



## UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

End Semester Examination, Dec 2019

**Program: MBA (Core) Operations**  
**Subject (Course): Lean Manufacturing**  
**Course Code : LSCM 8018**  
**No. of page/s: 2**

**Semester – III**  
**Max. Marks : 100**  
**Duration : 3 Hrs**

<b>SECTION A (Attempt all)</b>	<b>[10x2 = 20 marks]</b>	
<b>Q1.</b> Name all seven wastes of lean manufacturing.	7	CO1
<b>Q2.</b> The founding family of TOYOTA is _____.	2	CO2
<b>Q3.</b> QFD stands for _____.	2	CO4
<b>Q4.</b> The term _____ was first used in a book called “The Machine that Changed the World” (1990) written by James Womack, Daniel Jones, and Daniel Roos.	2	CO1
<b>Q5.</b> _____ is a “systematic approach to identifying and eliminating waste (non-value added activities) through continuous improvement by flowing the product only when the customer needs it (called pull) in pursuit of perfection.	2	CO3
<b>Q6.</b> In Japan, the Continuous Improvement (CI) approach is called _____, which similarly focuses on small, gradual, and frequent improvements over a long period with a minimum investment of financial resources.	2	CO5
<b>Q7.</b> The flow concept has _____ and _____.	2	CO1
<b>Q8.</b> DOE stands for _____.	1	CO4
<b>SECTION B (Attempt any four)</b>	<b>[4x5 = 20 marks]</b>	
<b>Q9.</b> Write short notes on any four: A) WCM B) Poka Yoke C) Takt Time D) VSM E) JIT		CO1, CO2, CO3, CO4, CO5
<b>SECTION C (Attempt all)</b>	<b>[3x10 = 30 marks]</b>	
<b>Q10.</b> Explain the term scheduling. How manufacturing differs with service operations? Use example to support your statement.	10	CO2
<b>Q11.</b> Discuss TPS evolution and its principles.	10	CO1
<b>Q12.</b> Define lean manufacturing. What are its dimensions? How it is different from lean layout?	10	CO3, CO5
<b>SECTION D (Compulsory)</b>	<b>[2x15 = 30 marks]</b>	

<b>Q13.</b> Discuss the principles and techniques of TQM. How it differs from quality management?	15	CO4
<b>Q14.</b> What is aggregate planning strategy? Discuss chase, level and time-flexibility strategies with the help of example.	15	CO5