

**Admission Brochure** 







# **Post Graduate Programme for Executives** For Visionary Leadership in Manufacturing (PGPEX-VLM)

Joint Programme of

- Indian Institute of Management Calcutta
- Indian Institute of Technology Kanpur
- Indian Institute of Technology Madras

An Initiative of National Manufacturing Competitiveness Council, Government of India, for career development/advancement of Engineers/ executives with work experience, to enhance the competitiveness of Indian manufacturing sector.

# Background

Growth of the manufacturing sector in India has been recognized as a key thrust area by the Government of India for which the National Manufacturing Competitiveness Council (NMCC) has been constituted by the Government of India. One of the key objectives of NMCC, among others, is to serve as a policy forum for enhancing the competitiveness of Indian manufacturing sector, supported by JICA (Japanese International Cooperation Agency).

The NMCC has drawn up a long term manufacturing strategy which includes strengthening education and training at various levels. For implementation of this strategy of creating visionary leadership in manufacturing sector, four programs for training of different level of engineers/executives working in manufacturing sector has been structured under the guidance of Professor Shoji Shiba, a renowned international expert in the manufacturing sector, and a recipient of the Deming Prize. Professor Shoji Shiba has been associated for more than a decade with very successful Leaders for Manufacturing Program at the Massachusetts Institute of Technology. One such Program is one year Post Graduate Program for Executives for Visionary Leadership in Manufacturing (PGPEX-VLM) jointly to be conducted by IIM Calcutta, IIT Kanpur, and IIT Madras.

The Government of India and the Government of Japan have signed a Memorandum of Understanding in the year 2007 that includes "Cooperation within the framework of Japan-assisted 'Visionary Leadership in Manufacturing Program', under which Japanese manufacturing management and skills will be transferred to senior Managers of Indian manufacturing industry". Under the terms of the MOU, the Government of Japan has agreed to extend cooperation to support transfer of Japanese expertise and visit to manufacturing centers of excellence in Japan for the VLM Programs, through JICA.

The objectives, contents, curriculum, pedagogy, and modalities of the PGPEX-VLM Program have been designed by the IIM Calcutta, IIT Kanpur and IIT Madras in consultation with industry, Confederation of Indian Industry, Japanese International Cooperation Agency, NMCC and MHRD. The first batch of the PGPEX-VLM Program was admitted in August 2007 and graduated in August 2008. All of them have been well placed in leading manufacturing industries in the country. Subsequently, two more batches have completed the program and have been well placed in leading manufacturing industries in the country. Fourth batch is scheduled to graduate in March 2011.

## Major Attributes of VLM Program

- Joint Program of Indian Institute of Management Calcutta (IIMC), Indian Institute of Technology Kanpur (IITK) and Indian Institute of Technology Madras (IITM).
- Supported by Japanese International Cooperation Agency (JICA)
- > One year full time residential program.
- 36 weeks classroom interaction, case studies, tutorials, lab sessions, project work at IIMC, IITM and IITK; total 1057 interaction hours.
- > 7 (Eight) weeks internship in industry.
- > 3 (Three) to 4 (Four) weeks industry visits in India and abroad.
- > The program introduces courses in Green Manufacturing
- The program is meant for promising engineers drawn from the manufacturing sector, who have the potential for top management positions.
- The program will involve development of leadership and management skills together with cutting edge technology awareness and proficiency.
- The program will have a proper balance of theoretical inputs and practical training to develop a high degree of leadership skill which would enable Indian companies convert manufacturing into a competitive weapon.

## Certification

On successful completion of the Program, "Post Graduate Diploma in Management for Executives in Manufacturing" is awarded jointly by IIM Calcutta, IIT Kanpur and IIT Madras.

# **Batch Size**

The batch size for 2011-2012 session will be 35 to 40.

# Eligibility

#### Education

A First-Class Graduate Engineers with First Division/ First Class Marks from High School/Secondary Board onwards.

#### Work Experience

Self sponsored candidates - Minimum 5(five) to maximum 10 (ten) years of work experience in manufacturing and related sector; holding responsibilities in production planning and control, research, design and development, quality control, plant engineering, maintenance, supply chain, etc.

For sponsored candidates, the upper limit on maximum experience of 10 years is waived off.

#### **Course Structure**

#### (Jointly conducted by IIMC, IIT Kanpur & IIT Madras)

Module Courses Objectives		Objectives	Institution
	Break Through Management		IIMC
Environment of Manufacturing	Global Scenario	To provide an overview of the complexity of the global manufacturing scenario, emphasize the management problems that companies face in globalizing facilities and operations.	IIMC
	Regulatory- National & International	To appreciate the regulatory framework of manufacturing business- both national and international especially in the context of multinational operations, WTO and other Trade Agreements	IIMC
	Strategic Analysis	Sensitizing about impending changes facing Indian manufacturing companies owing to changing world order, strategies to overcome challenges and make Indian manufacturing more globally competitive, analytical approaches to assess competitiveness capabilities and design/develop strategies, develop holistic view of organization	IIMC
	Vision to Execution	1. To understand and analyze the complex relationship between the vision, mission, strategy, policies, organizational structure, systems and processes; 2. To understand the basic organizational structures; functional, divisional and matrix and process of organizational evolution; 3. To gain insights into the process of translating vision into action in different kinds of organizations with special reference to technology based organizations; 4. To understand the characteristics of innovative organizations and how to strategically manage them.	

	Green	The course should cover all dimensions of green	IIMC
	Manufacturing	manufacturing and technologies starting from design through green manufacturing practices, green supply chain management and green marketing etc.	
Functional Knowledge	Managerial Economics	Develop understanding of a market economy, and the causes and consequences of demand-supply movements. Develop economic decision-making skills, with particular reference to efficiency in production decisions and in profit maximization. Understanding different market structures in different industries (monopoly, oligopoly, monopolistic competition), the exercise of market power by firms and also The course will also include understanding of Macro Economics in Business environment.	IIMC
	Financial Analysis	To acquaint with basic concepts in accounting (financial & cost) and corporate financial management.	IIMC
	Organizational Structure & Design	To apprise different forms of organizations, highlight impact of structure and design on overall organizational effectiveness	IIMC
	HR & Labor Laws	To sensitize on importance of people issue in company competitive advantage, awareness of labor regulation in manufacturing industry	IIMC
	Marketing	To focus on emerging marketing environment in India. It will also focus on market orientation and the process and tools for building marketing strategies that deliver superior levels of customer satisfaction, value and profitability by emphasizing importance of customer-orientation for the firm and the role manufacturing can play in enhancing competitiveness of the firm by delighting the customers.	IIMC
Manufacturing Systems & Technology	Manufacturing Strategy	In order to achieve timely delivery of cost-effective, high- quality products in a competitive environment, manufacturing firms have realized the importance of manufacturing strategy as a key source of sustainable competitive advantage. This course aims to develop a strategic perspective for manufacturing through concepts, cases, best practices and games.	IIMC
	Production Management 1	To acquaint the participants with the important concepts and tools used in input, output and transformation management process. In addition to classical production management concepts like Capacity Planning and Production Planning and Control, the course will also include the contemporary concepts, namely, Just- in-Time, Lean Manufacturing, Toyota Production System and Total Productive Maintenance.	IIMC

Production Management 2	Total Quality Management, six-sigma	IIT
Supply Chain Management	Understand key drivers of supply chain performance measures, Logistics strategies in managing global supply chains, Creating value through supply chain integration, IT and supply chain.	IIT
Project Management	To acquaint the participants with the concepts, tools and techniques required for planning, execution, monitoring and control of projects within specified time, budget and quality. Aspects of project coordination and procedural issues will also be covered.	IIMC
Technology Management	To apprise participants to the importance of technology and innovation in the context of manufacturing, To create awareness in importance of IP issues in manufacturing environment, Contract management for technology transfer	IIT
ERP, Workflow and Business Process Reengineering: Strategic IT initiatives in manufacturing	To impart to the participants insights on strategy formulation for IT and its applications, with a special reference to the manufacturing industry. Introduce the participants to the various IT based platforms like ERP and SCM, widely deployed in the manufacturing industry. Acquaint participants with implementation strategies for IT platforms, which involve workflow analysis, business process reengineering and management of the accompanying organizational change.	IIMC
Product Design Prototyping New Product Management	Exposure to customer need-design-prototyping-manufacturing cycle through case examples and projects. To develop strategies for New Product Development, New Product Marketing, Product costing and New Product Pricing	IIT
Frontier Technologies for Manufacturing	Awareness of futuristic technologies (e.g., nano, bio, fuel cells, microprocessor based controls, Shape Memory Alloys, etc) product/ process in manufacturing, Awareness of green production and Big R in manufacturing	IIT
Automation & Robotics	Identification of need and impact of automation on quality and productivity; Choice of appropriate (e.g., low cost automation) level of automation; Tools to evaluate human performance and ergonomic design of workplace; Development of skill in ergonomic design of workplace and low cost automation,	IIT
Computer Integrated Manufacturing	Understanding of information flow through computers on supply-manufacturing-delivery cycle; Understanding computer integrated manufacturing systems (e.g., CMS, FMS, etc); Skill building in CAE including process planning; Skill building in design of integrated manufacturing system using simulation tool	IIT
Advanced Materials	Exposure to understand and incorporate newer materials (e.g., nano, nano-materials, bio-materials, Shape Memory Alloys, smart polymers, hydrogen fuel)	IIT

Leadership & Decision Making	Problem Formulation	Mastering techniques for abstraction of key dimensions and multiple criteria from a problem description	IIT
(LDM-1)	Data Analysis	Data interpretation for decision making	IIT
	Decision Making Tools	To acquaint the participants with the most fundamental mathematical tools required for the management science, and to provide an introduction to some of the important statistical tools that are necessary for reaching efficient managerial decisions under uncertainty with emphasis on practical applications of the statistical tools.	IIMC
	Entrepreneur- ship	This course is a reflection of 2 major trends : a) National economic growth is enhanced significantly by entrepreneurial activity, b) A large group of management graduates have also become entrepreneurs or self-employed This course provides a strategic perspective in the area of New Ventures	
	Interpersonal Skills & Leadership	To appreciate and understand the behaviour of individuals and groups of individuals in organizations, with a view to enhancing both productivity and satisfaction of employees.	IIMC

# Term wise Course List

SI.	Course Code	Title of the Course	Cont. Hour	Total Cont. Hour	Credit Points	Total Credit Point
	Term 0 -	Ice-Breaking Session at IIM Calcutta				
1	VLM001	Communication *	15		1.5	
2	VLM002	Break-through Management *	40	55	3	4.5
	Term I -	Course work at IIM Calcutta				
1	VLM101	Decision Making Tools	30		3	
2	VLM102	Global Scenario	15		1.5	
3	VLM103	Regulatory National & International	15		1.5	
4	VLM104	Managerial Economics	21		2	
5	VLM105	Organizational Structure and Design	30		3	
6	VLM106	Marketing	30	141	3	14
	Term II -	Course work at IIM Calcutta				
1	VLM201	ERP Workflow & BPR	45		4.5	
2	VLM202	Financial Analysis	45		4.5	
3	VLM203	Human resource & labour law	30		3	
4	VLM204	Manufacturing Strategy	21		2	
5	VLM205	Strategic Analysis	30		3	
6	VLM206	Production Management	45		4.5	
7	VLM207	Project Management	21	237	2	23.5
	Term III -	Organised by IIM Calcutta				
		Domestic Industry visit *				

	Term IV -	Course work at IIT Kanpur				
1	VLM602	Supply Chain Management	35		2	
2	VLM601	Product Design and New Product Management 75 5		5		
3	VLM604	Automation & Robotics in Manufacturing 40 3		3		
4	VLM605	Computer Integrated Manufacturing Systems	30		2	
5	VLM603	Advance Materials	30		2	
6	VLM606	Data Analysis and Decision Modeling	30	240	2	16
	Term V -	Course work at IIT Madras				
1	MS503V	Leadership in Decision Making II	30		2	
2	MS517V	Leadership in Decision Making III	20		1	
3	MS533V	Supply Chain Management	40		2	
4	MS537V	Production Management II	30		2	
5	MS599V	Technology Management	30		2	
6	MS651V	Computer Integrated Manufacturing	30		2	
7	MS652V	Frontier Technology in Manufacturing	30		2	
8	MS653V	Automation and Robotics (Ergonomics)	30	240	2	15
	Term VI -	Course work at IIMC				
1	VLM601	Interpersonal Skills & Leadership	30		3	
2	VLM602	Green Manufacturing	21		2	
3	VLM603	Vision to Execution	21		2	
4	VLM604	Ethics & Values in Business	21		2	
5	VLM605	Entrepreneurship	21		2	11
6		Quality Management Systems Auditor/ Lead	30	144		
		Auditor Training Course by BureauVeritas.				
	Term VII -	Industry Internship in India **				3
	Term VIII -	International Industrial Study Visit at Japan **				3
		Grand Total :		1057		90

Compulsory (Audit)Compulsory (Qualifying)

**Total Classroom Contact Hours: 1027** 

	Academic Calendar of PGPEA-VLIVI (2011-2012)						
Term	Р	erio	d	Days	Activity		
0	5 April 2011	to	18 April 2011	13	<ul><li>(i) Inauguration/ Ice Breaking</li><li>Session, (ii) Breakthrough</li><li>Management and (iii) Business</li><li>Communication.</li></ul>		
Ι	19 April 2011	to	21 May 2011	32	Course Work at IIM Calcutta		
II	23 May 2011	to	16 July 2011	54	Course Work at IIM Calcutta		
III	18 July 2011	to	22 July 2011	4	Industry Visit in India		
IV	25 July 2011	to	17 September 2011	54	Course Work at IIT Kanpur		
V	19 September 2011	to	12 November 2011	54	Course Work at IIT Madras		
	14 November 2011	to	19 November 2011	5	Placement of Industry Internship (Venue : IIMC)		
VI	21 November 2011	to	24 December 2011	33	Course Work at IIM Calcutta		
	26 <sup>th</sup> December 2011	to	30 <sup>th</sup> December 2011	5	Quality Management Systems Auditor/ Lead Auditor Training Course by BureauVeritas.		
VII	1 <sup>st</sup> January 2012	to	18 February 2012	50	Industry Internship In India		
VIII	20 February 2012	to	6 March 2012	15	International Industrial Study Visit at Japan		
	7 March 2012	to	21 March 2012	14	Placement (Venue : IIMC)		

# Academic Calendar of PGPEX-VLM (2011-2012)

## Pedagogy

Learning through team based approach for addressing complex issues. Course delivery through an appropriate mix of class room lectures, case studies, class room exercises, individual and team assignments.

## **Industry Tours**

Domestic Industry Visit within the country and International Industrial study visit in Japan are integral part of the program with an objective of understanding national/ global manufacturing environment.

## Industry Internship

Eight weeks. The objective of the internship is to provide an opportunity for doing stateof-art research leading to a product/process redesign or an innovation.

#### **Admission Process**

Application form is to be submitted in form as given in Annexure-I.

Selection of candidates will be made on the basis of his/her academic background, which has to be consistently first division/first class from school (SLC/ Madhyamik) board examination level to graduation level, relevant work experience, employer's recommendations, performance in the Aptitude Test and Personal Interview to be conducted jointly by IIMC, IITK and IITM.

#### PAYMENT SCHEDULE OF FEES: PGPEX-VLM (2011-12)

Total Fee to be paid in installments is **Rs. 7 lacs (likely to be revised to Rs. 9 lacs).** Fee paid are non refundable.

Fee to be paid installment is detailed in (A) to (E) as under:-

#### A. TO BE PAID TO VLFM OFFICE, DEPARTMENT OF INDUSTRIAL & MANAGEMENT ENGINEERING, INDIAN INSTITUTE OF TECHNOLOGY KANPUR, KANPUR - 208016

**First Installment Fee of Rs.50,000/=** to be paid by Demand Draft drawn in favour of "Indian Institute of Technology Kanpur", payable at any Bank in Kanpur along with the PGPEX-VLM Admission Acceptance Form (Annexure-II), duly filled in and signed by the candidate. The last date for submission of application form along with acceptance form, payment of 1<sup>st</sup> installment fee is **March 14, 2011.** 

#### B. TO BE PAID TO PGPEX-VLM OFFICE, INDIAN INSTITUTE OF MANAGEMENT CALCUTTA. D H. ROAD, JOKA, KOLKATA 700104

**Second Installment fee of Rs.3,00,000 (likely to be revised to Rs. 4,00,000).** to be paid by Demand Draft drawn in favour of "Indian Institute of Management Calcutta" payable at any Bank in Kolkata latest by Monday, the 4<sup>th</sup> April, 2011.

#### C. TO BE PAID TO VLFM OFFICE, DEPARTMENT OF INDUSTRIAL & MANAGEMENT ENGINEERING, INDIAN INSTITUTE OF TECHNOLOGY KANPUR, KANPUR - 208016

**Third installment Fee of Rs 1,50,000 (likely to be revised to Rs. 2,00,000)** to be paid by Demand Draft drawn in favour of "Indian Institute of Technology Kanpur", payable at any Bank in Kanpur latest by Saturday, the 23<sup>rd</sup> July 2011.

#### D. TO BE PAID TO PGPEX-VLM OFFICE, DEPARTMENT OF MANAGEMENT STUDIES, INDIAN INSTITUTE OF TECHNOLOGY MADRAS, CHENNAI-600 036

**Fourth installment fee of Rs 1,50,000 (likely to be revised to Rs. 2,00,000)** to be paid by Demand Draft drawn in favour of "Indian Institute of Technology Madras", payable at any Bank in Chennai latest by Saturday, the 17<sup>th</sup> September 2011.

#### E. TO BE PAID TO PGPEX-VLM OFFICE, INDIAN INSTITUTE OF MANAGEMENT CALCUTTA, D. H. ROAD, JOKA, KOLKATA-700 104

Last installment fee of Rs.50,000 to be paid by Demand Draft drawn in favour of "Indian Institute of Management Calcutta", payable at any Bank in Kolkata by Saturday, the 19<sup>th</sup> November 2011.

## **Brochure and Application Form**

Brochure and Application Form can be Downloaded from the following website: <a href="http://www.iitk.ac.in/vlm">http://www.iitk.ac.in/vlm</a>

#### Submission of application forms

Application Form for the program with all other the requisite forms / declaration , duly filled should be sent through Registered Speed Post/Courier service to:-VLFM Office

# Department of Industrial and Management Engineering Indian Institute of Technology Kanpur Kanpur- 208 016, UP.

#### **Important Dates**

19 <sup>th</sup> November 2010	Last date of submission of Application Form		
26 <sup>th</sup> November, 2010	Announcement of Short Listed candidates for test and interview		
12 <sup>th</sup> December, 2010	Aptitude Test and Interview at IIT Kanpur		
27 <sup>th</sup> December, 2010	Announcement of Final list of selected candidates		
14 <sup>th</sup> March, 2011	Last date of Acceptance of offer with Rs. 50,000/-		
18 <sup>th</sup> March, 2011	Activation of waitlist (if any)		

## **Contact Address:**

VLFM Office Department of Industrial & Management Engineering Indian Institute of Technology Kanpur Kanpur-208 016 Ph : 0512-259 7387/7376 Email : <u>vlmp@iitk.ac.in</u> Website : <u>www.iitk.ac.in/vlm</u>

PGPEX-VLM Office Indian Institute of Management Calcutta Joka, Diamond Harbour Road, Kolkata – 700104 Ph: 91- 33 -2438-0613 (D), 91-33-2467-8300 /6 (Extn.205/210), Email : <u>vlmp@iimcal.ac.in</u> Website : <u>www.iimcal.ac.in/pgpexvlm</u>

VLM Office Department of Management Studies Indian Institute of Technology Madras, Chennai – 600036 Ph : 044-22574570 Email: <u>vlm@iitm.ac.in</u> Website: <u>www.iitm.ac.in/vlm</u>