

PPE6I101 ADVANCE PLASTIC PROCESSING TECHNIQUES

MODULE I

SPECIALIZED INJECTION MOULDING PROCESSES:

THIN WALL PRODUCT MOULDING-MULTI MATERIAL AND MULTI COLOUR MOULDING-SANDWICH MOULDING-THERMOSET INJECTION MOULDING. MICRO PROCESSOR CONTROLLED INJECTION MOULDING OPERATION. STATISTICAL QUALITY CONTROL AND PROCESS CONTROL. ALL ELECTRIC INJECTION MOULDING - MERITS & DEMERITS

GAS ASSIST MOULDING, WATER ASSIST MOLDING, REACTION INJECTION MOLDING, LIQUID INJECTION MOLDING, LOST CORE MOLDING, THERMOSET INJECTION MOLDING, STRUCTURAL FOAM MOLDING: A)

LOW PRESSURE FOAM B) HIGH PRESSURE FOAM, IN-MOLD DECORATION/ REACTION TRANSFER MOLDING, FILAMENT WINDING, METAL/CERAMIC POWDER MOLDING,

MODULE II

ADVANCED BLOW MOULDING AND EXTRUSION:

CLASSIFICATION OF ADVANCED BLOW MOULDING PROCESS, DEEP DRAW DOUBLE WALL BLOW

MOULDING, PRESS BLOW MOULDING, STRETCH BLOW MOULDING - INJECTION STRETCH BLOW MOULDING, EXTRUSION STRETCH BLOW MOLDING MERITS & DEMERITS- PROFILE EXTRUSION PROCESS, MULTI LAYER FILM, CO- EXTRUDER SHEETS & PIPES, - PROCESS, PROCESS CONTROL, PROCESS OPTIMIZATION, APPLICATION, MERITS & DEMERITS

MACHINING & JOINING OF PLASTICS - IMPORTANCE OF MACHINING -MACHINING METHODS-JOINING-WELDING OF PLASTICS- ADHESIVE BONDING- MECHANICAL FASTENERS.

OTHER SECONDARY PROCESSES-PRINTING, PAINTING, HOT STAMPING, IN MOULD DECORATION, ELECTRO-PLATING AND VACUUM METALIZING.

MODULE III

CASTING AND COATING

INTRODUCTION - CASTING PROCESSES-OPERATION AND CONTROL OF CASTING PROCESSES- PLASTISOL PROCESSING.

COATING PROCESS - INTRODUCTION-COATING METHODS- PROCESS AND APPLICATIONS

CELLULAR PLASTICS - INTRODUCTION- FOAMING PROCESSES -FOAM MOULDING- RIM CASTINGFOAMS, STEAM CHEST MOULDING STRUCTURAL FOAM MOULDING- APPLICATIONS-FOAMED EXTRUSION.

TEXT BOOKS

1. PLASTIC ENGINEERING HAND BOOK & D - 5 - BY SOCIETY OF PLASTIC INDUSTRY INC.
2. PLASTICS MATERIAL & PROCESSING- BY STRONG, A, BRENT

REFERENCE

1. CHEREMISINOFF; NICHOLAS P. AND CHEREMISINOFF; PAUL N. (EDS.), HANDBOOK OF APPLIED POLYMER PROCESSING TECHNOLOGY, MARCEL DEKKER INC., NEW YORK (1996)
2. PLASTICS MATERIALS & PROCESSING - BY SCHWARTZ & GOODMAN THERMOFORMING - BY JAMES & THRONE
3. BASIC PRINCIPLE OF ROTATIONAL MOLDING - BY CRAWFORD, R.J & THRONE, J.L PLASTICS TECHNOLOGY MCHRAW -BY MILBY
4. WELDING OF PLASTICS - BY NEW MAN
5. CALENDERING OF PLASTICS - BY ELDEN & SWAN