Printed Page 1 of 2

Paper Id:

Sub Code: REE051

#### BTECH

#### (SEM V) THEORY EXAMINATION 2019-20 POWER SYSTEM OPTIMIZATION

Time: 3 Hours

Total Marks: 70

Notel.AttempltSectiohfsequiareymissidgtahenhooseuitably.

## S E C T I OAN

#### 1. Attempklquestionbsrief.

120504

 $2 \times 7 = 14$ 

2 - 21

a. What do you understand by optimization? Write any two application of optimization in electrical engineering field.
b. Under what condition is the solution of LPP; 1-Unbound 2-Infinite?
c. What is a one-dimensional minimization problem?
d. Discuss about penalty function method.
e. What is a multistage decision problem?
f. State and explain genetic algorithm.
g. What do you understand by economic dispatch problem?

## **SECTION B**

## 2. Attempt any *three* of the following:

Auun	
a.	Mention the rules for primal-dual conversion and using it write the dual
	of the following LPP minimize $Z=20y_1 + 30y_2$
	subject to
	$2y_1 + 4y_2 \le 40$
	$y_1 + y_2 \le 12$
	$5y_1 + y_2 \le 40$
	y <sub>1</sub> , y <sub>2</sub> ≥ 0
b.	Compare the ratios of intervals of uncertainty (Ln/L0) obtainable in the
	following methods for $n = 2, 3, 10$ :
	(i) Exhaustive search (ii) Dichotomous search with $\delta = 10-4$
	(iii) Interval calving method
c.	What are the similarities and differences between the traditional methods of
	optimization and genetic algorithm?
d.	How is the final value problem converted into an initial value problem? Also
	draw the block diagram representation of both the types of problem.
e.	The fuel cost of the first generator is given by
	$C_1 = 100 + 2P_1 + 0.005P_1^2$ $C_2 = 200 + 2P_2 + 0.01P_2^2$
	Where $P_1$ and $P_2$ are in MW. The plant supplies of 450MW. Find (i)
	Economic load scheduling of two units and incremental fuel cost (ii) find
	penalty factor. Neglect losses.

# **SECTION C**

# 3. Attempt any *one* part of the following:

 $7 \ge 1 = 7$ 

(a)	Use the Simplex method,
	Maximize $P = 70X_1 + 50X_2 + 35X_3$
	subject to
	$4x_1 + 3x_2 + x_3 \leq 240$
	$2x_1 + x_2 + x_3 \le 100$
	$x_1, x_2, x_3 \ge 0$
(b)	Find the Minimum of $f = x(x-1.5)$ in the interval (0, 1) to within 10% of the
	exact value using dichotomous method (use $\delta = .001$ ).

# Download all NOTES and PAPERS at StudentSuvidha.com

ner Id:       120504       Roll No:       7 x 1 = 7         (a)       Using dual simplex, Minimize $C = 40x_1 + 12x_2+40x_3$ subject to $2x_1 + x_2 + 5x_3 \ge 20$ $4x_1 + x_2 + x_3 \ge 30$ $x_1, x_2, x_3 \ge 0$ (b)         (b)       How is interior penalty function method different from exterior penalty function method?       7 x 1 = 7         (a)       How can you solve a trajectory optimization problem using dynamic programming?       (b)         (b)       Explain with example the concept of sub-optimization and principle of optimality.       7 x 1 = 7         (a)       Construct the objective function to be used in GAs for a minimization problem with mixed equality and inequality constraints.       (b)         (b)       What is real code GAs? Explain crossover operator for real code Gas.       7 x 1 = 7         (a)       Construct the objective function to be used in GAs for a minimization problem with mixed equality and inequality constraints.       (b)         (b)       What is real code GAs? Explain crossover operator for real code Gas.       7 x 1 = 7         (a)       Explain the optimal generator scheduling for the thermal units when losses are considering. Also explain ITL and penalty factor and write the algorithm for the same.       (b)         (b)       What is the difference in the optimal scheduling of thermal and hydro thermal units and how is it accomplished in the hydrothermal unit?	per Id:       120504       Roll No:       7 x 1 = 7         (a)       Using dual simplex, Minimize $C = 40x_1 + 12x_2 + 40x_3$ subject to $2x_1 + x_2 + 5x_3 \ge 20$ $4x_1 + x_2 + 5x_3 \ge 20$ $4x_1 + x_2 + x_3 \ge 30$ (b)       There is interior penalty function method different from exterior penalty function method?         Attempt any one part of the following: $7 x 1 = 7$ (a)       How can you solve a trajectory optimization problem using dynamic programming?         (b)       Explain with example the concept of sub-optimization and principle of optimality.         Attempt any one part of the following: $7 x 1 = 7$ (a)       Construct the objective function to be used in GAs for a minimization problem with mixed equality and inequality constraints.         (b)       What is real code GAs? Explain crossover operator for real code Gas.         Attempt any one part of the following: $7 x 1 = 7$ (a)       Explain the optimal generator scheduling for the thermal units when losses are considering. Also explain ITL and penalty factor and write the algorithm for the same.         (b)       What is the difference in the optimal scheduling of thermal and hydro thermal units and how is it accomplished in the hydrothermal unit?         (a)       Explain function         (b)       What is the difference in the optimal scheduling of thermal and hydro thermal units and how is it accomplished in the hydrothermal unit?	nted Page	e 2 of 2 Sub	) Code: R	EEO
Attempt any one part of the following: $7 \times 1 = 7$ (a)Using dual simplex, Minimize $C = 40x_1 + 12x_2 + 40x_3$ subject to $2x_1 + x_2 + 5x_3 \ge 20$ $4x_1 + x_2 + x_3 \ge 30$ $x_1, x_2, x_3 \ge 0$ (b)How is interior penalty function method different from exterior penalty function method?Attempt any one part of the following: $7 \times 1 = 7$ (a)How can you solve a trajectory optimization problem using dynamic programming?(b)Explain with example the concept of sub-optimization and principle of optimality.Attempt any one part of the following: $7 \times 1 = 7$ (a)Construct the objective function to be used in GAs for a minimization problem with mixed equality and inequality constraints.(b)What is real code GAs? Explain crossover operator for real code Gas.Attempt any one part of the following: $7 \times 1 = 7$ (a)Explain the optimal generator scheduling for the thermal units when losses are considering. Also explain ITL and penalty factor and write the algorithm for the same.(b)What is the difference in the optimal scheduling of thermal and hydro thermal units and how is it accomplished in the hydrothermal unit?	Attempt any one part of the following: $7 \times 1 = 7$ (a)Using dual simplex, Minimize $C = 40x_1 + 12x_2 + 40x_3$ subject to $2x_1 + x_2 + 5x_3 \ge 20$ $4x_1 + x_2 + x_3 \ge 30$ $x_1, x_2, x_3 \ge 0$ (b)How is interior penalty function method different from exterior penalty function method?Attempt any one part of the following: $7 \times 1 = 7$ (a)How can you solve a trajectory optimization problem using dynamic programming?(b)Explain with example the concept of sub-optimization and principle of optimiality.Attempt any one part of the following: $7 \times 1 = 7$ (a)Construct the objective function to be used in GAs for a minimization problem with mixed equality and inequality constraints.(b)What is real code GAs? Explain crossover operator for real code Gas.Attempt any one part of the following: $7 \times 1 = 7$ (a)Explain the optimal generator scheduling for the thermal units when loses are considering. Also explain ITL and penalty factor and write the algorithm for the same.(b)What is the difference in the optimal scheduling of thermal and hydro thermal units and how is it accomplished in the hydrothermal unit?	er Id:	120504 Roll No:		
<ul> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) Using dual simplex, Minimize C = 40x<sub>1</sub> + 12x<sub>2</sub>+40x<sub>3</sub> subject to 2x<sub>1</sub> + x<sub>2</sub> + 5x<sub>3</sub> ≥ 20 4x<sub>1</sub> + x<sub>2</sub> + x<sub>3</sub> ≥ 30 x<sub>1</sub>, x<sub>2</sub>, x<sub>3</sub> ≥ 0</li> <li>(b) How is interior penalty function method different from exterior penalty function method?</li> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) How can you solve a trajectory optimization problem using dynamic programming?</li> <li>(b) Explain with example the concept of sub-optimization and principle of optimality.</li> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) Construct the objective function to be used in GAs for a minimization problem with mixed equality and inequality constraints.</li> <li>(b) What is real code GAs? Explain crossover operator for real code Gas.</li> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) Explain the optimal generator scheduling for the thermal units when losses are considering. Also explain ITL and penalty factor and write the algorithm for the same.</li> <li>(b) What is the difference in the optimal scheduling of thermal and hydro thermal units and how is it accomplished in the hydrothermal unit?</li> </ul>	Attempt any one part of the following:       7 x 1 = 7         (a)       Using dual simplex, Minimize C = 40x <sub>1</sub> + 12x <sub>2</sub> +40x <sub>3</sub> subject to         2x <sub>1</sub> + x <sub>2</sub> + 5x <sub>3</sub> ≥ 20       4x <sub>1</sub> + x <sub>2</sub> + x <sub>3</sub> ≥ 30         x <sub>1</sub> , x <sub>2</sub> , x <sub>3</sub> ≥ 0       (b)         (b)       How is interior penalty function method different from exterior penalty function method?         Attempt any one part of the following:       7 x 1 = 7         (a)       How can you solve a trajectory optimization problem using dynamic programming?         (b)       Explain with example the concept of sub-optimization and principle of optimality.         Attempt any one part of the following:       7 x 1 = 7         (a)       Construct the objective function to be used in GAs for a minimization problem with mixed equality and inequality constraints.         (b)       What is real code GAs? Explain crossover operator for real code Gas.         Attempt any one part of the following:       7 x 1 = 7         (a)       Explain the optimal generator scheduling for the thermal units when losses are considering. Also explain ITL and penalty factor and write the algorithm for the same.         (b)       What is the difference in the optimal scheduling of thermal and hydro thermal units and how is it accomplished in the hydrothermal unit?	• • •		- 1 -	
<ul> <li>(a) Using dual simplex, Minimize C = 40x1 + 12x2+40x3 subject to 2x1 + x2 + 5x3 ≥ 20 4x1 + x2 + 5x3 ≥ 30 x1, x2, x3 ≥ 0</li> <li>(b) How is interior penalty function method different from exterior penalty function method?</li> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) How can you solve a trajectory optimization problem using dynamic programming?</li> <li>(b) Explain with example the concept of sub-optimization and principle of optimality.</li> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) Construct the objective function to be used in GAs for a minimization problem with mixed equality and inequality constraints.</li> <li>(b) What is real code GAs? Explain crossover operator for real code Gas.</li> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) Explain the optimal generator scheduling for the thermal units when losses are considering. Also explain ITL and penalty factor and write the algorithm for the same.</li> <li>(b) What is the difference in the optimal scheduling of thermal and hydro thermal units and how is it accomplished in the hydrothermal unit?</li> </ul>	<ul> <li>(a) Using dual simplex, Minimize C = 40x<sub>1</sub> + 12x<sub>2</sub>+40x<sub>3</sub> subject to 2x<sub>1</sub> + x<sub>2</sub> + 5x<sub>3</sub> ≥ 20 4x<sub>1</sub> + x<sub>2</sub> + x<sub>3</sub> ≥ 30 x<sub>1</sub>, x<sub>2</sub>, x<sub>3</sub> ≥ 0</li> <li>(b) How is interior penalty function method different from exterior penalty function method?</li> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) How can you solve a trajectory optimization problem using dynamic programming?</li> <li>(b) Explain with example the concept of sub-optimization and principle of optimality.</li> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) Construct the objective function to be used in GAs for a minimization problem with mixed equality and inequality constraints.</li> <li>(b) What is real code GAs? Explain crossover operator for real code Gas.</li> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) Explain the optimal generator scheduling for the thermal units when losses are considering. Also explain ITL and penalty factor and write the algorithm for the same.</li> <li>(b) What is the difference in the optimal scheduling of thermal and hydro thermal units and how is it accomplished in the hydrothermal unit?</li> </ul>	Atter	mpt any one part of the following:	$7 \times 1 = 7$	
<ul> <li>subject to 2x<sub>1</sub> + x<sub>2</sub> + 5x<sub>3</sub> ≥ 20 4x<sub>1</sub> + x<sub>2</sub> + 5x<sub>3</sub> ≥ 30 x<sub>1</sub>, x<sub>2</sub>, x<sub>3</sub> ≥ 0</li> <li>(b) How is interior penalty function method different from exterior penalty function method?</li> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) How can you solve a trajectory optimization problem using dynamic programming?</li> <li>(b) Explain with example the concept of sub-optimization and principle of optimality.</li> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) Construct the objective function to be used in GAs for a minimization problem with mixed equality and inequality constraints.</li> <li>(b) What is real code GAs? Explain crossover operator for real code Gas.</li> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) Explain the optimal generator scheduling for the thermal units when losses are considering. Also explain ITL and penalty factor and write the algorithm for the same.</li> <li>(b) What is the difference in the optimal scheduling of thermal and hydro thermal units and how is it accomplished in the hydrothermal unit?</li> </ul>	subject to         2x1 + x2 + 5x3 ≥ 20         4x1 + x2 + x3 ≥ 30         x1, x2, x3 ≥ 0         (b) How is interior penalty function method different from exterior penalty function method?         Attempt any one part of the following:       7 x 1 = 7         (a) How can you solve a trajectory optimization problem using dynamic programming?         (b) Explain with example the concept of sub-optimization and principle of optimality.         Attempt any one part of the following:       7 x 1 = 7         (a) Construct the objective function to be used in GAs for a minimization problem with mixed equality and inequality constraints.       (b) What is real code GAs? Explain crossover operator for real code Gas.         Attempt any one part of the following:       7 x 1 = 7         (a) Construct the objective function to be used in GAs for a minimization problem with mixed equality and inequality constraints.       (b) What is real code GAs? Explain crossover operator for real code Gas.         Attempt any one part of the following:       7 x 1 = 7         (a) Explain the optimal generator scheduling for the thermal units when losses are considering. Also explain ITL and penalty factor and write the algorithm for the same.         (b) What is the difference in the optimal scheduling of thermal and hydro thermal units and how is it accomplished in the hydrothermal unit?         Mumutation       Mumutation         Mumutation       Mumutation         Mumutation       Mumuta	(a)	Using dual simplex, Minimize $C = 40x_1 + 12x_2 + 40x_3$		
<ul> <li>2A1 + X2 + X3 ≥ 20 4x1 + x2 + x3 ≥ 30 x1, x2, x3 ≥ 0</li> <li>(b) How is interior penalty function method different from exterior penalty function method?</li> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) How can you solve a trajectory optimization problem using dynamic programming?</li> <li>(b) Explain with example the concept of sub-optimization and principle of optimality.</li> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) Construct the objective function to be used in GAs for a minimization problem with mixed equality and inequality constraints.</li> <li>(b) What is real code GAs? Explain crossover operator for real code Gas.</li> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) Explain the optimal generator scheduling for the thermal units when losses are considering. Also explain ITL and penalty factor and write the algorithm for the same.</li> <li>(b) What is the difference in the optimal scheduling of thermal and hydro thermal units and how is it accomplished in the hydrothermal unit?</li> </ul>	<ul> <li>2X1 + X2 + X3 ≥ 20 4X1 + X2 + X3 ≥ 30 X1, X2, X3 ≥ 0</li> <li>(b) How is interior penalty function method different from exterior penalty function method?</li> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) How can you solve a trajectory optimization problem using dynamic programming?</li> <li>(b) Explain with example the concept of sub-optimization and principle of optimality.</li> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) Construct the objective function to be used in GAs for a minimization problem with mixed equality and inequality constraints.</li> <li>(b) What is real code GAs? Explain crossover operator for real code Gas.</li> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) Explain the optimal generator scheduling for the thermal units when losses are considering. Also explain ITL and penalty factor and write the algorithm for the same.</li> <li>(b) What is the difference in the optimal scheduling of thermal and hydro thermal units and how is it accomplished in the hydrothermal unit?</li> </ul>		Subject to   2 + 1 + 5 + 1 > 20		
<ul> <li>4A1 + X2 + X3 = 2 30 X1, X2, X3 ≥ 0</li> <li>(b) How is interior penalty function method different from exterior penalty function method?</li> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) How can you solve a trajectory optimization problem using dynamic programming?</li> <li>(b) Explain with example the concept of sub-optimization and principle of optimality.</li> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) Construct the objective function to be used in GAs for a minimization problem with mixed equality and inequality constraints.</li> <li>(b) What is real code GAs? Explain crossover operator for real code Gas.</li> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) Explain the optimal generator scheduling for the thermal units when losses are considering. Also explain ITL and penalty factor and write the algorithm for the same.</li> <li>(b) What is the difference in the optimal scheduling of thermal and hydro thermal units and how is it accomplished in the hydrothermal unit?</li> </ul>	<ul> <li>4x1 + x2 + x3 = 2 30 x1, x2, x3 ≥ 0</li> <li>(b) How is interior penalty function method different from exterior penalty function method?</li> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) How can you solve a trajectory optimization problem using dynamic programming?</li> <li>(b) Explain with example the concept of sub-optimization and principle of optimality.</li> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) Construct the objective function to be used in GAs for a minimization problem with mixed equality and inequality constraints.</li> <li>(b) What is real code GAs? Explain crossover operator for real code Gas.</li> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) Explain the optimal generator scheduling for the thermal units when losses are considering. Also explain ITL and penalty factor and write the algorithm for the same.</li> <li>(b) What is the difference in the optimal scheduling of thermal and hydro thermal units and how is it accomplished in the hydrothermal unit?</li> </ul>		$2X_1 + X_2 + 5X_3 \ge 20$		
<ul> <li>(b) How is interior penalty function method different from exterior penalty function method?</li> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) How can you solve a trajectory optimization problem using dynamic programming?</li> <li>(b) Explain with example the concept of sub-optimization and principle of optimality.</li> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) Construct the objective function to be used in GAs for a minimization problem with mixed equality and inequality constraints.</li> <li>(b) What is real code GAs? Explain crossover operator for real code Gas.</li> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) Explain the optimal generator scheduling for the thermal units when losses are considering. Also explain ITL and penalty factor and write the algorithm for the same.</li> <li>(b) What is the difference in the optimal scheduling of thermal and hydro thermal units and how is it accomplished in the hydrothermal unit?</li> </ul>	<ul> <li>(b) How is interior penalty function method different from exterior penalty function method?</li> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) How can you solve a trajectory optimization problem using dynamic programming?</li> <li>(b) Explain with example the concept of sub-optimization and principle of optimality.</li> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) Construct the objective function to be used in GAs for a minimization problem with mixed equality and inequality constraints.</li> <li>(b) What is real code GAs? Explain crossover operator for real code Gas.</li> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) Construct the optimal generator scheduling for the thermal units when losses are considering. Also explain ITL and penalty factor and write the algorithm for the same.</li> <li>(b) What is the difference in the optimal scheduling of thermal and hydro thermal units and how is it accomplished in the hydrothermal unit?</li> </ul>		$4x_1 + x_2 + x_3 \ge 50$		
<ul> <li>(b) From is interior penary function method different from exterior penarty function method?</li> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) How can you solve a trajectory optimization problem using dynamic programming?</li> <li>(b) Explain with example the concept of sub-optimization and principle of optimality.</li> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) Construct the objective function to be used in GAs for a minimization problem with mixed equality and inequality constraints.</li> <li>(b) What is real code GAs? Explain crossover operator for real code Gas.</li> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) Explain the optimal generator scheduling for the thermal units when losses are considering. Also explain ITL and penalty factor and write the algorithm for the same.</li> <li>(b) What is the difference in the optimal scheduling of thermal and hydro thermal units and how is it accomplished in the hydrothermal unit?</li> </ul>	<ul> <li>(b) From is interior penalty function method different from exterior penalty function method?</li> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) How can you solve a trajectory optimization problem using dynamic programming?</li> <li>(b) Explain with example the concept of sub-optimization and principle of optimality.</li> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) Construct the objective function to be used in GAs for a minimization problem with mixed equality and inequality constraints.</li> <li>(b) What is real code GAs? Explain crossover operator for real code Gas.</li> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) Explain the optimal generator scheduling for the thermal units when losses are considering. Also explain ITL and penalty factor and write the algorithm for the same.</li> <li>(b) What is the difference in the optimal scheduling of thermal and hydro thermal units and how is it accomplished in the hydrothermal unit?</li> </ul>	(1)	$X_1, X_2, X_3 \leq 0$	altr	
Attempt any one part of the following:       7 x 1 = 7         (a)       How can you solve a trajectory optimization problem using dynamic programming?         (b)       Explain with example the concept of sub-optimization and principle of optimality.         Attempt any one part of the following:       7 x 1 = 7         (a)       Construct the objective function to be used in GAs for a minimization problem with mixed equality and inequality constraints.         (b)       What is real code GAs? Explain crossover operator for real code Gas.         Attempt any one part of the following:       7 x 1 = 7         (a)       Construct the objective function to be used in GAs for a minimization problem with mixed equality and inequality constraints.         (b)       What is real code GAs? Explain crossover operator for real code Gas.         Attempt any one part of the following:       7 x 1 = 7         (a)       Explain the optimal generator scheduling for the thermal units when losses are considering. Also explain ITL and penalty factor and write the algorithm for the same.         (b)       What is the difference in the optimal scheduling of thermal and hydro thermal units and how is it accomplished in the hydrothermal unit?	Attempt any one part of the following:       7 x 1 = 7         (a)       How can you solve a trajectory optimization problem using dynamic programming?         (b)       Explain with example the concept of sub-optimization and principle of optimality.         Attempt any one part of the following:       7 x 1 = 7         (a)       Construct the objective function to be used in GAs for a minimization problem with mixed equality and inequality constraints.         (b)       What is real code GAs? Explain crossover operator for real code Gas.         Attempt any one part of the following:       7 x 1 = 7         (a)       Explain the optimal generator scheduling for the thermal units when losses are considering. Also explain ITL and penalty factor and write the algorithm for the same.         (b)       What is the difference in the optimal scheduling of thermal and hydro thermal units and how is it accomplished in the hydrothermal unit?	(0)	function method?	latty	
<ul> <li>Attempt any one part of the following.</li> <li>(a) How can you solve a trajectory optimization problem using dynamic programming?</li> <li>(b) Explain with example the concept of sub-optimization and principle of optimality.</li> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) Construct the objective function to be used in GAs for a minimization problem with mixed equality and inequality constraints.</li> <li>(b) What is real code GAs? Explain crossover operator for real code Gas.</li> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) Explain the optimal generator scheduling for the thermal units when losses are considering. Also explain ITL and penalty factor and write the algorithm for the same.</li> <li>(b) What is the difference in the optimal scheduling of thermal and hydro thermal units and how is it accomplished in the hydrothermal unit?</li> </ul>	<ul> <li>Attempt any one part of the following. (a) (b) Explain with example the concept of sub-optimization and principle of optimality.</li> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) Construct the objective function to be used in GAs for a minimization problem with mixed equality and inequality constraints.</li> <li>(b) What is real code GAs? Explain crossover operator for real code Gas.</li> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) Explain the optimal generator scheduling for the thermal units when losses are considering. Also explain ITL and penalty factor and write the algorithm for the same.</li> <li>(b) What is the difference in the optimal scheduling of thermal and hydro thermal units and how is it accomplished in the hydrothermal unit?</li> </ul>	Attor	mpt any ove part of the following:	$7 \times 1 - 7$	,
<ul> <li>(a) How can you solve a trajectory optimization protein using dynamic programming?</li> <li>(b) Explain with example the concept of sub-optimization and principle of optimality.</li> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) Construct the objective function to be used in GAs for a minimization problem with mixed equality and inequality constraints.</li> <li>(b) What is real code GAs? Explain crossover operator for real code Gas.</li> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) Explain the optimal generator scheduling for the thermal units when losses are considering. Also explain ITL and penalty factor and write the algorithm for the same.</li> <li>(b) What is the difference in the optimal scheduling of thermal and hydro thermal units and how is it accomplished in the hydrothermal unit?</li> </ul>	<ul> <li>(a) The call you solve a trajectory optimization problem using dynamic programming?</li> <li>(b) Explain with example the concept of sub-optimization and principle of optimality.</li> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) Construct the objective function to be used in GAs for a minimization problem with mixed equality and inequality constraints.</li> <li>(b) What is real code GAs? Explain crossover operator for real code Gas.</li> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) Explain the optimal generator scheduling for the thermal units when losses are considering. Also explain ITL and penalty factor and write the algorithm for the same.</li> <li>(b) What is the difference in the optimal scheduling of thermal and hydro thermal units and how is it accomplished in the hydrothermal unit?</li> </ul>		How can you solve a trajectory optimization problem usi	$\frac{7 \times 1 - 7}{100}$	mic
<ul> <li>b) Explain with example the concept of sub-optimization and principle of optimality.</li> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) Construct the objective function to be used in GAs for a minimization problem with mixed equality and inequality constraints.</li> <li>(b) What is real code GAs? Explain crossover operator for real code Gas.</li> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) Explain the optimal generator scheduling for the thermal units when losses are considering. Also explain ITL and penalty factor and write the algorithm for the same.</li> <li>(b) What is the difference in the optimal scheduling of thermal and hydro thermal units and how is it accomplished in the hydrothermal unit?</li> </ul>	<ul> <li>b) Explain with example the concept of sub-optimization and principle of optimality.</li> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) Construct the objective function to be used in GAs for a minimization problem with mixed equality and inequality constraints.</li> <li>(b) What is real code GAs? Explain crossover operator for real code Gas.</li> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) Explain the optimal generator scheduling for the thermal units when losses are considering. Also explain ITL and penalty factor and write the algorithm for the same.</li> <li>(b) What is the difference in the optimal scheduling of thermal and hydro thermal units and how is it accomplished in the hydrothermal unit?</li> </ul>	(a)	programming?	ng uynai	IIIC
<ul> <li>(b) Explain whit example the concept of sub-optimization and principle of optimality.</li> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) Construct the objective function to be used in GAs for a minimization problem with mixed equality and inequality constraints.</li> <li>(b) What is real code GAs? Explain crossover operator for real code Gas.</li> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) Explain the optimal generator scheduling for the thermal units when losses are considering. Also explain ITL and penalty factor and write the algorithm for the same.</li> <li>(b) What is the difference in the optimal scheduling of thermal and hydro thermal units and how is it accomplished in the hydrothermal unit?</li> </ul>	<ul> <li>(b) Explain with example the concept of sub-optimization and principle of optimality.</li> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) Construct the objective function to be used in GAs for a minimization problem with mixed equality and inequality constraints.</li> <li>(b) What is real code GAs? Explain crossover operator for real code Gas.</li> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) Explain the optimal generator scheduling for the thermal units when losses are considering. Also explain ITL and penalty factor and write the algorithm for the same.</li> <li>(b) What is the difference in the optimal scheduling of thermal and hydro thermal units and how is it accomplished in the hydrothermal unit?</li> </ul>	$(\mathbf{b})$	Explain with example the concept of sub-optimization and	nrincinle	of
Attempt any one part of the following:       7 x 1 = 7         (a)       Construct the objective function to be used in GAs for a minimization problem with mixed equality and inequality constraints.         (b)       What is real code GAs? Explain crossover operator for real code Gas.         Attempt any one part of the following:       7 x 1 = 7         (a)       Explain the optimal generator scheduling for the thermal units when losses are considering. Also explain ITL and penalty factor and write the algorithm for the same.         (b)       What is the difference in the optimal scheduling of thermal and hydro thermal units and how is it accomplished in the hydrothermal unit?	Attempt any one part of the following:       7 x 1 = 7         (a)       Construct the objective function to be used in GAs for a minimization problem with mixed equality and inequality constraints.         (b)       What is real code GAs? Explain crossover operator for real code Gas.         Attempt any one part of the following:       7 x 1 = 7         (a)       Explain the optimal generator scheduling for the thermal units when losses are considering. Also explain ITL and penalty factor and write the algorithm for the same.         (b)       What is the difference in the optimal scheduling of thermal and hydro thermal units and how is it accomplished in the hydrothermal unit?		optimality.	principie	01
<ul> <li>(a) Construct the objective function to be used in GAs for a minimization problem with mixed equality and inequality constraints.</li> <li>(b) What is real code GAs? Explain crossover operator for real code Gas.</li> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) Explain the optimal generator scheduling for the thermal units when losses are considering. Also explain ITL and penalty factor and write the algorithm for the same.</li> <li>(b) What is the difference in the optimal scheduling of thermal and hydro thermal units and how is it accomplished in the hydrothermal unit?</li> </ul>	<ul> <li>(a) Construct the objective function to be used in GAs for a minimization problem with mixed equality and inequality constraints.</li> <li>(b) What is real code GAs? Explain crossover operator for real code Gas.</li> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) Explain the optimal generator scheduling for the thermal units when losses are considering. Also explain ITL and penalty factor and write the algorithm for the same.</li> <li>(b) What is the difference in the optimal scheduling of thermal and hydro thermal units and how is it accomplished in the hydrothermal unit?</li> </ul>	Atter	mpt any one part of the following:	7 x 1 = 7	/
<ul> <li>with mixed equality and inequality constraints.</li> <li>(b) What is real code GAs? Explain crossover operator for real code Gas.</li> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) Explain the optimal generator scheduling for the thermal units when losses are considering. Also explain ITL and penalty factor and write the algorithm for the same.</li> <li>(b) What is the difference in the optimal scheduling of thermal and hydro thermal units and how is it accomplished in the hydrothermal unit?</li> </ul>	<ul> <li>with mixed equality and inequality constraints.</li> <li>(b) What is real code GAs? Explain crossover operator for real code Gas.</li> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) Explain the optimal generator scheduling for the thermal units when losses are considering. Also explain ITL and penalty factor and write the algorithm for the same.</li> <li>(b) What is the difference in the optimal scheduling of thermal and hydro thermal units and how is it accomplished in the hydrothermal unit?</li> </ul>	(a)	Construct the objective function to be used in GAs for a minimizati	on proble	m
<ul> <li>(b) What is real code GAs? Explain crossover operator for real code Gas.</li> <li>Attempt any one part of the following: 7 x 1 = 7</li> <li>(a) Explain the optimal generator scheduling for the thermal units when losses are considering. Also explain ITL and penalty factor and write the algorithm for the same.</li> <li>(b) What is the difference in the optimal scheduling of thermal and hydro thermal units and how is it accomplished in the hydrothermal unit?</li> </ul>	<ul> <li>(b) What is real code GAs? Explain crossover operator for real code Gas.</li> <li>Attempt any <i>one</i> part of the following: 7 x 1 = 7</li> <li>(a) Explain the optimal generator scheduling for the thermal units when losses are considering. Also explain ITL and penalty factor and write the algorithm for the same.</li> <li>(b) What is the difference in the optimal scheduling of thermal and hydro thermal units and how is it accomplished in the hydrothermal unit?</li> </ul>		with mixed equality and inequality constraints.		
Attempt any one part of the following:       7 x 1 = 7         (a)       Explain the optimal generator scheduling for the thermal units when losses are considering. Also explain ITL and penalty factor and write the algorithm for the same.         (b)       What is the difference in the optimal scheduling of thermal and hydro thermal units and how is it accomplished in the hydrothermal unit?	Attempt any one part of the following:       7 x 1 = 7         (a)       Explain the optimal generator scheduling for the thermal units when losses are considering. Also explain ITL and penalty factor and write the algorithm for the same.         (b)       What is the difference in the optimal scheduling of thermal and hydro thermal units and how is it accomplished in the hydrothermal unit?	(b)	What is real code GAs? Explain crossover operator for real code Ga	as.	
<ul> <li>(a) Explain the optimal generator scheduling for the thermal units when losses are considering. Also explain ITL and penalty factor and write the algorithm for the same.</li> <li>(b) What is the difference in the optimal scheduling of thermal and hydro thermal units and how is it accomplished in the hydrothermal unit?</li> </ul>	<ul> <li>(a) Explain the optimal generator scheduling for the thermal units when losses are considering. Also explain ITL and penalty factor and write the algorithm for the same.</li> <li>(b) What is the difference in the optimal scheduling of thermal and hydro thermal units and how is it accomplished in the hydrothermal unit?</li> </ul>	Atter	mpt any one part of the following:	$7 \times 1 = 7$	!
<ul> <li>considering. Also explain ITL and penalty factor and write the algorithm for the same.</li> <li>(b) What is the difference in the optimal scheduling of thermal and hydro thermal units and how is it accomplished in the hydrothermal unit?</li> </ul>	<ul> <li>considering. Also explain ITL and penalty factor and write the algorithm for the same.</li> <li>(b) What is the difference in the optimal scheduling of thermal and hydro thermal units and how is it accomplished in the hydrothermal unit?</li> </ul>	(a)	Explain the optimal generator scheduling for the thermal units when	n losses a	re
the same.         (b)         What is the difference in the optimal scheduling of thermal and hydro thermal units and how is it accomplished in the hydrothermal unit?	<ul> <li>the same.</li> <li>(b) What is the difference in the optimal scheduling of thermal and hydro thermal units and how is it accomplished in the hydrothermal unit?</li> </ul>		considering. Also explain ITL and penalty factor and write the algo-	rithm for	
(b) What is the difference in the optimal scheduling of thermal and hydro thermal units and how is it accomplished in the hydrothermal unit?	(b) What is the difference in the optimal scheduling of thermal and hydro thermal units and how is it accomplished in the hydrothermal unit?		the same.		
units and how is it accomplished in the hydrothermal unit?	units and how is it accomplished in the hydrothermal unit?	(b)	What is the difference in the optimal scheduling of thermal and hyd	lro therma	ıl
town of the state	towned to the studies of the studies		units and how is it accomplished in the hydrothermal unit?		
			anning from country of the		