

PARUL UNIVERSITY
FACULTY OF ENGINEERING & TECHNOLOGY
M.Tech. Summer 2017 - 18 Examination

Semester: 2
Subject Code: 03218154
Subject Name: Lean Six Sigma

Date: 25/05/2018
Time: 2:00PM to 4:30PM
Total Marks: 60

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

Q.1A) What is the difference between conventional and lean manufacturing? (05)

B) Explain concept of agile manufacturing through employee involvement and managing people. (05)

C) Write tools and techniques used in each phase of DMAIC methodology. (05)

Q.2 Answer the following questions. (Attempt any three) (Each five mark) (15)

A) Explain Cp and Cpk index.

B) Explain the pillar kobetsu Kaizen in detail.

C) Write down principles of lean.

D) Where to use Heijunka and Visual management? Briefly explain.

Q.3A) Draw the Roadmap to implement the lean manufacturing. (07)

B) How to develop agile enterprise? Write down steps and structure. (08)

OR

B) Draw Value stream map of automobile Industry. (08)

Q.4A) Make the root-cause analysis of defects in Radiator. (07)

OR

A) DOE is necessary when dealing with parameters. Justify the statement and explain Blocking, Randomization and Replication in DOE. (07)

B) Calculate OEE of below given problem. (08)

Item	Data
Shift length	8 hrs = 480mins
Short break	2 @ 15mins = 30mins
Meal break	1 @ 30mins = 30mins
Down time	47mins
Ideal run time	60 pieces per min
Total pieces	19271 pieces
Reject pieces	423 pieces