



GUJARAT TECHNOLOGICAL UNIVERSITY

Syllabus for Master of Business Administration (Part-Time), 4th Semester
Functional Area Specialization: Production and Operations Management
Subject Name: Production Planning and Control (PPC)
Subject Code: 4549972

With effective
 from academic
 year 2018-19

1. Learning Outcomes:

Learning Outcome Component	Learning Outcome
Business Environment and Domain Knowledge (BEDK)	<ul style="list-style-type: none"> Apply principles and techniques in the design, planning and control of these systems to optimise/make best use of resources in achieving their objectives.
Critical thinking, Business Analysis, Problem Solving and Innovative Solutions (CBPI)	<ul style="list-style-type: none"> Ability to measure the effectiveness, identify feasible areas for improvement, develop and implement improved planning and control methods for production and service systems.
Global Exposure and Cross-Cultural Understanding (GECCU)	<ul style="list-style-type: none"> Ability to acknowledge latest developments in PPC domain, and adopt them to existing systems.
Social Responsiveness and Ethics (SRE)	<ul style="list-style-type: none"> Understanding and implementing safety as the top most responsibility towards the society.
Effective Communication (EC)	<ul style="list-style-type: none"> Clarity of thought and description of integrating various departments to execute PPC functionalities.
Leadership and Teamwork (LT)	<ul style="list-style-type: none"> Ability to lead various departmental resources to achieve streamlining of PPC systems.

2. Course Duration: The course duration is of **40 sessions of 60 minutes each.**

3. Course Contents:

Module No:	Contents	No. of Sessions	70 Marks (External Evaluation)
I	Overview of Production Planning and Control: <ul style="list-style-type: none"> Introduction Phases of production Functions of production planning and control Relationship of PPC with other departments Types of production systems <ul style="list-style-type: none"> Types, concepts, applications Levels of manufacturing: <ul style="list-style-type: none"> Aggregate planning Master production schedule Material requirement planning Manufacturing methods: <ul style="list-style-type: none"> Projects and job work Batch production Mass / flow production Continuous / process production 	10	18
II	Prerequisites of PPC: <ul style="list-style-type: none"> Data pertaining to design, equipment, raw materials, tooling, performance standards, labor and operating systems. 	10	18



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	<p>Demand Forecasting:</p> <ul style="list-style-type: none"> • Introduction. Meaning and need for forecast • Quantitative and qualitative methods of forecast <p>Order preparation:</p> <ul style="list-style-type: none"> • Work order preparation for different manufacturing methods • Subsidiary orders • Shop or production orders • Inspection orders • Store issue orders <p>Industrial Safety Management:</p> <ul style="list-style-type: none"> • Meaning, legal aspect of safety • Causes of accident • Work permit procedures in plant, safety equipment, PPE's, breathing apparatus, safety belt, etc. 		
III	<p>Capacity Planning:</p> <ul style="list-style-type: none"> • Capacity Planning, Integrated Production Planning and Control. <p>Facility or Layout Planning and Analysis:</p> <ul style="list-style-type: none"> • Introduction • Objectives of Layout • Classification of Facilities • Basis for Types of Layouts • Importance of layout decisions • Nature of layout problems • Redesigning of a layout • Manufacturing facility layouts • Layout Planning • Evaluating Plant Layouts • Assembly Line Balancing <p>Material handling</p>	10	17
IV	<p>Scheduling:</p> <ul style="list-style-type: none"> • Forms of Schedules • Factors influencing scheduling <p>Product sequencing, dispatching:</p> <ul style="list-style-type: none"> • Progress report & expectation of manufacturing lead time technique for aligning completion time & due dates. <p>Aggregate Planning:</p> <ul style="list-style-type: none"> • Introduction • Requirement of Aggregate Plan 	10	17



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	<ul style="list-style-type: none"> Steps in Developing an Aggregate Plan Advantages of Aggregate Plan Aggregate Planning Strategies Planning Options Selecting the Method in Aggregate Planning Aggregate Planning in Services <p>Maintenance Management:</p> <ul style="list-style-type: none"> Meaning, type, scope Maintenance budget Shut down maintenance, break down maintenance, correctivemaintenance, preventive maintenance 		
V	<p>Practical:</p> <ul style="list-style-type: none"> Visit different industries and service organizations to understand various production layout systems and PPC activities carried out by them. Simulate a small shop floor, considering the various PPC functions. Prepare various documents associated with PPC. 	---	(30 marks CEC)

4. Pedagogy:

- ICT enabled Classroom teaching
- Case study
- Practical / live assignment
- Interactive class room discussions

5. Evaluation:

Students shall be evaluated on the following components:

A	Internal Evaluation	(Internal Assessment- 50 Marks)
	• Continuous Evaluation Component	30 marks
	• Class Presence & Participation	10 marks
	• Quiz	10 marks
B	Mid-Semester examination	(Internal Assessment-30 Marks)
C	End –Semester Examination	(External Assessment-70 Marks)

6. Reference Books:

No.	Author	Name of the Book	Publisher	Year of Publication / Edition
1	Seetharama L. Narsimhan, Dennis W. McLeavy, Peter J. Billington	Production Planning and Inventory Control	Pearson	Latest Edition
2	Stephen N. Chapman	Fundamentals of Production Planning and Control	Pearson	2006
3	Samuel Elion	Elements of	Universal	Latest Edition



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		Production Planning and Control		
4	S. N. Chary	Production and Operations Management	McGraw Hill	Latest Edition
5	Hari Raghu Rama Sharma	Production Planning and Control: Concepts and Applications	Deep & Deep	2003

Note: Wherever the standard books are not available for the topic appropriate print and online resources, journals and books published by different authors may be prescribed.

7. List of Journals/Periodicals/Magazines/Newspapers / Web resources, etc.

1. Production Planning and Control: The Management of Operations
2. Integrated Production Planning and Control
3. International Journal of Production Research
4. Process-Oriented Production Planning and Control