R.K INSTITUTE OF ENGINEERING & TECHNOLOGY
At/Po:Kantapada-Apuja,Niali,Dist-Cuttack,Odisha
DEPARTMENT OF MECHANICAL ENGINEERING
-:LESSON PLAN:-

Discipline:- MECHANICAL	Semester: 5TH	Name of the teaching faculty:- Pradeep Kumar Barik	
Subject. HM & IFP	No. Of days / per week class allotted:- 04	Semester 5th from date: 01.09.20 To Date: 31.12.20 No. Of weeks:- 15	
Week	Class day	Theory/ Practical Topics :	
1ST	1st	1.1 Definition and classification of hydraulic turbines	
	2nd	Construction and working principle of impulse turbine	
	3rd	3 Velocity diagram of moving blades, work done and derivation of various efficiencies of impulse turbine	
	4th	Velocity diagram of moving blades, work done and derivation of various efficiencies of Francis turbine	
2ND	1st	Velocity diagram of moving blades, work done and derivation of various efficiencies of Kaplan turbine	
	2nd	Numerical on above	
	3rd	Distinguish between impulse turbine and reaction turbine	
	4th	Construction and working principle of centrifugal pumps	
3RD	1st	work done and derivation of various efficiencies of centrifugal pumps.	
	2nd	Numerical on above	
	3rd	Describe construction & working of single acting reciprocating pump	
	4th	Describe construction & working of double acting reciprocating pump	
4TH	1st	Derive the formula foe power required to drive the pump (Single acting & double acting)	
	2nd	Define slip.	
	3rd	State positive & negative slip & establish relation between slip & coefficient of discharge	
	4th	Solve numerical on above	

5TH	1st	Elements –filter-regulator-lubrication unit	
	2nd	Pressure control valves	
	3rd	Pressure relief valves	
	4th	Pressure regulation valves	
6TH	1st	Direction control valves	
	2nd	3/2DCV,5/2 DCV,5/3DCV	
	3rd	Flow control valves	
	4th	Throttle valves	
7TH	1st	ISO Symbols of pneumatic components	
	2nd	Pneumatic circuits	
	3rd	Direct control of single acting cylinder	
	4th	Operation of double acting cylinder	
8TH	1st	Operation of double acting cylinder with metering in and metering out control	
	2nd	HYDRAULIC CONTROL SYSTEM	
	3rd	Hydraulic system, its merit and demerits	
	4th	Hydraulic accumulators	
9TH	1st	Pressure control valves	
	2nd	Pressure relief valves	
	3rd	Pressure regulation valves	
	4th	Direction control valves	
10TH	1st	3/2DCV,5/2 DCV,5/3DCV	
	2nd	Flow control valves	
	3rd	Throttle valves	
	4th	Fluid power pumps	
11TH	1st	External and internal gear pumps	
	2nd	Vane pump	
	3rd	Radial piston pumps	

	4th	ISO Symbols for hydraulic components	
12TH	1st	Actuators	
	2nd	Hydraulic circuits	
	3rd	Direct control of single acting cylinder	
	4th	Operation of double acting cylinder	
13TH	1st	Operation of double acting cylinder with metering in and metering out control	
	2nd	Comparison of hydraulic and pneumatic system	
	3rd	Numerical Practise on above	
	4th	Numerical Practise on above	
14TH	1st	Numerical Practise on above	
	2nd	Numerical Practise on above	
	3rd	Revision	
	4th	Revision	
15TH	1st	Revision	
	2nd	Revision	
	3rd	Revision	
	4th	Revision	

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DEPARTMENT OF MECHANICAL ENGINEERING
-:LESSON PLAN:-

Discipline:- MECHANICAL	**Semester:** 5TH	**Name of the teaching faculty:-** Pradeep kumar Basa	
Subject. HM & IFP	No. Of days / per week class allotted:- 04	Semester 5th from date: 01/10/21 To Date: 08/01/22 No. Of weeks:- 15	
Week	Class day	Theory/ Practical Topics :	
1ST	1st	1.1 Definition and classification of hydraulic turbines	
	2nd	Construction and working principle of impulse turbine	
	3rd	3 Velocity diagram of moving blades, work done and derivation of various efficiencies of impulse turbine	
	4th	Velocity diagram of moving blades, work done and derivation of various efficiencies of Francis turbine	
2ND	1st	Velocity diagram of moving blades, work done and derivation of various efficiencies of Kaplan turbine	
	2nd	Numerical on above	
	3rd	Distinguish between impulse turbine and reaction turbine	
	4th	Construction and working principle of centrifugal pumps	
3RD	1st	work done and derivation of various efficiencies of centrifugal pumps.	
	2nd	Numerical on above	
	3rd	Describe construction & working of single acting reciprocating pump	
	4th	Describe construction & working of double acting reciprocating pump	
4TH	1st	Derive the formula foe power required to drive the pump (Single acting & double acting)	
	2nd	Define slip.	
	3rd	State positive & negative slip & establish relation between slip & coefficient of discharge	
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5TH	1st	Elements –filter-regulator-lubrication unit	
	2nd	Pressure control valves	
	3rd	Pressure relief valves	
	4th	Pressure regulation valves	
6TH	1st	Direction control valves	
	2nd	3/2DCV,5/2 DCV,5/3DCV	
	3rd	Flow control valves	
	4th	Throttle valves	
7TH	1st	ISO Symbols of pneumatic components	
	2nd	Pneumatic circuits	
	3rd	Direct control of single acting cylinder	
	4th	Operation of double acting cylinder	
8TH	1st	Operation of double acting cylinder with metering in and metering out control	
	2nd	HYDRAULIC CONTROL SYSTEM	
	3rd	Hydraulic system, its merit and demerits	
	4th	Hydraulic accumulators	
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	2nd	Pressure relief valves	
	3rd	Pressure regulation valves	
	4th	Direction control valves	
10TH	1st	3/2DCV,5/2 DCV,5/3DCV	
	2nd	Flow control valves	
	3rd	Throttle valves	
	4th	Fluid power pumps	
11TH	1st	External and internal gear pumps	
	2nd	Vane pump	
	3rd	Radial piston pumps	

	4th	ISO Symbols for hydraulic components	
12TH	1st	Actuators	
	2nd	Hydraulic circuits	
	3rd	Direct control of single acting cylinder	
	4th	Operation of double acting cylinder	
13TH	1st	Operation of double acting cylinder with metering in and metering out control	
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	3rd	Numerical Practise on above	
	4th	Numerical Practise on above	
14TH	1st	Numerical Practise on above	
	2nd	Numerical Practise on above	
	3rd	Revision	
	4th	Revision	
15TH	1st	Revision	
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	3rd	Revision	
	4th	Revision	

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DEPARTMENT OF MECHANICAL ENGINEERING
-:LESSON PLAN:-

Discipline:- MECHANICAL	**Semester:** 5TH	**Name of the teaching faculty:-** Pradip Kumare Barik	
Subject. HM & IFP	No. Of days / per week class allotted:- 04	Semester 5th from date: 15.9.22 To Date: 21.01.23 No. Of weeks:- 15	
Week	Class day	Theory/ Practical Topics :	
1ST	1st	1.1 Definition and classification of hydraulic turbines	
	2nd	Construction and working principle of impulse turbine	
	3rd	3 Velocity diagram of moving blades, work done and derivation of various efficiencies of impulse turbine	
	4th	Velocity diagram of moving blades, work done and derivation of various efficiencies of Francis turbine	
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3RD	1st	work done and derivation of various efficiencies of centrifugal pumps.	
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	3rd	State positive & negative slip & establish relation between slip & coefficient of discharge	
	4th	Solve numerical on above	

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	2nd	Pressure control valves	
	3rd	Pressure relief valves	
	4th	Pressure regulation valves	
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	2nd	3/2DCV,5/2 DCV,5/3DCV	
	3rd	Flow control valves	
	4th	Throttle valves	
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	2nd	Pneumatic circuits	
	3rd	Direct control of single acting cylinder	
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	3rd	Hydraulic system, its merit and demerits	
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	2nd	Flow control valves	
	3rd	Throttle valves	
	4th	Fluid power pumps	
11TH	1st	External and internal gear pumps	
	2nd	Vane pump	
	3rd	Radial piston pumps	

	4th	ISO Symbols for hydraulic components	
12TH	1st	Actuators	
	2nd	Hydraulic circuits	
	3rd	Direct control of single acting cylinder	
	4th	Operation of double acting cylinder	
13TH	1st	Operation of double acting cylinder with metering in and metering out control	
	2nd	Comparison of hydraulic and pneumatic system	
	3rd	Numerical Practise on above	
	4th	Numerical Practise on above	
14TH	1st	Numerical Practise on above	
	2nd	Numerical Practise on above	
	3rd	Revision	
	4th	Revision	
15TH	1st	Revision	
	2nd	Revision	
	3rd	Revision	
	4th	Revision	

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DEPARTMENT - MECHANICAL ENGINEERING

LESSON PLAN

Discipline : Mechanical Engineering	Semester: 5th Sem	Name of the Teaching Faculty: Dayal Jyoti Sahoo
Subject: Mechatronics	No. Of Days/Week Class Allotted 04	Semester From Date: 01.09.20 To Date: No. Of 31.12.20 Weeks : 15
Week	Class Day	Theory/Practical Topics
1st	1st	INTRODUCTION TO MECHATRONICS: Definition, Advantages & disadvantages of Mechatronics.
	2nd	Application of Mechatronics, Importance of mechatronicsin automation.
	3rd	Components of a Mechatronics System
	4th	Review class and Discussion
2nd	1st	Assignment Evaluation & Class Test
	2nd	SENSORS AND TRANSDUCERS: Definition and classification of transducer
	3rd	Classification of Transducer
	4th	Electromechanical Transducers
3rd	1st	Transducers Actuating Mechanisms
	2nd	Sensors and its classifications
	3rd	Displacement &Positions Sensors
	4th	Electromechanical Transducers
4th	1st	Transducers Actuating Mechanisms
	2nd	Sensors and its classifications
	3rd	Displacement &Positions Sensors
	4th	Velocity and Motion sensors
5th	1st	Force and Pressure sensors.
	2nd	Temperature sensors
	3rd	Light sensors
	4th	Review class and Discussion
6th	1st	Assignment Evaluation & Class Test
	2nd	**ROBOTICS:** Definition, Function and laws of robotics

	3rd	Types of industrial robots. Advantages, Disadvantages and Applications of robots
	4th	Robotic systems
7th	1st	Review class and Discussion
	2nd	Assignment Evaluation & Class Test
	3rd	**ELEMENTS OF CNC MACHINES:** Introduction to Numerical Control of machines
	4th	NC machines
8th	1st	CNC machine
	2nd	CAD and CAM
	3rd	Software and hardware for CAD/CAM, Functioning of CAD/CAM system
	4th	Features and characteristics of CAD/CAM system, Application areas for CAD/CAM
9th	1st	Review class and Discussion
	2nd	**Introduction to CNC Machines,** Elements of CNC machines
	3rd	Machine Structure
	4th	Guide ways/Slide ways and its types
10th	1st	Drives and types. Spindle drives
	2nd	Feed drive
	3rd	Spindle and Spindle Bearings
	4th	Review class and Discussion
11th	1st	Assignment Evaluation & Class Test
	2nd	**PROGRAMMABLE LOGIC CONTROLLERS(PLC):**
	3rd	Introduction, Definition and Advantages of PLC, Selection and uses of PLC
	4th	Architecture basic internal structures
12th	1st	Input/output Processing and Programming
	2nd	Mnemonics, Master and Jump Controllers
	3rd	Review class and Discussion
	4th	Assignment Evaluation & Class Test
13th	1st	**MECHANICAL ACTUATORS:**
	2nd	Machine, Kinematic Link, Kinematic Pair
	3rd	Mechanism, Slider crank Mechanism
	4th	Gear Drive, Spur gear, Bevel gear, Helical gear, worm gear
14th	1st	Belt & Belt drive
	2nd	**Electrical Actuator:** Switches and relays, Solenoids
	3rd	D.C Motors

	4th	A.C Motors
15th	1st	Stepper Motors, Specification and control of stepper motors
	2nd	Servo Motors D.C & A.C
	3rd	Review class
	4th	Assignment Evaluation & Class Test

Payal Jayashree Sahoo

Signature of the faculty

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DEPARTMENT - MECHANICAL ENGINEERING

LESSON PLAN

Discipline : Mechanical Engineering	Semester: 5th Sem	Name of the Teaching Faculty: Dayal Joti Sahoo
Subject: Mechatronics	No. Of Days/Week Class Allotted 04	Semester From Date: 01-10-21 To Date: No. Of – 08.01.22 Weeks : 15
Week	Class Day	Theory/Practical Topics
1st	1st	INTRODUCTION TO MECHATRONICS: Definition, Advantages & disadvantages of Mechatronics.
	2nd	Application of Mechatronics. Importance of mechatronicsin automation.
	3rd	Components of a Mechatronics System
	4th	Review class and Discussion
2nd	1st	Assignment Evaluation & Class Test
	2nd	SENSORS AND TRANSDUCERS: Definition and classification of transducer
	3rd	Classification of Transducer
	4th	Electromechanical Transducers
3rd	1st	Transducers Actuating Mechanisms
	2nd	Sensors and its classifications
	3rd	Displacement &Positions Sensors
	4th	Electromechanical Transducers
4th	1st	Transducers Actuating Mechanisms
	2nd	Sensors and its classifications
	3rd	Displacement &Positions Sensors
	4th	Velocity and Motion sensors
5th	1st	Force and Pressure sensors.
	2nd	Temperature sensors
	3rd	Light sensors
	4th	Review class and Discussion
6th	1st	Assignment Evaluation & Class Test
	2nd	**ROBOTICS:** Definition, Function and laws of robotics

	3rd	Types of industrial robots. Advantages, Disadvantages and Applications of robots
	4th	Robotic systems
7th	1st	Review class and Discussion
	2nd	Assignment Evaluation & Class Test
	3rd	**ELEMENTS OF CNC MACHINES:** Introduction to Numerical Control of machines
	4th	NC machines
8th	1st	CNC machine
	2nd	CAD and CAM
	3rd	Software and hardware for CAD/CAM, Functioning of CAD/CAM system
	4th	Features and characteristics of CAD/CAM system, Application areas for CAD/CAM
9th	1st	Review class and Discussion
	2nd	**Introduction to CNC Machines,** Elements of CNC machines
	3rd	Machine Structure
	4th	Guide ways/Slide ways and its types
10th	1st	Drives and types. Spindle drives
	2nd	Feed drive
	3rd	Spindle and Spindle Bearings
	4th	Review class and Discussion
11th	1st	Assignment Evaluation & Class Test
	2nd	**PROGRAMMABLE LOGIC CONTROLLERS(PLC):**
	3rd	Introduction, Definition and Advantages of PLC, Selection and uses of PLC
	4th	Architecture basic internal structures
12th	1st	Input/output Processing and Programming
	2nd	Mnemonics, Master and Jump Controllers
	3rd	Review class and Discussion
	4th	Assignment Evaluation & Class Test
13th	1st	**MECHANICAL ACTUATORS:**
	2nd	Machine, Kinematic Link, Kinematic Pair
	3rd	Mechanism, Slider crank Mechanism
	4th	Gear Drive, Spur gear, Bevel gear, Helical gear, worm gear
14th	1st	Belt & Belt drive
	2nd	**Electrical Actuator:** Switches and relays, Solenoids
	3rd	D.C Motors

15th	4th	A.C Motors
	1st	Stepper Motors, Specification and control of stepper motors
	2nd	Servo Motors D.C & A.C
	3rd	Review class
	4th	Assignment Evaluation & Class Test

Dayakjoti Sahoo

Signature of the faculty

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DEPARTMENT - MECHANICAL ENGINEERING

LESSON PLAN

Discipline : Mechanical Engineering	Semester: 5th Sem	Name of the Teaching Faculty: Dayal Jodi Sahoo
Subject: Mechatronics	No. Of Days/Week Class Allotted 04	Semester From Date: 15-09-22 To Date: No. Of Weeks : 15 — 21-01-23
Week	Class Day	Theory/Practical Topics
1st	1st	**INTRODUCTION TO MECHATRONICS:** Definition, Advantages & disadvantages of Mechatronics.
	2nd	Application of Mechatronics, Importance of mechatronicsin automation.
	3rd	Components of a Mechatronics System
	4th	Review class and Discussion
2nd	1st	Assignment Evaluation & Class Test
	2nd	**SENSORS AND TRANSDUCERS:** Definition and classification of transducer
	3rd	Classification of Transducer
	4th	Electromechanical Transducers
3rd	1st	Transducers Actuating Mechanisms
	2nd	Sensors and its classifications
	3rd	Displacement &Positions Sensors
	4th	Electromechanical Transducers
4th	1st	Transducers Actuating Mechanisms
	2nd	Sensors and its classifications
	3rd	Displacement &Positions Sensors
	4th	Velocity and Motion sensors
5th	1st	Force and Pressure sensors.
	2nd	Temperature sensors
	3rd	Light sensors
	4th	Review class and Discussion
6th	1st	Assignment Evaluation & Class Test
	2nd	**ROBOTICS:** Definition, Function and laws of robotics

	3rd	Types of industrial robots. Advantages. Disadvantages and Applications of robots
	4th	Robotic systems
7th	1st	Review class and Discussion
	2nd	Assignment Evaluation & Class Test
	3rd	**ELEMENTS OF CNC MACHINES:** Introduction to Numerical Control of machines
	4th	NC machines
8th	1st	CNC machine
	2nd	CAD and CAM
	3rd	Software and hardware for CAD/CAM. Functioning of CAD/CAM system
	4th	Features and characteristics of CAD/CAM system. Application areas for CAD/CAM
9th	1st	Review class and Discussion
	2nd	**Introduction to CNC Machines,** Elements of CNC machines
	3rd	Machine Structure
	4th	Guide ways/Slide ways and its types
10th	1st	Drives and types. Spindle drives
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	3rd	Spindle and Spindle Bearings
	4th	Review class and Discussion
11th	1st	Assignment Evaluation & Class Test
	2nd	**PROGRAMMABLE LOGIC CONTROLLERS(PLC):**
	3rd	Introduction, Definition and Advantages of PLC, Selection and uses of PLC
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12th	1st	Input/output Processing and Programming
	2nd	Mnemonics, Master and Jump Controllers
	3rd	Review class and Discussion
	4th	Assignment Evaluation & Class Test
13th	1st	**MECHANICAL ACTUATORS:**
	2nd	Machine, Kinematic Link, Kinematic Pair
	3rd	Mechanism, Slider crank Mechanism
	4th	Gear Drive, Spur gear, Bevel gear, Helical gear, worm gear
14th	1st	Belt & Belt drive
	2nd	**Electrical Actuator:** Switches and relays, Solenoids
	3rd	D.C Motors

	4th	A.C Motors
15th	1st	Stepper Motors, Specification and control of stepper motors
	2nd	Servo Motors D.C & A.C
	3rd	Review class
	4th	Assignment Evaluation & Class Test

Dayal Jyoti Sahoo

Signature of the faculty

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DEPARTMENT OF MECHANICAL ENGINEERING
-:LESSON PLAN:-

Discipline:- MECHANICAL	**Semester:** 5TH	**Name of the teaching faculty:-** Ramachandra Pradhan	
Subject. DME	No. Of days / per week class allotted:- 04	Semester 5th from date: 01.09.20 To Date: 31.12.20 No. Of weeks:- 15	
Week	Class day	Theory/ Practical Topics :	
1ST	1st	Introduction to Machine Design & Classify it	
	2nd	Different mechanical engineering materials used in design with their uses and their mechanical and physical properties	
	3rd	Mechanical properties of Engineering material	
	4th	Stress Strain Curved for MS & CI with Salient Point	
2ND	1st	Modes of Failure of elastic deflection, General Yielding & Fracture	
	2nd	State the Factor gorverning the design of machine elements	
	3rd	State the Factor gorverning the design of machine elements	
	4th	Describe design Procedure	
3RD	1st	Joints and their Classification	
	2nd	State types of welded Joint	
	3rd	State advantages of welded joint over other	
	4th	Design of welded joints for eccentic load	
4TH	1st	State types of rivetted joint and types of rivet	
	2nd	Describe failure of rivetted joint	
	3rd	we determine strength and efficiency of rivetted joints	
	4th	Determine Strength & Efficiency of Rivetted Joint	
	1st	Design rivetted joint for pressure vessel	

5TH	2nd	Solve numerical problems on weld
	3rd	Solve numerical problems on rivetted joints
	4th	Solve numerical problems on rivetted joints
6TH	1st	State function of Shafts
	2nd	State materials for shafts
	3rd	Design of solid & hollow shafts to transmit a given power and given rpm on basis of strength and rigidity
	4th	Design of solid & hollow shafts to transmit a given power and given rpm on basis of strength and rigidity
7TH	1st	Design of solid & hollow shafts to transmit a given power and given rpm on basis of strength and rigidity
	2nd	State stardard size of shafts as per I.S referring data book
	3rd	State function of keys, types of keys and materials of keys
	4th	Describe failure of keys, effect of keyway and problem
8TH	1st	Design of rectangular sunk key by using empirical relation for given diameter of shafts
	2nd	State specification of parallel key, gibhead key, tapper key as per I.S
	3rd	Solve numericals on design of shafts and keys
	4th	Solve numericals on design of shafts and keys
9TH	1st	Design of Shafts Coupling
	2nd	Requirements of Good Shaft Coupling
	3rd	Types of Coupling
	4th	Design of Sleeve or Muff Coupling
10TH	1st	Design of Clamp and Compression Coupling
	2nd	Solve Numericals
	3rd	Solve Numericals
	4th	Solve Numericals
11TH	1st	Material Used for Helical Spring
	2nd	SWG Wire (Data Book reference)
	3rd	Terms used in Compression Helical Spring
	4th	Stress in Helical spring of circular wire

,H	1st	Deflection of helical Spring of Circular Wire	
	2nd	Surge of Spring	
	3rd	Surge of Spring	
	4th	Solve Numerical in design of Closed Coil Helical Compression Spring	
13TH	1st	Solve Numerical in design of Closed Coil Helical Compression Spring	
	2nd	DOUBT CLEARING	
	3rd	Solve Numerical	
	4th	Solve Numerical	
14TH	1st	Solve Numerical	
	2nd	Solve Numerical	
	3rd	Solve Numerical	
	4th	REVISION	
15TH	1st	REVISION	
	2nd	REVISION	
	3rd	REVISION	
	4th	CLASS TEST	

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DEPARTMENT OF MECHANICAL ENGINEERING
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Discipline:- MECHANICAL	**Semester:** 5TH	**Name of the teaching faculty:-** Ramachandra Pradhan	
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	2nd	State the Factor gorverning the design of machine elements	
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	3rd	we determine strength and efficiency of rivetted joints	
	4th	Determine Strength & Efficiency of Rivetted Joint	
	1st	Design rivetted joint for pressure vessel	

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	3rd	Solve numerical problems on rivetted joints	
	4th	Solve numerical problems on rivetted joints	
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	2nd	State stardard size of shafts as per I.S referring data book	
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	4th	Describe failure of keys, effect of keyway and problem	
8TH	1st	Design of rectangular sunk key by using empirical relation for given diameter of shafts	
	2nd	State specification of parallel key, gibhead key, tapper key as per I.S	
	3rd	Solve numericals on design of shafts and keys	
	4th	Solve numericals on design of shafts and keys	
9TH	1st	Design of Shafts Coupling	
	2nd	Requirements of Good Shaft Coupling	
	3rd	Types of Coupling	
	4th	Design of Sleeve or Muff Coupling	
10TH	1st	Design of Clamp and Compression Coupling	
	2nd	Solve Numericals	
	3rd	Solve Numericals	
	4th	Solve Numericals	
11TH	1st	Material Used for Helical Spring	
	2nd	SWG Wire (Data Book reference)	
	3rd	Terms used in Compression Helical Spring	
	4th	Stress in Helical spring of circular wire	

	1st	Deflection of helical Spring of Circular Wire	
	2nd	Surge of Spring	
	3rd	Surge of Spring	
	4th	Solve Numerical in design of Closed Coil Helical Compression Spring	
13TH	1st	Solve Numerical in design of Closed Coil Helical Compression Spring	
	2nd	DOUBT CLEARING	
	3rd	Solve Numerical	
	4th	Solve Numerical	
14TH	1st	Solve Numerical	
	2nd	Solve Numerical	
	3rd	Solve Numerical	
	4th	REVISION	
15TH	1st	REVISION	
	2nd	REVISION	
	3rd	REVISION	
	4th	CLASS TEST	

R.K INSTITUTE OF ENGINEERING & TECHNOLOGY
At/Po:Kantapada-Apuja,Niali,Dist-Cuttack,Odisha
DEPARTMENT OF MECHANICAL ENGINEERING
-:LESSON PLAN:-

Discipline:- **MECHANICAL**	**Semester:** **5TH**	**Name of the teaching faculty:-** Rama chandra Pradhan	
Subject. DME	No. Of days / per week class allotted:- 4	Semester 5th from date: 16.9.22 To Date: 21.01.23 No. Of weeks:- 15	
Week	Class day	Theory/ Practical Topics :	
1ST	1st	Introduction to Machine Design & Classify it	
	2nd	Different mechanical engineering materials used in design with their uses and their mechanical and physical properties	
	3rd	Mechanical properties of Engineering material	
	4th	Stress Strain Curved for MS & CI with Salient Point	
2ND	1st	Modes of Failure of elastic deflection, General Yielding & Fracture	
	2nd	State the Factor gorverning the design of machine elements	
	3rd	State the Factor gorverning the design of machine elements	
	4th	Describe design Procedure	
3RD	1st	Joints and their Classification	
	2nd	State types of welded Joint	
	3rd	State advantages of welded joint over other	
	4th	Design of welded joints for eccentic load	
4TH	1st	State types of rivetted joint and types of rivet	
	2nd	Describe failure of rivetted joint	
	3rd	we determine strength and efficiency of rivetted joints	
	4th	Determine Strength & Efficiency of Rivetted Joint	
	1st	Design rivetted joint for pressure vessel	

5TH	2nd	Solve numerical problems on weld	
	3rd	Solve numerical problems on rivetted joints	
	4th	Solve numerical problems on rivetted joints	
6TH	1st	State function of Shafts	
	2nd	State materials for shafts	
	3rd	Design of solid & hollow shafts to transmit a given power and given rpm on basis of strength and rigidity	
	4th	Design of solid & hollow shafts to transmit a given power and given rpm on basis of strength and rigidity	
7TH	1st	Design of solid & hollow shafts to transmit a given power and given rpm on basis of strength and rigidity	
	2nd	State stardard size of shafts as per I.S referring data book	
	3rd	State function of keys, types of keys and materials of keys	
	4th	Describe failure of keys, effect of keyway and problem	
8TH	1st	Design of rectangular sunk key by using empirical relation for given diameter of shafts	
	2nd	State specification of parallel key, gibhead key, tapper key as per I.S	
	3rd	Solve numericals on design of shafts and keys	
	4th	Solve numericals on design of shafts and keys	
9TH	1st	Design of Shafts Coupling	
	2nd	Requirements of Good Shaft Coupling	
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