



**DIPLOMA IN TEXTILE ENGINEERING SYLLABUS
PROBIDHAN-2022
5TH SEMESTER**

				Period & Credits			Marks				
SL. No	Dept. & Semester	Subject Code	Name of the Subjects	T	P	C	Theory		Practical		Total
							Cont	Final	Cont	Final	
3	5th Tex	21861	General Maintenance & Utility Service	3	3	4	60	60	25	25	200

This course will be conducted by: Md. Jihad Hasan

1) Learning Outcome (Theoretical/Knowledge):

- Describe various types of basic maintenance.
- Explain hand tools and power tools for maintenance.
- State different lubricants and lubrication.
- Explain the bearing, bush and shaft.
- Describe pump and boiler.
- Explain different types of motors, generators and transformers.
- Describe power transmission system.
- Explain air-conditioning and humidification
- Identify the various maintenance tools and equipment.
- Identify the various lubricants for lubrication
- Calculate the power transmission system.
- Perform the operation of boilers, pumps, motors and generators
- Identify the boiler mountings and accessories
- Operate the central air conditioning system.

Detailed Syllabus (Theory)

Unit	Topics with Contents	Final Marks
1	GENERAL CONCEPT OF MAINTENANCE 1.1 Define maintenance. 1.2 Mention the Importance of maintenance. 1.3 Discuss different types of maintenance. 1.4 Explain different steps of maintenance. 1.5 Explain the cleaning procedure in maintenance.	4
2	MAINTENANCE TOOLS, REPAIRING AND OVERHAULING 2.1 Define the tools and equipment. 2.2 Discuss different types of tools and equipment. 2.3 Mention the list of general tools used in maintenance. 2.4 Explain repairing and overhauling. 2.5 Discuss the advantages and disadvantages of repairing. 2.6 Differentiate between repairing and overhauling.	6
3	CONCEPT OF POWER TRANSMISSION SYSTEM 3.1 Define power transmission. 3.2 Discuss different types of power transmission. 3.3 Discuss different types of pulleys. 3.4 Describe different types of belts. 3.6 Mention the advantages and disadvantages of belt drive. 3.7 Describe different types of gear and gear trains. 3.8 Explain the nomenclature of gear.	8
4	BEARING, BUSH AND SHAFT 4.1 Define bearing, bush and shaft. 4.2 Describe functions of bearing. 4.3 Describe different types of bearing. 4.4 Mention the functions of bush. 4.5 Discuss different types of shafts.	4
5	LUBRICANT AND LUBRICATION 5.1 Define lubricant and lubrication. 5.2 Discuss the functions of lubricant. 5.3 Describe types of lubrication. 5.4 Describe the lubrication processes. 5.5 Mention the properties of a good lubricant. 5.6 List different types of lubricants.	4

6	BOILER 6.1 Define boiler. 6.2 Classify boiler. 6.3 Discuss Boiler mountings and boiler accessories. 6.4 Classify boiler. 6.5 Describe working principle of boiler. 6.6 Explain boiler blow down and boiler scaling. 6.7 Discuss boiler efficiency. 6.8 Mention the utility of boiler.	10
7	PUMP AND COMPRESSOR 7.1 Define pump and compressor. 7.2 Mention the necessity of pump and compressor. 7.3 Classify pump and compressor. 7.4 Describe the working principle of centrifugal, reciprocating and rotary pump. 7.5 Mention the uses of compressors in textiles. 7.6 Illustrate centrifugal compressor. 7.7 Discuss reciprocating compressor.	3
8	REFRIGERATION AND AIR CONDITIONING 8.1 Define refrigeration and air conditioning systems. 8.2 Discuss different types of air-conditioning systems. 8.3 Discuss important components of refrigeration. 8.4 Describe working principle of central air conditioning system. 8.5 Discuss the main components of chiller. 8.6 Define humidification. 8.7 Mention the importance of humidification.	8
9	MOTOR, GENERATOR AND TRANSFORMER 9.1 Define motor, generator and transformer. 9.2 Mention types of motors, generators and transformers. 9.3 State the functions of motor and transformer. 9.4 State the main parts of generator. 9.5 Describe the working principle of generator. 9.6 Describe generator capacity.	9
10	SAFETY MAINTENANCE AND SCHEDULING 10.1 Discuss safety measures in maintenance. 10.2 Mention the importance of safety in maintenance. 10.3 Discuss the different types of safety devices. 10.4 State the safety rules of maintenance. 10.5 Define schedule maintenance. 10.6 State the work plan and weekly worksheet. 10.7 State the machine card and maintenance ledger. 10.8 Explain breakdown report.	5

	10.9 State the lubrication control chart.	
	Total	60

Detailed Syllabus (Practical)

Unit	Topics with Contents	Final Marks
1	OBSERVE GENERAL TOOLS FOR MAINTENANCE 1.1 Observe the hand tools for maintenance. 1.2 Sketch the different types of hand tools. 1.3 Identify different types of hand tools. 1.4 Observe the operation of hand tools. 1.5 Maintain the record of performed experiment.	2.5
2	SELECT LUBRICANTS FOR LUBRICATION 2.1 Identify lubrication tools. 2.2 Identify lubricator. 2.3 Select lubricants. 2.4 Maintain the record of performed experiment.	2.5
3	DEMONSTRATE LUBRICATION IN GEAR 3.1 Identify lubrication tools. 3.2 Identify gear. 3.3 Select the lubricant 3.4 Observe precautions in lubrication. 3.5 Maintain the record of performed experiment.	2.5
4	OBSERVE THE CENTRIFUGAL PUMP AND COMPRESSOR 4.1 Identify parts of centrifugal pump. 4.2 Sketch the centrifugal pump. 4.3 Demonstrate the operation of centrifugal pump. 4.4 Illustrate centrifugal compressor. 4.5 Recognize the use of compressors in textiles. 4.6 Maintain the record of performed experiment.	2.5
5	DEMONSTRATE PARTS OF BOILER 5.1 Identify boiler mountings and accessories. 5.2 Sketch boiler mountings and accessories 5.3 Observe operation of boiler mountings and accessories. 5.4 Calculate boiler efficiency and equivalent evaporation 5.4 Maintain the record of performed experiment.	2.5
6	OPERATE GENERATOR 6.1 Observe the main parts of generator. 6.2 Sketch the main parts of generator. 6.3 Perform operation of generator.	2.5

	6.4 Maintain the record of performed experiment.	
7	OBSERVEAIR CONDITIONING SYSTEM 7.1 Draw the vapor compression refrigeration system. 7.2 Sketch main components of refrigeration. 7.3 Identify the main components of chiller. 7.4 Identify duct, AHU, FCU, and piping of central airconditioning. 7.5 Maintain the record of performed experiment.	2.5
8	OPERATEMOTOR 8.1 Identify the main parts of motor. 8.2 Perform operation of motor. 8.3 Demonstrate the functions of motor. 8.4 Performmegger test of motor. 8.5 Maintain the record of performed experiment.	2.5
9	OBSERVETRANSFORMER 9.1 Observe transformer. 9.2 Calculate transformer capacity. 9.3 Identify the functions of transformer. 9.4 Maintain the record of performed experiment.	2.5
10	PREPARE WORK PLAN FOR TEXTILE MILL MANAGEMENT 10.1 Identify maintenance machinery 10.2 Identify machinery for repairing 10.3 Identify machinery for overhauling 10.4 Prepare datasheet 10.5 Maintain the record of performed experiment.	2.5
	Total	25