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**M.E. / M.TECH. DEGREE EXAMINATIONS, MAY/JUNE 2017
SECOND SEMESTER**

**COMPUTER AIDED DESIGN
CD16203- COMPUTER AIDED TOOLS
(Regulation 2016)**

Q. Code: 314208

Time: Three Hours

Maximum : 100 Marks

Answer **ALL** questions

PART A - (10 X 2 = 20 marks)

1. Differentiate between CNC and DNC machining systems.
2. Differentiate between Absolute and Incremental programming in NC machines.
3. Write four benefits of adopting CAPP systems.
4. Variant CAPP system is also known as retrieval CAPP system, Justify.
5. What is the difference between Allowance and Tolerance?
6. What are the advantages of non contact inspection methods?
7. Differentiate between Forward and Reverse Engineering.
8. Mention two uses of Reverse engineering in the medical field.
9. What is meant by dialogue control in rule based detection systems?
10. Rigi is a reverse engineering tool, Justify.

PART B - (5 X16 = 80 marks)

11. (a) With neat sketches explain the Point to Point and Continuous path machining techniques used in NC machine tools. **(16)**
- (OR)**
- (b) (i) Write short notes on the cutter diameter compensation used in the programming of a milling process. **(8)**
 - (ii) Explain the importance of Tool path verification in NC programming. **(8)**
12. (a) Explain the requirements for developing manual process plans and write the various steps involved in its creation. **(16)**

(OR)

- (b) Explain the methodology behind the variant and generative CAPP approaches listing their merits. (16)
13. (a) (i) Explain the worst case arithmetic method used in tolerance analysis. (8)
- (ii) Explain the classification of Computer aided quality control with a flow chart. (8)
- (OR)**
- (b) (i) Explain the Monte Carlo simulation method used in tolerance analysis. (8)
- (ii) With a neat sketch, explain the Laser beam scanning device used in Non contact inspection. (8)
14. (a) Explain in detail the different stages involved in the generic process of Reverse engineering. (16)
- (OR)**
- (b) (i) Write short notes on the need to use reverse engineering in product development. (8)
- (ii) What are the main benefits and functions of a coordinate measuring machine to Industry? (8)
15. (a) (i) Explain the 'Target and Source data' in formulating Reverse data management problems. (8)
- (ii) What are the steps to formulate the User interface subset in rule based detection? (8)
- (OR)**
- (b) (i) What are the main features of Reverse engineering tools, needed for real time embedded systems? (8)
- (ii) Write short notes on Schema transformation in reverse engineering. (8)