

Total No. of Questions : 4]

SEAT No. :

PE582

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[6578]-55

**S.E. (Robotics and Automation Engineering) (Insem)
INDUSTRIAL ELECTRONICS AND ELECTRICAL
TECHNOLOGY
(2019 Pattern) (Semester - III) (211501)**

Time : 1 Hour]

[Max. Marks : 30

Instructions to the candidates:

- 1) *Solve Q.1 or Q.2, Q.3 or Q.4.*
- 2) *Figures to the right indicate full marks.*
- 3) *Neat diagrams must be drawn wherever necessary.*
- 4) *Assume suitable additional data, if necessary.*
- 5) *Use of non-programmable calculator is allowed.*

- Q1)** a) State the features of Arduino IDE. [7]
b) Distinguish between microcontroller and microprocessor considering significant features. [8]

OR

- Q2)** a) Explain the role of Embedded system in the context of industrial automation? [7]
b) Draw the block diagram of data acquisition system and briefly explain the function of each block. [8]

- Q3)** a) Explain timers in ATmega328P. [7]
b) Write algorithm and program to display "Hello World" on 16×2LCD display. [8]

OR

- Q4)** a) Explain following functions related to serial communication. [7]
i) Serial.begin (baud rate);
ii) Serial.available ();
iii) Serial.print (value);
iv) Serial.println (value);
v) Serial.read ();
vi) Serial.write();
vii) Serial.end ()
b) Draw and explain interfacing of LED with Arduino. [8]

