

**RAJA KISHORE CHANDRA ACADEMY OF
TECHNOLOGY,NILGIRI,BALASORE
DEPARTMENT OF MECHANICAL ENGG.
LESSON PLAN**

Name of Faculty – ER. BADRI NARAYAN PATRA

SUBJECT – MANUFACTURING TECHNOLOGY

SEMESTER-4TH

SESSION-

UNIT	DATE	TOPIC COVERED
1		1. Tool Materials
		Composition of various tool materials
		Physical properties
		Uses of such tool materials
2		2. Cutting Tools
		Cutting action of various hand tools such as Chisel, hack saw blade, dies and reamer
		Turning tool geometry and purpose of tool angle
		Machining process parameters (Speed, feed and depth of cut)
		Coolants and lubricants in machining
		Purpose of coolants and lubricants in machining
3		3. Lathe Machine: Construction and working of lathe
		Operations carried out in a lathe (Turning, thread cutting, taper turning, internal machining, parting off, facing, knurling)
		Safety measures during machining
		Capstan lathe: Difference with respect to engine lathe. Major components and their function Define multiple tool holders
		Turret Lathe: Difference with respect to capstan lathe. Major components and their function
		Draw the tooling lay out for preparation of a hexagonal bolt & bush
4.		Shaper: Potential application areas of a shaper machine. Major components and their function
		Explain the automatic table feed mechanism. Explain the construction & working of tool head
		Explain the quick return mechanism through sketch . State the specification of a shaping machine.
		5. Planning Machine

5		Application area of a planar and its difference with respect to shaper. Major components and their functions
		The table drive mechanism Working of tool and tool support Clamping of work through sketch.
		6. Milling Machine Types of milling machine and operations performed by them
6		Explain work holding attachment
		Construction & working of simple dividing head, universal dividing head
		Procedure of simple and compound indexing. Illustration of different indexing methods
		7. Slotter: major components, their function
7		Construction and Working of slotter machine
		Tools used in slotter
		8. Grinding: Significance of grinding operations
8		Manufacturing of grinding wheels
		Criteria for selecting of grinding wheels
		Specification of grinding wheels with example
		Working of Cylindrical Grinder, Surface Grinder
		Working of Centre less Grinder
		9. Internal Machining operations:
9		Classification of drilling machines
		Working of Bench drilling machine
		Working of Pillar drilling machine
		Working of Radial drilling machine
		Boring: Basic Principle of Boring
		Different between Boring and drilling
		Design of surface finishing
10		Define superfinishing
		Describe lapping & explain their specific cutting
		Doubt clearing ch 1,2,3
		Doubt clearing ch 4,5,6,7
		Doubt clearing ch 8,9,10
		Previous year questions discussed

Bachhi Narayan Patra

SIGNATURE OF FACULTY

SIGNATURE OF H.O.D