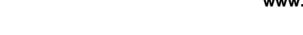
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Total No. of Questions : 18

Total No. of Pages : 02

B.Tech.(ECE) (E-I 2012 to 2017)/ (Automation & Robotics) (DE-I 2012 & Onward) (Sem.-6)

INTELLIGENT INSTRUMENTATION

Subject Code : BTEC-906

M.Code: 71235

Time: 3 Hrs.

Max. Marks:60

INSTRUCTIONS TO CANDIDATES :

- 1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
- 2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
- 3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.
- 4. Make use of diagrams to explain.

SECTION-A

Answer briefly :

- 1. What is Data acquisition system?
- 2. What is the use of data acquisition system in instrumentation system?
- 3. What is data logger?
- 4. What is the function of sample and hold circuit in DAS?
- 5. Name the PLC programming language.
- 6. What is expert system?
- 7. Explain fuzzy members hip value. Why it is always between 0 and 1?
- 8. Give the structure of artificial neuron.
- 9. What is the function of signal converters?
- 10. What is the need of automatic control system?



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SECTION-B

- 11. What is the function of :
 - a) Solenoid
 - b) Relay?
- 12. What are Ito P converters? What is the need of actuators in pneumatic systems? What is the role of controller in automation systems?
- 13. What is the principle of operation of PLC? Explain.
- 14. How artificial neuron resembles biological neuron? Explain with diagram of both.
- 15. What is structure of direct digital control system? Name the software involved in their programming?

SECTION-C

- 16. What is an instrumentation system? Explain the working of each block of a data acquisition system? Design temperature measuring instrumentation system using DAS. What are the uses of instrumentation system and data acquisition systems?
- 17. Explain the architecture of programmable controller. Also discuss the industrial uses of PLC ladder programming with suitable example of a programme to control dc motor working.
- 18. What is the fuzzy logic controller and how it differs from Neuro fuzzy controller? Explain seven methods of defuzzification?

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.

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