Roll No. **Regd. No.** **Name:**

Academic Task Number: 1 **Course code: ECE165**

Date of allotment: Nov 15, 2022 **Course title: Python for Robotics**

Date of submission: Nov 24, 2022 **Maximum Marks: 30**

Academic Task Type: CA3: Project

Instructions:

1. Read the assignment statement carefully and general queries will be answered either during the class or through LPU Live. Personal chat through LPU Live or mail is not encouraged.
2. The project may be completed with the help of open online resources but copied solutions either from the open online resources or from other classmates will directly fetch zero marks. Specifically, you may use the resources at Ref: https://www.kaggle.com/datasets/twinkle0705/state-wise-power-consumption-in-india/code.
   Also, you may use the link https://stackoverflow.com/questions/40217369/python-linear-regression-predict-by-date or others to understand the regression implementation with respect to dates.
3. The solutions should be submitted as a compressed zip folder containing *.ipynb file. The solutions submitted as .pdf, .doc or .zip of them are not acceptable.
4. The solution file name should be SectionNo_RollNo_RegistrationNumber_CANo.ipynb. For example, E2105_A03_12021396_CA3.ipynb.
5. The solutions will be accepted only through UMS or through email id: lpu.python.ece165@gmail.com. In any conditions, do not use LPU Live for the submissions.
6. The last date is a strict deadline and no extensions will be considered beyond it.
7. The final marks are not just based on the submitted solution but a viva based on it, which will be held on a suitable date.

Q. No.	Question Statement	CO	Bloom's level	Marks/ Question
1	Use 'PowerConsumption_India.xls' to design a linear regressor to predict the power consumption on the given dates. Follow the below steps and each step is allotted specific marks:	CO6	L6	30
	1. The file contains state-wise power consumption in Indian during 2019 and 2020. Create a separate data-frame containing data on power consumption for the state allotted to you according to your roll number.			3
	2. Split the data into 80% training and 20% testing.			2
	3. Get the regression accuracy for the test datasets using linear regressor. Predict the power consumption on 1st March, 2021 and 1st March, 2022.			10
	4. Get the regression accuracy for the test datasets using neural network as a regressor. Predict the power consumption on 1st March, 2021 and 1st March, 2022.			10
	5. Compare and comment on the outcomes through both the regressors.			5

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Table 1: State and Neighboring state allocation according to Roll Number

SerialNo	RegisteratinNumber	Name	RollNumber	CA2-State	Neighbouring State
1	12110309	Sai Srija Achukolu	RE2105A01	Punjab	Haryana
2	12112103	Dheeraj Sharma	RE2105A02	Gujarat	Maharashtra
3	12114015	Veliboina Manish Kumar	RE2105A03	Bihar	Jharkhand
4	12114153	Dharipalli Naveen Kumar	RE2105A04	Haryana	Rajasthan
5	12109309	Ashish Sivan	RE2105A05	MP	Karnataka
6	12107807	Parshuram Krishna Toraskar	RE2105A06	Odisha	Tamilnadu
7	12107727	Chennamsetty Venkata Sunil	RE2105A07	Mizoram	Nagaland
8	12108039	Dhruva Shaw	RE2105A08	Rajasthan	Gujarat
9	12105450	Ganesuni Sai Sasank Ram	RE2105A09	Maharashtra	MP
10	12105626	R Siddarth	RE2105A10	W. Bengal	Odisha
11	12104897	Murarisetty Manasa Apparao	RE2105A11	Nagaland	Manipur
12	12105431	Suryawanshi Ankur Prakash	RE2105A12	Delhi	Goa
13	12105357	Bursu Sharish Chandra	RE2105A13	Goa	DNH
14	12104664	Abhishek Ajaykumar	RE2105A14	Sikkim	Mizoram
15	12104734	Pagare Atharva Sandeep	RE2105A15	Jharkhand	Chhatisgarh
16	12106847	Bhanu Mahesh Rayabharapu	RE2105A16	UP	Bihar
17	12101394	Aadarsh kumar	RE2105A17	Dadara Nagar Haveli	Ponychery
18	12101372	Bhushan Vasant Nanaware	RE2105A18	Arunachal Pradesh	Assam
19	12100563	Ravindra Singh	RE2105A19	Andhtra Pradesh	Karnataka
20	12100630	Mohammad Furkan	RE2105A20	Uttarakhand	UP
21	12100794	Betireddy Naga Vamsi Reddy	RE2105A21	Andhtra Pradesh	Telangana
22	12100903	Dharmadhikari Dhruv Shirish	RE2105A22	Assam	W. Bengal
23	12102606	Deshmukh Vinayak Uttam	RE2105A23	Manipur	Arunachal Pradesh
24	12103325	Tanveer Naushad	RE2105A24	HP	Punjab
25	12115557	Wonjade Augustin Nelson Marziel	RE2105A25	Telangana	Kerala
26	12114910	Rahul Kumar Gupta	RE2105A26		
27	12116493	Ravi Bhushan	RE2105A27		
28	12116438	Aashutosh Vikram Singh	RE2105A28	Jammu & Kashmir	HP
SerialNo	RegisteratinNumber	Name	RollNumber		
1	12200099	Arjun Vijayan	RE2124A01	Chandigarh	Delhi

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2	12200126	Vattumilli Abhinav	RE2124A02	Karnataka	AndhraPradesh
3	12201149	Sri Vishnu JSB	RE2124A04	Meghalaya	Tripura
4	12204985	Krishna Kanth Kancharla	RE2124A05	Tripura	Sikkim
5	12205196	B Adwaith	RE2124A06	Chhatisgarh	Telangana
6	12208089	Ruperao Nishanth Varma	RE2124A07	Pondychery	Chandigarh