

**P G Department of Computer Science and Technology**  
**Sardar Patel University, Vallabh Vidyanagar**

**PS05CMCA01: Artificial Intelligence**

**Unit 3: Connectionist Models**

**Assignment 1: Artificial Neural Networks**

- 1** Design an artificial neural network that considers two inputs called digit 1(x1) and digit 2 (x2) and outputs its classification into four classes namely: (i) one digit (ii) two digits, (iii) 3 digits, and (iv) many digits. Also provide a few training data set for the neural network designed.
- 2** Design an artificial neural network that considers various features of mobile as inputs and many output opportunities of your choice. Also provide a few training data sets for the neural network designed.
- 3** Design an artificial neural network that considers various features of job selection as inputs and many output opportunities of your choice. Also provide a few training data sets for the neural network designed.
- 4** Design a neural network to select a course based on following fuzzy/crisp data.

	X1	X2	X3	X4	X5	O1	O2	O3
Sr. No.	Job Prospects	Personal Interest	Successes History	Available Resources	Availability of Teacher	Course 1	Course 2	Course 3
1	Very high	Good	Acceptable	Acceptable	Good	1	0	0
2	Very high	Less	Good	Good	Acceptable	0	1	0
..	...	...	...	...	...	..	..	...

- 5** Design a neural network to select a car model based on following fuzzy/crisp data.

	X1	X2	X3	X4	O1	O2	O3	O4	O5
Sr. No.	Budget Scale	Category	Fuel	Capacity	Mercedes S	BMW-7	Swift	Toyota Innova	Maruti Alto
1	Very high	Luxury	Petrol	4	1	0	0	0	0
2	Very high	Luxury	Diesel	4	0	1	0	0	0
3	High	Semi	Petrol	4	0	0	1	0	0
4	High	Semi	Petrol	7	0	0	0	1	0
5	Low	Hatchback	Diesel	4	0	0	0	0	1

**Submit the answers only in a proper file/notebook with content/index page with your PId, Batch, Name and Subject on or before 10<sup>th</sup> August, 2019 in room no. 301D.**