

Name:	 UPES UNIVERSITY WITH A PURPOSE
Enrolment No:	

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, December 2019

Course: Product Lifecycle Management	Semester: III
Program: MBA (Gen Management)	Time: 03 Hours
Course code: LSCM 8016	Max. Marks: 100

Instructions: Answer all sections as directed there.

SECTION A

		Marks	CO
Q 1	<i>Answer <u>all</u> questions. Overwriting is not permissible.</i>	20	
(i)	PDM stands for _____.	1	1
(ii)	ERP overlaps with CRM and SCM applications. [True / False]	1	1
(iii)	Variant is a synonym of version. [True / False]	1	1
(iv)	CPC refers to the adoption of PLM principles in networked businesses with cooperation between customers, subcontractors, suppliers and partners. What does CPC stand for?	1	1
(v)	_____ is a discipline that uses the designer's sensibility and methods to match people's needs.	1	1
(vi)	_____ is the purposive application of creativity throughout the process of innovation.	1	1
(vii)	CAE stands for _____.	1	1
(viii)	PLM capabilities are represented by the business functionalities. [True / False]	1	1
(ix)	Can PLM take care of extended functionalities of a business? [Yes/ No]	1	1
(x)	Like, ERP evolved from MRP; PLM evolved from _____.	1	1
(xi)	Automate PLM deals with low product complexity and low supply chain complexity. [True/ False]	1	1
(xii)	Central PLM deals with low product complexity and low supply chain complexity. [True/ False]	1	1
(xiii)	_____ is a component of PLM solution makes it possible to define product development processes fully, through a standardized method.	1	1
(xiv)	Mention two characteristics of PLM.	2	1
(xv)	DfE stands for _____.	1	1
(xvi)	Mention two examples of Boardroom PLM drivers.	2	1
(xvii)	'cPDm' stands for _____.	1	1
(xviii)	The cost commitment is _____ at the early design stage of a product's lifecycle. [maximum/ minimum]	1	1

SECTION B			
Q 2	Answer any <u>four</u> questions.	20	
(i)	What are the benefits of PLM possible to a business?	5	2
(ii)	Explain how the product liability continues beyond the factory gate with reference to PLM environment.	5	5
(iii)	List and describe the reflections of DfX methodologies in PLM.	5	1
(iv)	How do the technologies interact in the PLM wheel. [Hint: Technologies include CAX, NPM, CPD and PDM]	5	5
(v)	Explain how the PLM works through different phases from idea to realization.	5	1, 5
(vi)	What are the threads of PLM? Explain how these drive PLM to next level.	5	2
SECTION-C			
Q 3	Answer any <u>three</u> questions.	30	
(i)	Describe the business of a product/service of your choice in the light of the PLM model.	10	4
(ii)	Explain how PLM Strategy is implemented in an organization.	10	2
(iii)	Elaborate the concept of 'design thinking'.	10	1
(iv)	Compare the application of ERP and PLM systems in terms of their function, competition and collaboration.	10	4
(v)	Explain the role of external and internal drivers of PLM in a business?	10	2
SECTION-D			
Q 4	Read the CASE and answer the related questions.	30	
	DTV at scale A medical-technology company used a large-scale Design-to-Value (DTV) approach to dramatically improve margins across its full portfolio of monitoring devices and associated consumables. Downward price pressure was eroding margins across the product range, but the company's product teams lacked the tools, skills, and data they needed to conduct effective cost-cutting efforts. At the start of the program, there was no clear understanding in the organization of what its products actually cost to produce. The organization's product development function, meanwhile, had traditionally focused on time to market and had little experience in competitive teardowns or design-to-cost techniques. Likewise, its procurement function was used to traditional "adversarial" purchasing tools, like		

	<p>competitive requests for quotations, and had little experience with collaborative techniques or the use of suppliers as sources of product improvement ideas.</p> <p>After successfully piloting the DTV approach on emergency health-monitoring devices, the company embarked on a systematic effort to scale up and roll out the program in its complete portfolio. It introduced a standard set of DTV tools and processes, including a structured, cross-functional teardown process and a prepopulated clean sheet target-costing tool that allowed a large part of its sourcing organization to conduct clean sheet analyses.</p> <p>It then modified its core product development processes to integrate the insights and ideas generated by DTV tools. For example, ideas generated in the teardown were used to create firm COGS targets for both new and existing products. To monitor the progress of improvement ideas, it introduced a new performance management system, with meetings every two weeks. At these meetings, idea implementation was tracked, risk mitigation was initiated, and resource issues were solved or escalated.</p> <p>Finally, it took steps to change the culture of the organization and introduce a DTV mind-set of cross-functional collaboration and continuous improvement among its employees. It did this by, for example, organizing regular product conventions at which representatives from sourcing, R&D, marketing, and senior management would meet to discuss and evaluate ideas for a specific product line.</p> <p>Product Excellence Design to value 120</p> <p>Three years after introducing the DTV program, the company was well on its way to achieving its target of reducing COGS by 19 percent across its entire portfolio. In addition, its DTV efforts had identified numerous opportunities to modify its products to increase their usability, reliability, and customer appeal, usually without adding to their cost.</p> <p><small>[Source: Adapted from the white paper "H. Erntell; W. Günthner; S. Mohr; and F. Weig. <i>Design to value at scale: why capabilities matter</i>", www.mckensey.com.]</small></p>		
(i)	Reflect upon the DfX approach of the organization.	15	1, 4
(ii)	Explain how DTV led to successful scaling of the business.	15	1, 4