## Total number of printed pages – 3 B. Tech PEME 6413

## **Eighth Semester Examination – 2008**

## RAPID PROTOTYPING

Full Marks - 70

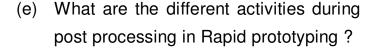
Time: 3 Hours

Answer Question No. 1 which is compulsory and any five from the rest.

The figures in the right-hand margin indicate marks.

- Answer the following questions: 2 x 10
  - (a) Define productivity.
  - (b) What do you mean by manufacturing?
  - (c) Classify mass production and batch production.
  - (d) What is concurrent engineering?

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- (f) What is "Voxel"?
- (g) Which process is called three Dimensional printing?
- (h) What is internal hatching?
- (i) What is photopolymer?
- (j) Show Graphically how cost varies with product development time?
- (a) Describe different manufacturing Systems.

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- (b) Define Rapid prototyping. Explain its application to batch production.
- Describe in detail the steps involved and process chain for rapid prototype development.
- (a) What is GMP? Justify rapid prototyping is a GMP.
  - (b) What are the advantages of RP over other manufacturing Processes? 5

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Contd.

5. Describe with neat diagram the process of Steriolithography with photo polymerization.

10

- Describe with neat diagram the process of selective laser sintering.
- 7. Describe the process fused deposition modeling for manufacturing three dimensional objects with its advantages and disadvantages.

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- 8. Write short notes on any *two*:
  - (a) Surface skin film
  - (b) Laminated object manufacturing
  - (c) Flexible manufacturing system.

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