**Code: 9A02709**

**R09**

B.Tech IV Year I Semester (R09) Regular & Supplementary Examinations December 2014

# OPTIMIZATION TECHNIQUES

**(Electrical and Electronics Engineering)**

Time: 3 hours Max. Marks: 70

Answer any FIVE questions
All questions carry equal marks

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1 What are the different types of optimization problems? Explain each with the help of suitable objective function and constraints.

2 State the necessary and sufficient conditions for the maximum of multivariable function.

3 (a) Explain in detail about simplex algorithm.
(b) Explain the significance of slack, surplus and artificial variables of LPP.

4 (a) Explain about Vogel's approximation method.
(b) Explain the procedure for finding feasible solution by least cost method.

5 (a) Explain about Fibonacci method with an algorithm.
b) ( Explain about Quadratic interpolation method with an algorithm.

6 (a) Explain about Powell's method with an algorithm.
(b) Explain about Univariate method with an algorithm.

7 Explain an interior penalty function to solve a constrained nonlinear programming problem.

8 Explain in detail about graphical illustration of the stages of a dynamic programming formulation and its classification.

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