Reg. No. : | | | | | | | | | | |

Question Paper Code: 52196

M.E. DEGREE EXAMINATION, NOV 2016

Elective

CAD / CAM

15PCD506 - OPTIMIZATION TECHNIQUES IN DESIGN

(Regulation 2015)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions

PART - A (5 x 20 = 100 Marks)

1. (a) Explain in detail about single variable and multi variable optimization. (20)

Or

(b) Explain in detail about interpolation methods used in unconstrained optimization techniques. (20)

2. (a) Explain in detail about direct methods used in constrained optimization techniques . (20)

Or

(b) Briefly explain about: (i)Penalty functions (ii) Lagrange multipliers. (20)

3. (a) State the importance of multi stage optimization techniques and explain in detail about stochastic programming. (20)

Or

(b) Explain in detail about simulated annealing techniques. (20)

4. (a) With a help of a case study, explain any one of optimization techniques used in the design of simple truss members. (20)

Or

(b) Write a procedure for design a spring for automobile applications using any one of the advanced optimization techniques. (20)

5. (a) Explain in detail about optimize the two degree of freedom system using any one of the optimization techniques. (20)

Or

(b) Write a detailed procedure for optimize the design for simple leakage mechanism. (20)
