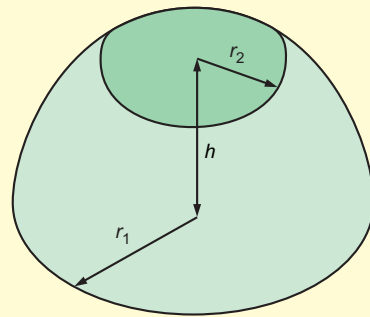
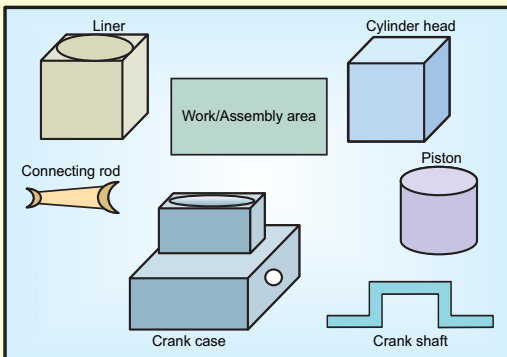
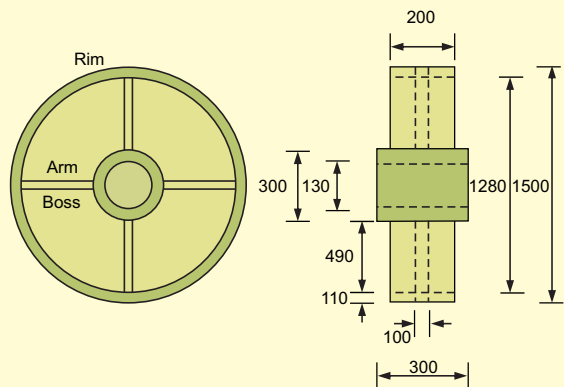


PROCESS PLANNING AND COST ESTIMATION



Items	Deluxe Model	Popular Model
Quantity of manufacture of grinder	300	400
	₹	₹
Material cost per grinder	$\frac{8,00,000}{300} = 2,666.67$	$\frac{10,00,000}{400} = 2,500$
Labour cost per grinder	$\frac{5,00,000}{300} = 1,666.67$	$\frac{7,00,000}{400} = 1,750.00$
Direct expenses	Nil	Nil
Prime cost	4,333.34	4,250
Production overhead (75% of labour)	1,250.00	1,312.50
Factory cost (Work cost)	5,583.34	5,562.50
Office overhead (10% of work cost)	558.33	556.25
Total cost	6,141.67	6,118.75
Selling price per grinder	7,000.00	6,750.00
Profit per grinder	858.33	631.25



PROCESS PLANNING AND COST ESTIMATION

R. PANNEERSELVAM

Professor and Head

Department of Management Studies
School of Management
Pondicherry University
Puducherry

P. SIVASANKARAN

Assistant Professor

Department of Mechanical Engineering
Alpha College of Engineering and Technology
Puducherry

PHI Learning Private Limited

Delhi-110092

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PROCESS PLANNING AND COST ESTIMATION

R. Panneerselvam and P. Sivasankaran

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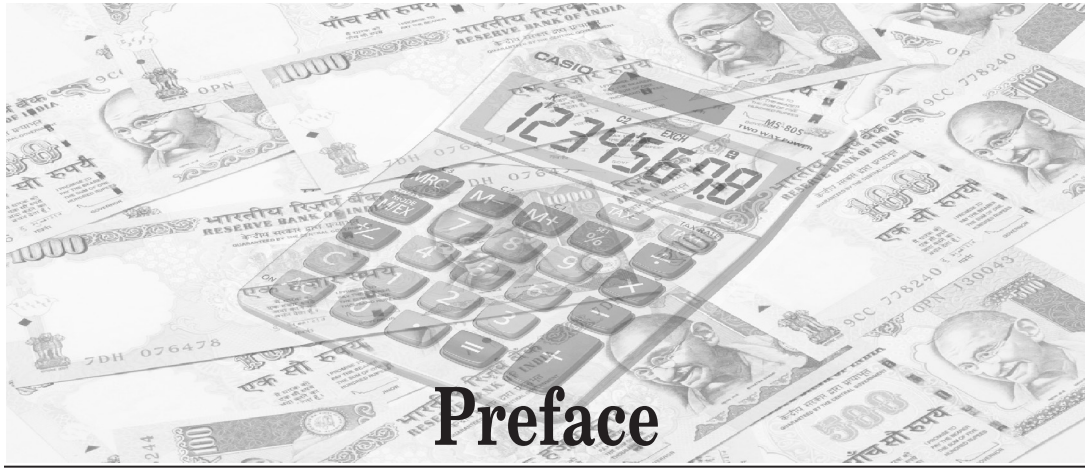
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The growing global competition compels each company to operate its facilities with utmost efficiency to offer its products and services at competitive prices so that more customers come into the fold of that company. In this direction, though there are many ways of achieving the objective of efficient function of the companies, process planning forms an important phase to bring efficiency and savings while operating facilities. Meticulous cost estimation of manufactured components and products, and supplying them to customers help the companies to be successful while bidding for orders.

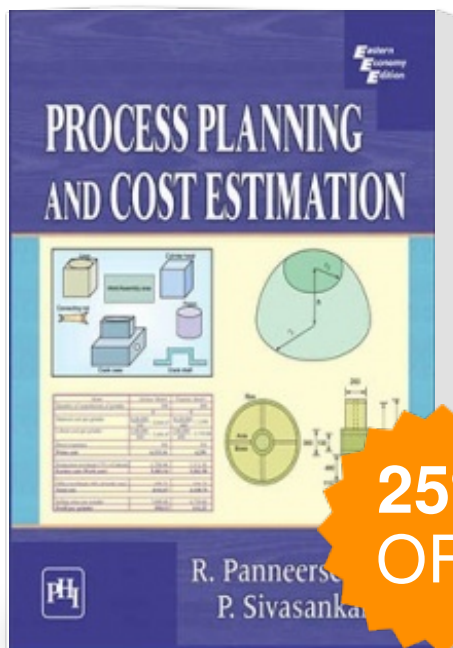
The first author taught the subject, "Process Planning and Cost Estimation" to BE/B.Tech students of Mechanical Engineering during mid-eighties and published related books, viz. *Production and Operations Management*, *Engineering Economics* and *Project Management* through PHI Learning. The second author taught several subjects, viz. "Engineering Graphics", "Computer Integrated Management", "Design of Machine Elements", and "Industrial Management and Flexible Manufacturing Systems". These capabilities of the authors enabled them to write a text on *Process Planning and Cost Estimation*. This book is intended for BE/B.Tech students of Mechanical Engineering, Manufacturing Engineering and Production Engineering.

This text is divided into 11 chapters. Chapter 1 gives a complete account of types of production system, types of layout and in-depth discussion of classification and coding system. Chapter 2 is on work study, which presents method study and it is followed by recording techniques and related topics such as time study, work sampling and ergonomics.

In Chapter 3, process planning is presented, which includes process planning and design, product design, process design, computer aided process planning and feature recognition system. Chapter 4 gives a complete account of elements of costs. It is followed by a chapter (Chapter 5) on cost estimation, which includes costing, types of estimate, methods of cost estimation, variations in cost estimates, data for cost estimation, estimating procedure and related topics.

Chapter 6 gives a complete account of mensuration for material cost estimation, which includes formulas to find areas and volumes of different geometries of components and products that are manufactured in industries. It is followed by a chapter (Chapter 7) on material estimation. In Chapter 8, estimations of machining times for different types of operation used in industries are presented. In Chapter 9, estimation of forging cost is presented, which includes types of forging, types of operation of forging and losses in forging and forging cost.

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Author :
PANNEERSELVAM, R.,
SIVASANKARAN, P.

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