

Workshop Manufacturing Practices (WMP)

ESC	Workshop Manufacturing Practices	L:1	T:0	P:4	Credit:3
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LECTURES & VIDEOS: (10 HOURS) [L: 1; T: 0; P: 0 (1 CREDIT)]

DETAILED CONTENTS:

1. MANUFACTURING METHODS-CASTING, FORMING, MACHINING, JOINING, ADVANCED MANUFACTURING METHODS (3 LECTURES)
2. CMC MACHINING, ADDITIVE MANUFACTURING (1 LECTURE)
3. FITTING OPERATIONS & POWER TOOLS (1 LECTURE)
4. CARPENTRY (1 LECTURE)
5. PLASTIC MOULDING, GLASS CUTTING (1 LECTURE)
6. METAL CASTING (1 LECTURE)
7. WELDING (ARC WELDING & GAS WELDING), BRAZING, SOLDERING (2 LECTURE)

SUGGESTED TEXT/REFERENCE BOOKS:

1. HAJRA CHOUDHURY S.K., HAJRA CHOUDHURY A.K. AND NIRJEAR 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:

- ◆ UPON COMPLETION OF THIS COURSE, THE STUDENTS WILL GAIN KNOWLEDGE OF THE DIFFERENT MANUFACTURING PROCESSES WHICH ARE COMMONLY EMPLOYED IN THE INDUSTRY, TO FABRICATE COMPONENTS USING DIFFERENT MATERIALS.

WORKSHOP PRACTICE: (60 HOURS) [L: 0; T: 0; P: 4 (2 CREDITS)]

1. MACHINE SHOP (10 HOURS) AND FITTING SHOP (8 HOURS)
2. CARPENTRY (6 HOURS)
3. WELDING SHOP (8 HOURS) (ARC WELDING 4 HRS + GAS WELDING 4 HRS)
4. CASTING (8 HOURS) AND SMITHY (6 HOURS)
5. PLASTIC MOULDING & GLASS CUTTING (6 HOURS)
6. 3-D PRINTING OF DIFFERENT MODELS (8 HOURS)

EXAMINATIONS COULD INVOLVE THE ACTUAL FABRICATION OF SIMPLE COMPONENTS, UTILIZING ONE OR MORE OF THE TECHNIQUES COVERED ABOVE.

LABORATORY OUTCOMES

- ❖ UPON COMPLETION OF THIS LABORATORY COURSE, STUDENTS WILL BE ABLE TO FABRICATE COMPONENTS WITH THEIR OWN HANDS.
- ❖ THEY WILL ALSO GET PRACTICAL KNOWLEDGE OF THE DIMENSIONAL ACCURACIES AND DIMENSIONAL TOLERANCES POSSIBLE WITH DIFFERENT MANUFACTURING PROCESSES.
- ❖ BY ASSEMBLING DIFFERENT COMPONENTS, THEY WILL BE ABLE TO PRODUCE SMALL DEVICES OF THEIR INTEREST. BY ASSEMBLING DIFFERENT COMPONENTS, THEY WILL BE ABLE TO PRODUCE SMALL DEVICES OF THEIR INTEREST.

Marks Evaluation:

Theory Evaluation:

- **University Exam: 70 marks**
- **Internal Exam : 30 marks**

Total= 100 marks

Practical Evaluation: 20 marks

- **Internal: 20 marks**
- **External: 30 marks**

Total: 50 marks