VEER SURENDRA SAI UNIVERSITY OF TECHNOLOGY

LESSON PLAN

Semester >>2nd (M.Tech)	**Year >> 2015**	**Contact Hours per week >>4**
Sub: TOOLS & DIE DESIGN	**Branch >> Mechanical Engineering (Spl: Production Engg.)**	**Total Credit >>4**

TEACHER	**Dr.Punyapriya Mishra**
Period	**Jan 2015-April 2015**
Recommended books >>	**Text book**: 1. Fundamentals of tool Design by ASTME, PHI 2. Metal cutting Theory & Cutting Tool Design by Arshinov, MIR Pub. 3. A text book of Production Engg by P.C.Sharma, S.Chand & co. 4. Tool Design by Donaldson, Le Cain & Goold, TMH 5. Fundamentals of Tool Engg. Design by Basu, Mukherjee & Mishra, Oxford & IBH.

Sl. No.	**Lecture No.**	**Topics to be covered**
1	Lecture-01	System approach to production design, factors of product design, Interchangeability and standardization
2	Lecture-02	Activities of standardization, Value engineering and value analysis
3	Lecture-03	Strength and rigidity calculation for single point cutting tool, chip breakers
4	Lecture-04	Design of single point cutting tool and carbide tipped tool, high production cutting tool
5	Lecture-05	Form tools, types method of determining the profile of circular & flat form tool
6	Lecture-06	Analytical and graphical method of designing flat & circular form tool

7	Lecture-07	Cutting process in broaching, elements of broach teeth, broaching allowance
8	Lecture-08	Design of internal and external surface broach
9	Lecture-09	Calculation of no. of teeth, rigidity, cutting force and power of broach
10	Lecture-10	Forging, forging design factors, forging allowances
11	Lecture-11	Forging die design
12	Lecture-12	Drop forging dies and auxiliary tools
13	Lecture-13	Upset forging
14	Lecture-14	Press working, press operations, press working equipments
15	Lecture-15	Rating of press, requirements of press tool design
16	Lecture-16	Press tool components, press selection
17	Lecture-17	Types of dies, clearance
18	Lecture-18	Cutting force and calculation of minimum diameter of piercing
19	Lecture-19	Blanking die design
20	Lecture-20	Method of holding punches, centre of pressure calculation
21	Lecture-21	Strippers, stock stops, stock guide, strip feeding, knock outs
22	Lecture-22	Progressive and compound die design
23	Lecture-23	Drawing dies
24	Lecture-24	Jigs and fixtures, locating and clamping
25	Lecture-25	Principles of location and clamping
26	Lecture-26	Design principles common to jigs and fixtures
27	Lecture 27	Devices, materials for locating and clamping elements
28	Lecture 28	Design of drilling jigs
29	Lecture 29	Design of milling fixtures
30	Lecture 30	Solution of Numericals related to design of single point cutting tool
31	Lecture 31	Solution of Numericals related to design of form tools
32	Lecture 32	Solution of Numericals related to design of broach tools
33	Lecture 33	Solution of Numericals related to forging and press working
34	Lecture-34	**Class-Test**
35	Lecture-35	**Brief Review & discussion** **Revision & Clarification of Doubts**
36	Lecture-36	
37	Lecture-37	

Signature of Teacher