The Bombay Salesian Society's

Don Bosco Institute of Technology

Kurla (West), Mumbai 400070

Department of Mechanical Engineering

TE - SEM. VI - Internal Assessment - I (Syllabus) **14/02/2025**

Academic Year: 2024-2025

Sr No	Name of Faculty	Subject	Subject Code	Date of Exam	Module No.	Detailed Syllabus
1	Dr. Pradeepkumar Suryawanshi	Machine Design	MEC601	20/02/2025	1	Mechanical Engineering Design, Design methods, Aesthetic and Ergonomics consideration in design, Material properties and their uses in design, Manufacturing consideration in design, Design consideration of casting and forging, Basic principle of Machine Design, Modes of failures, Factor of safety, Design stresses, Theories of failures (Selection in the process of designing), Standards, I.S. Codes, Preferred Series and Numbers Thick Cylinders: Design of thick cylinders subjected to an internal pressure using Lame's equation
					2	Design against static loads: Socket and Spigot Cotter joint, Knuckle joint, Power Screw- Screw Jack.
2	Prof. Nilesh Gaware	Turbo Machinery	MEC602	21/02/2025	5	Steam Turbine- Basic of steam turbine, Classification, compounding of turbine, Impulse turbine –velocity diagram, Condition for max efficiency Reaction turbine, Numerical on Simple Impulse turbine (De-Laval turbine) of single stage only. Degree of reaction, Parson's turbine, Condition for maximum efficiency, Numerical on Parson's turbine only.
					6	6.1 Gas Turbines Applications of gas turbine, Actual Brayton cycle, open and closed cycle gas turbine, methods to improve efficiency and specific output, open cycle with intercooling, reheat, and regeneration, Effect of operating variable on thermal efficiency and work ratio 6.2 Jet Propulsion Engines Classification of jet propulsion engines, Thrust, Thrust power, Propulsive efficiency and thermal efficiency.
3	Dr. Yogesh S Padiya	HVAC	MEC603	22/02/2025	Module 1	Basic Knowledge, Refrigerants and Air Refrigeration System
					Module 2	Vapour compression cycle, Vapour Absorption systems, Heat pump
4	Prof. Buddhipriy Chavan	Automation and Artificial Intelligence	MEC604	24/02/2025	M1	1.1 = Introduction to Automation
					M2	Design of Pneumatics and Hydraulic circuits for SINGLE ACTUATOR CONTROL. Word problems, Timer for Delayed operations, auxillary condition for single and multiple cycles design.
					M3	3.1 = Design of Electro_Pneumatics and Electro_Hydraulic circuits for SINGLE ACTUATOR CONTROL Word problems, Timer for Delayed operations, auxillary condition for single and multiple cycles design.

5	Prof. Cleta Periera	DLOC : PTD	MEDLO6021	25/02/2025	Module 1	1 Introduction to Press Working 1.1 Classification of common Press working operations, Benefits and limitations of using Press tools. Applications of pressed parts/components. 1.2 Theory of Shearing in Press Working. Optimum Cutting clearance & its effect on tolerances of pressed components. Press working terminology, Functions of different elements of a press tool. material handling equipment, Methods of feeding the strip/coil material.
					Module 2	2 Design Progressive die 2.1 Calculations for Economic Strip Layout, Calculations of Cutting force and Stripping force, recommending minimum tonnage of a press, Methods of reducing cutting loads on press tools 2.2 Design aspects of Press tool elements viz. Punches & methods of mounting punches, types of Die block, Stripper, Pilot, stock guides, stock stops, Selection and arrangement of Hardware used in Press tools. Selection of steels and its hardness for different elements of Press tools. 2.3 Centre of pressure, Different types Die sets and its selection, shut height of die, Problems based design of progressive die
	Prof. Juned Ahmad	DLOC : MFT	MEDLO6023	25/02/2025	Module 1	Metallurgical aspects of metal forming, slip, twinning mechanics of plastic deformation, effects of temperature, strain rate, microstructure and friction in metal forming-yield criteria and their significance, Classification of Metal Forming Processes, Advantages and Limitations, Stress strain relations in elastic and plastic deformation, concept of flow stresses, deformation mechanisms, Hot and Cold Working Processes and Its Effect on MechanicalProperties
					Module 2	Introduction and Classification, Types of Rolling Mills, Forces and Geometrical Relationships in Rolling, Calculation of Rolling Load, Roll Pass Design, and Defects in Rolled Products.
	Prof. Udaychandra Nayak	H&M : AIML - Game-Theory- using AI & ML	HAIMLC601		Module 1	Introduction, The theory of rational choice, Games with Perfect Information, Nash Equilibrium: Theory, Prisoner's Dilemma, Stag Hunt, Matching pennies, BOS, Multi NE.Bayesian Games,
					Module 2	Introduction, Motivational examples, General definitions, two examples concerning information
6	Prof. Aruna Khubalkar	H&M : Cybersecurity - Digital Forensic	HCSC601	25/02/2025	Module 1:	Introduction to Cybercrime and Computer-crime - 1.1 Definition and classification of cybercrimes, 1.2 Definition and classification of computer crimes, 1.3 Prevention of Cybercrime
					Module 2:	Introduction to Digital Forensics and Digital Evidences - 2.1 Introduction to Digital Forensics, 2.2 Introduction to Digital Evidences, 2.3 Digital Investigation Process Models
	Prof. Kalpita Wagaskar	H&M : DS - Statistical Learning for Data Science	HDSC601		Module 1	1.1 Data and Statistics and 1.3 Descriptive Statistics - Numerical Measures
					Module 2	2.1 Probability and 2.2 Discrete Probability Distribution

Prof. Shreeprasad Manohar
(IA Coordinator)

Prof. Pratibha Dumane
(Dean Academics)

Prof. Swapnil Gujarathi
(HoD - MECH)