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

Semester: 2   Date: 28/05/2018
Subject Code: 03212184   Time: 02:00 pm to 04:30 pm
Subject Name: Hardware Board Design with PCB Routing   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.1 A) Discuss FPGA architecture.   **(05)**

B) Discuss various versions of USB with its specifications.   **(05)**

C) Discuss types of SMD components with specification.   **(05)**

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

A) Design variable DC power supply of +9 V to -9 V without using IC packages.

B) Explain I2C interfacing with Pin descriptions.

C) Explain PCB advantages & disadvantages.

D) Draw and explain architecture of CPLD.

Q.3 A) Explain SPI interfacing with detail Pin description.   **(07)**

B) Explain Process design flow for Gerber file generation in hardware board design.

(08)

OR

B) Explain Concept of DFM & DFT in hardware board design.   **(08)**

Q.4 A) Discuss High Speed PCB Layout Techniques.   **(07)**

OR

A) What is a Ground Loop? Discuss concept of Ground Loop. How Ground Loops be eliminated?   **(07)**

B) Draw and explain Product design cycle in details.   **(08)**