

Enrollment No: _____ Exam Seat No: _____

C.U.SHAH UNIVERSITY

Winter Examination-2015

Subject Name : Concurrent Engineering
Subject Code : 5TE03CEN1

Branch :M. Tech (CAD/CAM)

Semester : 3 Date :24/12/2015 Time : 2:30 To 5:30 Marks : 70

Instructions:

- (1) Use of Programmable calculator and any other electronic instrument is prohibited.
 - (2) Instructions written on main answer book are strictly to be obeyed.
 - (3) Draw neat diagrams and figures (if necessary) at right places.
 - (4) Assume suitable data if needed.
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SECTION – I

- Q-1 Attempt the Following questions (07)**
- a. Write the basic tenets of Concurrent Engineering.
 - b. Define value in terms of mathematical equation.
 - c. What will you call the designs of framework components erected on the principles of framework objectives?
 - d. Why is CAD/CAM used in concurrent engineering environments?
 - e. Show Concurrent Engineering process in terms of block diagram.
 - f. Give classification of cost under Design for cost.
 - g. What is CE team?
- Q-2 Attempt all questions 07**
- a Why is it important to build relationships between suppliers and customers in implementing Concurrent Engineering? Explain. 07
- b How does push or pull affect the manufacturing environment? What are the differences between a “push” and a “pull” for a new paradigm? 07
- OR**
- Q-2 Attempt all questions 07**
- a Why Fault Tree Analysis (FTA) is carried out? Give details about its structure & application. 07
- b How can one use value engineering with QFD? Show a flow chart of the two working together. 07
- Q-3 Attempt all questions 07**
- a Explain the systems thinking behind a virtual product development process. How does government conduct these synthesis loops for their own process? 07
- b Explain how DFM helps in reducing the manufacturing cost of a product? 07

OR



- Q-3 Attempt all questions**
- a** How does the complexity of a product affect life-cycle management? **07**
 - b** Describe the guidelines for three X-ability considerations that you are familiar with. Create a table listing the terms commonly substituted for X in DFX. **07**

SECTION – II

- Q-4 Attempt the Following questions** **(07)**
- a.** Write the basic goals of Concurrent Engineering.
 - b.** What is sequential product design?
 - c.** How Concurrent Engineering can meet the expectations of the customer?
 - d.** How mathematical model helps to understand integration between design and manufacturing?
 - e.** Name the mechanism used to bring new products to market sooner than the competition with lower cost and improved quality.
 - f.** What is plausibility assessment of assumption?
 - g.** Write the aspects of life-cycle management.

- Q-5 Attempt all questions**
- a** What are the major factors in implementing TVM? List the advantages associated with it. **07**
 - b** Describe Dr. Deming's 14-point strategy regarding quality improvement. How would you apply this to TVM? **07**

OR

- Q-5 Attempt all questions**
- a** What are the components on which success of Concurrent Engineering depend? Explain. **07**
 - b** Describe the three modes in which a modern CAD/CAM system can be employed to create design models. **07**

- Q-6 Attempt all questions**
- a** Write Procedures for FMEA with Industrial example in tabular form. **07**
 - b** How can teamwork and synergy be effectively used in solving manufacturing and quality problems? What are the common characteristics of an effective team? **07**

OR

- Q-6 Attempt all Questions**
- a** What is FMEA? Draw a basic process diagram followed in FMEA. **07**
 - b** Describe the TQM tools that can aid in quality management. **07**

