

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.

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- 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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