (O/C Exam)	Mr. Pankaj Jain HOD (First Year)	Mrs. SeemaArya HOD (CSE)
Mr.JitendraYadvendra HOD (EE)	Mr. AbhishekChattri Dy. Registrar	Dr.Barkha Gupta HOD (ME)

Dr. VikasSoni
Principal

Cc to:-

Hon'ble Vice-Chairman Sir for kind information.
Hon'ble Group Director Sir for kind information.
Undersigned.
HOD's & I/C's. / First Year Coordinator.
Registrar Office/NAAC Coordinator/All Member Concerned/ Accountant

Modi Institute of Technology, Kota

An Engg. College Approved by AICTE & Affiliated to RTU
Branches: B.Tech- ME / EE / ECE / CE / IT / EEE &M.Tech – Digital Communication
Nayagaon, Rawatbhata Road, Kota – 324010, Raj. M. No- 7665439788,
Website: www.mitkota.com Email: mitkota1@gmail.com

Department of Mechanical Engineering

List of Course Outcomes

III Year – VI Semester
6ME4 – 21: CIMS Lab

After completion of the course, students would be able to:

CO1: Understand the different components of the CNC machine, their functions and safety measures, use of reference point for machining.

CO2: Learn different types of G and M codes used in CNC lathes / milling machines.

CO3: Prepare part programming for Lathe operations.

CO4: Prepare part programming for milling machine.

CO5: Understand how to simulate the part program for a given drawing on the cut viewer turn / mill software.

Mr. Vijay Varshney (O/C Exam)	Mr. Pankaj Jain HOD (First Year)	Mrs. SeemaArya HOD (CSE)
Mr.JitendraYadvendra HOD (EE)	Mr. AbhishekChattri Dy. Registrar	Dr.Barkha Gupta HOD (ME)

Dr. VikasSoni
Principal

Cc to:-

Hon'ble Vice-Chairman Sir for kind information.
Hon'ble Group Director Sir for kind information.
Undersigned.
HOD's & I/C's. / First Year Coordinator.
Registrar Office/NAAC Coordinator/All Member Concerned/ Accountant

Modi Institute of Technology, Kota

An Engg. College Approved by AICTE & Affiliated to RTU
Branches: B.Tech- ME / EE / ECE / CE / IT / EEE &M.Tech – Digital Communication
Nayagaon, Rawatbhata Road, Kota – 324010, Raj. M. No- 7665439788,
Website: www.mitkota.com Email: mitkota1@gmail.com

Department of Mechanical Engineering

List of Course Outcomes

III Year – VI Semester
6ME4 – 22: Vibration Lab

After completion of the course, students would be able to:

CO1: Analyze forced vibrations using a virtual laboratory simulator.

CO2: Determine time intervals and natural frequencies of free oscillations of different systems and compare theoretical and experimental results.

CO3: Determine a fluid's damping constant in case of freedampened torsional oscillations.

CO4: Verify rule for basic frequency of multi-degree of freedom systems.

CO5: Determine gyration radius and mass moment inertia of objects

Mr. Vijay Varshney (O/C Exam)	Mr. Pankaj Jain HOD (First Year)	Mrs. SeemaArya HOD (CSE)
Mr.JitendraYadvendra HOD (EE)	Mr. AbhishekChattri Dy. Registrar	Dr.Barkha Gupta HOD (ME)

Dr. VikasSoni
Principal

Cc to:-

Hon'ble Vice-Chairman Sir for kind information.
Hon'ble Group Director Sir for kind information.
Undersigned.
HOD's & I/C's. / First Year Coordinator.
Registrar Office/NAAC Coordinator/All Member Concerned/ Accountant

Modi Institute of Technology, Kota

An Engg. College Approved by AICTE & Affiliated to RTU
Branches: B.Tech- ME / EE / ECE / CE / IT / EEE &M.Tech – Digital Communication
Nayagaon, Rawatbhata Road, Kota – 324010, Raj. M. No- 7665439788,
Website: www.mitkota.com Email: mitkota1@gmail.com

Department of Mechanical Engineering

List of Course Outcomes

III Year – VI Semester
6ME4 – 23: Machine Design Practice II

After completion of the course, students would be able to:

CO1: Use data hand book for standards related to design of mechanical components.
CO2: Solve problems of fatigue loading.
CO3: Design helical and other springs, bolts under variable stresses.
CO4: Design belt, rope, chain drive, gears etc.
CO5: Plan of Sliding contact bearing and Anti-friction bearing under different load conditions.

Mr. Vijay Varshney (O/C Exam)	Mr. Pankaj Jain HOD (First Year)	Mrs. SeemaArya HOD (CSE)
Mr.JitendraYadvendra HOD (EE)	Mr. AbhishekChattri Dy. Registrar	Dr.Barkha Gupta HOD (ME)

Dr. VikasSoni
Principal

Cc to:-

Hon'ble Vice-Chairman Sir for kind information.
Hon'ble Group Director Sir for kind information.
Undersigned.
HOD's & I/C's. / First Year Coordinator.
Registrar Office/NAAC Coordinator/All Member Concerned/ Accountant

Modi Institute of Technology, Kota

An Engg. College Approved by AICTE & Affiliated to RTU
Branches: B.Tech- ME / EE / ECE / CE / IT / EEE &M.Tech – Digital Communication
Nayagaon, Rawatbhata Road, Kota – 324010, Raj. M. No- 7665439788,
Website: www.mitkota.com Email: mitkota1@gmail.com

Department of Mechanical Engineering

List of Course Outcomes

III Year – VI Semester
6ME4 – 24: Thermal Engineering Lab I

After completion of the course, students would be able to:

CO1: Recognize and clarify the distinctive parts of petrol and diesel engines and their working.
CO2: Draw valve timing charts for single cylinder diesel engine.
CO3: Clarify and separate different sorts of boilers, its mounting and accessories.
CO4: Illustrate the working of steering system of vehicle.
CO5: Illustrate the working of braking and transmissionframeworks of vehicle and examine the most recent improvement.

Mr. Vijay Varshney (O/C Exam)	Mr. Pankaj Jain HOD (First Year)	Mrs. SeemaArya HOD (CSE)
Mr.JitendraYadvendra HOD (EE)	Mr. AbhishekChattri Dy. Registrar	Dr.Barkha Gupta HOD (ME)

Dr. VikasSoni
Principal

Cc to:-

Hon'ble Vice-Chairman Sir for kind information.
Hon'ble Group Director Sir for kind information.
Undersigned.
HOD's & I/C's. / First Year Coordinator.
Registrar Office/NAAC Coordinator/All Member Concerned/ Accountant

Modi Institute of Technology, Kota

An Engg. College Approved by AICTE & Affiliated to RTU
Branches: B.Tech- ME / EE / ECE / CE / IT / EEE &M.Tech – Digital Communication
Nayagaon, Rawatbhata Road, Kota – 324010, Raj. M. No- 7665439788,
Website: www.mitkota.com Email: mitkota1@gmail.com

Department of Mechanical Engineering

List of Course Outcomes

IV Year – VII Semester
7ME5 – 11: I. C. Engines

After completion of the course, students would be able to:

CO1: Use the thermodynamic cycle to explain the operation and performance of IC engines.
CO2: Describe the combustion phenomenon and to interpret the various factors that impact combustion, alternative fuel.
CO3: Explain different Engine systems and components with working.
CO4: Contrast hybrid engines and special engines.
CO5: Investigate commonly used fuels interact with recent trends, modification in IC Engine.

Mr. Vijay Varshney (O/C Exam)	Mr. Pankaj Jain HOD (First Year)	Mrs. SeemaArya HOD (CSE)
Mr.JitendraYadvendra HOD (EE)	Mr. AbhishekChattri Dy. Registrar	Dr.Barkha Gupta HOD (ME)

Dr. VikasSoni
Principal

Cc to:-

Hon'ble Vice-Chairman Sir for kind information.
Hon'ble Group Director Sir for kind information.
Undersigned.
HOD's & I/C's. / First Year Coordinator.
Registrar Office/NAAC Coordinator/All Member Concerned/ Accountant

Modi Institute of Technology, Kota

An Engg. College Approved by AICTE & Affiliated to RTU
Branches: B.Tech- ME / EE / ECE / CE / IT / EEE &M.Tech – Digital Communication
Nayagaon, Rawatbhata Road, Kota – 324010, Raj. M. No- 7665439788,
Website: www.mitkota.com Email: mitkota1@gmail.com

Department of Mechanical Engineering

List of Course Outcomes

IV Year – VII Semester
7AG6-60.2: Environmental Engineering and Disaster Management

After completion of the course, students would be able to:

CO1: Recognize water sources, domestic water and its transportation phenomenon.
CO2: Explain standards of drinking water and water treatement.
CO3: Describe domestic waste water and its treatment.
CO4: Characterizesolid waste and its disposal for urban and rural areas.
CO5: Discuss air pollution, BIS standards for pollutants in air and their abetments, disaster and its management

Mr. Vijay Varshney (O/C Exam)	Mr. Pankaj Jain HOD (First Year)	Mrs. SeemaArya HOD (CSE)
Mr.JitendraYadvendra HOD (EE)	Mr. AbhishekChattri Dy. Registrar	Dr.Barkha Gupta HOD (ME)

Dr. VikasSoni
Principal

Cc to:-

Hon'ble Vice-Chairman Sir for kind information.
Hon'ble Group Director Sir for kind information.
Undersigned.
HOD's & I/C's. / First Year Coordinator.
Registrar Office/NAAC Coordinator/All Member Concerned/ Accountant

Modi Institute of Technology, Kota

An Engg. College Approved by AICTE & Affiliated to RTU
Branches: B.Tech- ME / EE / ECE / CE / IT / EEE &M.Tech – Digital Communication
Nayagaon, Rawatbhata Road, Kota – 324010, Raj. M. No- 7665439788,
Website: www.mitkota.com Email: mitkota1@gmail.com

Department of Mechanical Engineering

List of Course Outcomes

IV Year – VII Semester
7ME4 – 21: FEA Lab

After completion of the course, students would be able to:

CO1: Recognize the principles underlying FEM formulation techniques.

CO2: Determine the use and properties of FEA components such bars, beams, planes, and iso-parametric components.

CO3: Create a global equation and an equation for each element's characteristic.

CO4: To address issues involving bars, trusses, beams, circular shafts, heat transfer, fluid flow, axis symmetry, and dynamics by applying the proper boundary conditions to a global equation.

CO5: A useful way to Understand basic kinematics concepts – displacement, velocity and acceleration (and their angular counterparts).

Mr. Vijay Varshney (O/C Exam)	Mr. Pankaj Jain HOD (First Year)	Mrs. SeemaArya HOD (CSE)
Mr.JitendraYadvendra HOD (EE)	Mr. AbhishekChattri Dy. Registrar	Dr.Barkha Gupta HOD (ME)

Dr. VikasSoni
Principal

Cc to:-

Hon'ble Vice-Chairman Sir for kind information.
Hon'ble Group Director Sir for kind information.
Undersigned.
HOD's & I/C's. / First Year Coordinator.
Registrar Office/NAAC Coordinator/All Member Concerned/ Accountant

Modi Institute of Technology, Kota

An Engg. College Approved by AICTE & Affiliated to RTU
Branches: B.Tech- ME / EE / ECE / CE / IT / EEE &M.Tech – Digital Communication
Nayagaon, Rawatbhata Road, Kota – 324010, Raj. M. No- 7665439788,
Website: www.mitkota.com Email: mitkota1@gmail.com

Department of Mechanical Engineering

List of Course Outcomes

IV Year – VII Semester
7ME4 – 22: Thermal Engineering Lab II

After completion of the course, students would be able to:

CO1: Perform load test and create heat balance sheet.
CO2: Conduct Morse tests; Analyze engine exhaust gases.
CO3: Determine COP of refrigeration, heat pump.
CO4: Draw performance characteristics curve for turbines and pumps.
CO5: Learn commercial refrigeration and air conditioning systems.

Mr. Vijay Varshney (O/C Exam)	Mr. Pankaj Jain HOD (First Year)	Mrs. SeemaArya HOD (CSE)
Mr.JitendraYadvendra HOD (EE)	Mr. AbhishekChattri Dy. Registrar	Dr.Barkha Gupta HOD (ME)

Dr. VikasSoni
Principal

Cc to:-

Hon'ble Vice-Chairman Sir for kind information.
Hon'ble Group Director Sir for kind information.
Undersigned.
HOD's & I/C's. / First Year Coordinator.
Registrar Office/NAAC Coordinator/All Member Concerned/ Accountant

Modi Institute of Technology, Kota

An Engg. College Approved by AICTE & Affiliated to RTU
Branches: B.Tech- ME / EE / ECE / CE / IT / EEE &M.Tech – Digital Communication
Nayagaon, Rawatbhata Road, Kota – 324010, Raj. M. No- 7665439788,
Website: www.mitkota.com Email: mitkota1@gmail.com

Department of Mechanical Engineering

List of Course Outcomes

IV Year – VII Semester
7ME4 – 23: Quality Control Lab

After completion of the course, students would be able to:

CO1: Understand and use various control charts for industry process and capability analysis.
CO2: Plot the OC curve and find the nature of distributions.
CO3: Verify normal and Poisson distribution using experiments
CO4: Evaluate control limits and verify central limit theorem.
CO5: Use SPC software MINITAB and Excel to solve QC problems.

Mr. Vijay Varshney (O/C Exam)	Mr. Pankaj Jain HOD (First Year)	Mrs. SeemaArya HOD (CSE)
Mr.JitendraYadvendra HOD (EE)	Mr. AbhishekChattri Dy. Registrar	Dr.Barkha Gupta HOD (ME)

Dr. VikasSoni
Principal

Cc to:-

Hon'ble Vice-Chairman Sir for kind information.
Hon'ble Group Director Sir for kind information.
Undersigned.
HOD's & I/C's. / First Year Coordinator.
Registrar Office/NAAC Coordinator/All Member Concerned/ Accountant

Modi Institute of Technology, Kota

An Engg. College Approved by AICTE & Affiliated to RTU
Branches: B.Tech- ME / EE / ECE / CE / IT / EEE &M.Tech – Digital Communication
Nayagaon, Rawatbhata Road, Kota – 324010, Raj. M. No- 7665439788,
Website: www.mitkota.com Email: mitkota1@gmail.com

Department of Mechanical Engineering

List of Course Outcomes

IV Year – VIII Semester
8ME5 – 13: AdditiveManufacturing

After completion of the course, students would be able to:

CO1: Explore rapid prototyping and additive manufacturing technology..
CO2: Describe several RP strategies.
CO3: Discuss various indirect and direct rapid tooling(RT) Processes.
CO4: Explain the basics of reverse engineering.
CO5: Process Polyhedral Data using STL files and RP software.

Mr. Vijay Varshney (O/C Exam)	Mr. Pankaj Jain HOD (First Year)	Mrs. SeemaArya HOD (CSE)
Mr.JitendraYadvendra HOD (EE)	Mr. AbhishekChattri Dy. Registrar	Dr.Barkha Gupta HOD (ME)

Dr. VikasSoni
Principal

Cc to:-

Hon'ble Vice-Chairman Sir for kind information.
Hon'ble Group Director Sir for kind information.
Undersigned.
HOD's & I/C's. / First Year Coordinator.
Registrar Office/NAAC Coordinator/All Member Concerned/ Accountant

Modi Institute of Technology, Kota

An Engg. College Approved by AICTE & Affiliated to RTU
Branches: B.Tech- ME / EE / ECE / CE / IT / EEE &M.Tech – Digital Communication
Nayagaon, Rawatbhata Road, Kota – 324010, Raj. M. No- 7665439788,
Website: www.mitkota.com Email: mitkota1@gmail.com

Department of Mechanical Engineering

List of Course Outcomes

IV Year – VIII Semester
8TT6 – 60.2: Disaster Mangement

After completion of the course, students would be able to:

CO1: Acknowledge the value and necessity of learning catastrophe management.
CO2: Recognize the many types of disasters and their causes.
CO3: Learn about the effects of disasters on the environment and society.
CO4: Analyze and evaluate a region's susceptibility.
CO5: Explain numerous techniques for risk mitigation and risk reduction.

Mr. Vijay Varshney (O/C Exam)	Mr. Pankaj Jain HOD (First Year)	Mrs. SeemaArya HOD (CSE)
Mr.JitendraYadvendra HOD (EE)	Mr. AbhishekChattri Dy. Registrar	Dr.Barkha Gupta HOD (ME)

Dr. VikasSoni
Principal

Cc to:-

Hon'ble Vice-Chairman Sir for kind information.
Hon'ble Group Director Sir for kind information.
Undersigned.
HOD's & I/C's. / First Year Coordinator.
Registrar Office/NAAC Coordinator/All Member Concerned/ Accountant

Modi Institute of Technology, Kota

An Engg. College Approved by AICTE & Affiliated to RTU
Branches: B.Tech- ME / EE / ECE / CE / IT / EEE &M.Tech – Digital Communication
Nayagaon, Rawatbhata Road, Kota – 324010, Raj. M. No- 7665439788,
Website: www.mitkota.com Email: mitkota1@gmail.com

Department of Mechanical Engineering

List of Course Outcomes

IV Year – VIII Semester
8ME4 – 21: IndustrialEngineering Lab

After completion of the course, students would be able to:

CO1: Prepare various process charts and time study charts.

CO2: Plan, test,analyze a system layout, inventory and order.

CO3: Solve operation research problems using OR softwares.

CO4: Simulate different system using Monte-Carlo method.

CO5:Understand sales forecasting, project management, plant layout and capacity planning.

Mr. Vijay Varshney (O/C Exam)	Mr. Pankaj Jain HOD (First Year)	Mrs. SeemaArya HOD (CSE)
Mr.JitendraYadvendra HOD (EE)	Mr. AbhishekChattri Dy. Registrar	Dr.Barkha Gupta HOD (ME)

Dr. VikasSoni
Principal

Cc to:-

Hon'ble Vice-Chairman Sir for kind information.
Hon'ble Group Director Sir for kind information.
Undersigned.
HOD's & I/C's. / First Year Coordinator.
Registrar Office/NAAC Coordinator/All Member Concerned/ Accountant

Modi Institute of Technology, Kota

An Engg. College Approved by AICTE & Affiliated to RTU
Branches: B.Tech- ME / EE / ECE / CE / IT / EEE &M.Tech – Digital Communication
Nayagaon, Rawatbhata Road, Kota – 324010, Raj. M. No- 7665439788,
Website: www.mitkota.com Email: mitkota1@gmail.com

Department of Mechanical Engineering

List of Course Outcomes

IV Year – VIII Semester
8ME4 – 22: Metrology Lab

After completion of the course, students would be able to:

CO1: Use different measuring devices to measure length such as calipers and micrometers.

CO2: Explain various extenders like standard bevel protractor, sine bar, slip gauges, tooth caliper, profile projector, optical flat etc.

CO3: Use hardness tester to measure hardness of different material.

CO4: Assess the surface quality of a given sample, which is important in any production.

CO5: Express the error and correction coefficients of various measuring instruments.

Mr. Vijay Varshney (O/C Exam)	Mr. Pankaj Jain HOD (First Year)	Mrs. SeemaArya HOD (CSE)
Mr.JitendraYadvendra HOD (EE)	Mr. AbhishekChattri Dy. Registrar	Dr.Barkha Gupta HOD (ME)

Dr. VikasSoni
Principal

Cc to:-

Hon'ble Vice-Chairman Sir for kind information.
Hon'ble Group Director Sir for kind information.
Undersigned.
HOD's & I/C's. / First Year Coordinator.
Registrar Office/NAAC Coordinator/All Member Concerned/ Accountant