B. Tech. Sem –VIII (Electrical Engg.) (2014 COURSE) (CBCS) : SUMMER - 2019

SUBJECT: ELECTIVE-IV INDUSTRY SPECIFIC ELECTIVE

Day: Thursday
Date: 30/05/2019

Time: 02.30 PM TO 05.30 PM
Max Marks: 60

S-2019-2900

N.B.:

1) All questions are **COMPULSORY.**
2) Figures to the right indicate **FULL** marks.
3) Draw a neat and labeled diagram **WHEREVER** necessary.
4) Assume suitable data, if necessary.

Q.1	**a)**	Illustrate the propositional logic and planning of Artificial Intelligence.	**(06)**
	b)	Formulate a problem and solution procedure for Artificial Intelligence.	**(04)**
		OR	
	a)	Explain the decision trees for pattern recognition.	**(06)**
	b)	Explain different agent architectures with diagram.	**(04)**
Q.2	**a)**	Explain the role of Functional link in Artificial Neural Network.	**(05)**
	b)	Explain an algorithm for back propagation learning.	**(05)**
		OR	
	a)	Explain the formulation of trigonometric polynomial for ANN	**(05)**
	b)	Illustrate the concept of Recurrent neural model with algorithm.	**(05)**
Q.3	**a)**	Explain the role of Fuzzification and Defuzzification in Fuzzy logic.	**(05)**
	b)	Explain Multi-variable and Multi-constraint optimization concept.	**(05)**
		OR	
	a)	Distinguish between Type-1 and Type-2 Fuzzy logic	**(05)**
	b)	Explain derivative free optimization for Evolutionary computing and Swarm Intelligence	**(05)**
Q.4	**a)**	What are Fibre Optic Sensors? Explain the classification of sensors in details.	**(06)**
	b)	Explain with diagram the inter ferometric sensors.	**(04)**
		OR	
	a)	Explain the application of fibre optic sensors for measurement of pollution.	**(06)**
	b)	Illustrate the sensor application in field of electrical engineering.	**(04)**
Q.5	**a)**	Explain the Quantum foundation and its theory for Semi-conductor devices.	**(05)**
	b)	Explain E-bers – Moll Model for modeling of BJT.	**(05)**
		OR	
	a)	Explain Power BJT model with its characteristics.	**(05)**
	b)	Explain the need of threshold voltage modeling.	**(05)**
Q.6	**a)**	Explain the concept of molecular absorption and scattering for any sensing devices.	**(05)**
	b)	Distinguish between Spectral imagery and thermal infrared imagers.	**(05)**
		OR	
	a)	Explain the concept of reflection and emission from real materials for electromagnetic radiations.	**(05)**
	b)	Explain Antenna Theory for microwave systems.	**(05)**

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