

No Preview  
Available

Total No. of Question : [4]

Registration No. : 

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**Programme Name : Computer Science & Engineering(DS)**

**Regular T.Y.B.Tech. Sem. VI ESE May / June 2023**

**VI SEMESTER ( 2020 BATCH)**

**201DSL314-Optimization for Data Science (TH)**

**Duration :**

**Marks : 50**

**(Q1) All Questions are compulsory** [20.0]

(1.1) What is Linear & Non-Linear Programming with example? Define Duality. Rules for converting primal to Dual. [6.0]

**CO :- C314.1**

**Blooms Taxonomy :- Understand**

(1.2) What is steepest Descent method and explain algorithm for same. Also explain numerical and analytical method. [7.0]

**CO :- C314.2**

**Blooms Taxonomy :- Apply**

(1.3) Give mathematical explanation for Logistic Regression also mention its types . [7.0]

**CO :- C314.2**

**Blooms Taxonomy :- Apply**

**(Q2) All Questions are compulsory** [10.0]

(2.1) Mention the properties of convex function . [4.0]

**CO :- C314.3**

**Blooms Taxonomy :- Evaluate**

(2.2) Describe Projection onto Convex set also explain separation theorem. [6.0]

**CO :- C314.3**

**Blooms Taxonomy :- Evaluate**

**OR [ 2.2 / 2.3 ]**

(2.3) Define Convex function with equation. Discuss the convexity of function : [6.0]

$$F(x) = x_1^2 + x_2^2 + x_1 + x_2 - 1$$

**CO :- C314.3**

**Blooms Taxonomy :- Evaluate**

**(Q3) All Questions are compulsory** [10.0]

(3.1) Explain grid search with its neat diagram. [3.0]

**CO :- C314.4**

**Blooms Taxonomy :- Apply**

(3.2) Explain parallel hyper parameter optimization. [7.0]

**CO :- C314.4**

**Blooms Taxonomy :- Apply**

**OR [ 3.2 / 3.3 ]**

(3.3) Explain Neural Network algorithm with its hyper parameters [7.0]

**CO :- C314.4**

**Blooms Taxonomy :- Apply**

(Q4) **Attempt any two out of three questions** [10.0]

(4.1) Explain Acquisition function Bayesian Optimization. [5.0]

**CO :- C314.4**

**Blooms Taxonomy :- Apply**

(4.2) Explain Surrogate Model Bayesian Optimization . [5.0]

**CO :- C314.4**

**Blooms Taxonomy :- Apply**

(4.3) Give details of Automated ML Predictive Analysis with neat diagram. [5.0]

**CO :- C314.4**

**Blooms Taxonomy :- Apply**

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