BVM ENGINEERING COLLEGE [AN AUTONOMOUS INSTITUTION]

ES111: WORKSHOP
CREDITS - 2 (LTP:0,0,2)

Course Objectives:
Introduce the concepts of basic manufacturing processes and demonstrate the conversion of raw material into a finished product.

Teaching and Assessment Scheme:

Teaching Scheme (Hours per week)			Credits	Assessment Scheme				Total Marks
				Theory Marks		Practical Marks		
L	T	P	C	ESE	CE	ESE	CE	
0	0	4	2	0	0	40	60	100

Course Contents:

Unit No.	Topics	Teaching Hours
1	**Introduction to workshop and safety aspect:** Orientation of the workshop, Introduction to safety aspects to be observed in workshop or industries.	2
2	**Machine Shop:** Introduction and demonstration of various machine tools such as Lathe, Drilling, Shaping, Slotting, Planning, Milling, Grinding.	20
3	**Manufacturing Shops:** Carpentry, Fitting, Smithy & Tin Smithy, Welding, Brazing, Soldering, Gas cutting, Casting, Plastic moulding & Glass cutting.	34
	Total	**56**

List of References:

1. Hajra Choudhury S.K., Hajra Choudhury A.K. and Nirjhar Roy S.K., "*Elements of Workshop Technology*", Vol. I 2008 and Vol. II 2010, Media promoters and publishers private limited, Mumbai.
2. Kalpakjian S. And Steven S. Schmid, "*Manufacturing Engineering and Technology*", 4th edition, Pearson Education India Edition, 2002.
3. Gowri P. Hariharan and A. Suresh Babu,"*Manufacturing Technology – I*" Pearson Education, 2008.
4. Roy A. Lindberg, "*Processes and Materials of Manufacture*", 4th edition, Prentice Hall India, 1998.
5. Rao P.N., "*Manufacturing Technology*", Vol. I and Vol. II, Tata McGrawHill House, 2017.

Course Outcomes (COs):

At the end of semester, students will be able to…
1. Understand the safety precautions in workshop.
2. Identify appropriate machine tools and their operations.
3. Identify basic manufacturing practices in workshop.
4. Appreciate the level of skill required in fitting, carpentry, tin smithy, welding.