**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI**
**(END SEMESTER EXAMINATION)**

**CLASS: B. TECH.** **SEMESTER : III**
**BRANCH: CSE,IT, ECE,EEE** **SESSION : MO/19**

**SUBJECT: IT201 BASICS OF INTELLIGENT COMPUTING**

**TIME: 3 HOURS** **FULL MARKS: 50**

**INSTRUCTIONS:**
**1. The question paper contains 5 questions each of 10 marks and total 50 marks.**
**2. Attempt all questions.**
**3. The missing data, if any, may be assumed suitably.**
***4*. Before attempting the question paper, be sure that you have got the correct question paper.**
**5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.**

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Q.1(a) Distinguish between conventional computing and intelligent computing? Identify the necessity of intelligent computing in solving complex problems. [5]

Q.1(b) Develop a PEAS description for any one of the following artificial agents [5]

I. Automated washing machine
II. Self driven car

Q.2(a) The characteristics of a mobile phone are defined as speed and cost. The fuzzy set for "High Speed" and "Costly" linguistic variables are given as High speed={1/1+0.8/2+0.5/3+0.3/4+0.1/5} and Costly={0/1+0.2/2+0.4/3+0.7/4+0.9/5}, respectively. Determine the linguistic variable "Slightly Costly", "Very high speed", and "Not very high speed and Not costly". [5]

Q.2(b) Explain what do you mean by genetic algorithm? Outline various methods to generate offsprings while using genetic algorithm. [5]

Q.3(a) Define and categorize learning in context of ANN. Enumerate any three applications of neural networks. [5]

Q.3(b) Develop a perceptron network for the AND function with two inputs and targets. [5]

Q.4(a) Define Cloud computing and identify its different operational and economical benefits. Compare private, public and hybrid clouds in terms of needs addressed by each type of Cloud. [5]

Q.4(b) Demonstrate the concept of virtualization. Explain the salient features of Amazon web services (AWS). [5]

Q.5(a) Give an overview on IOT. Discuss the salient characteristics of IOT mentioning their applications. [5]

Q.5(b) With a neat sketch, explain the physical components of a generic IOT device. Enlist any five different types of IOT devices specifying their applications. [5]

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