Roll No.												

PRESIDENCY UNIVERSITY

BENGALURU

End - Term Examinations – December 2025

Date: 16 – 12- 2025 **Time:** 01:00pm – 04:00pm

School: SOE	**Program:** B. Tech	
Course Code : ECE3083	**Course Name** : Hardware and Software Architecture for IoT Systems	
Semester: VII	**Max Marks**:100	**Weightage**:50%

CO - Levels	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**
Marks	**30**	**12**	**12**	**28**	**20**

Instructions:

(i) Read all questions carefully and answer accordingly.

(ii) Do not write anything on the question paper other than roll number.

Part A

Answer ALL the Questions. Each question carries 2marks. **10Q x 2M=20M**

1	Illustrate the concept of IoT in the equation form.	**2 Marks**	**L2**	**CO1**
2	Justify an example protocol for Request Response Model	**2 Marks**	**L2**	**CO1**
3	Briefly discuss any two fields of IPv6 protocol	**2 Marks**	**L2**	**CO1**
4	With example discuss two Serial Wired Protocols	**2 Marks**	**L2**	**CO1**
5	Explain any two components of RF-ID	**2 Marks**	**L2**	**CO1**
6	Explain the significance of the Private Cloud with example	**2 Marks**	**L3**	**CO3**
7	Discuss any two peripherals of Arduino board	**2 Marks**	**L3**	**CO2**
8	Explain the participants of Clustering	**2 Marks**	**L3**	**CO4**
9	Explain the origin of WoT	**2 Marks**	**L3**	**CO4**
10	Discuss Links in WoT	**2 Marks**	**L3**	**CO4**

Part B

Answer the Questions **Total 80 Marks**

11.	**a.**	Discuss the Physical Design of IoT	**10 Marks**	**L2**	**CO1**
		Or			
12.	**a.**	Discuss the Logical Design of IoT	**10 Marks**	**L2**	**CO1**
13.	**a.**	Explain the architecture of IPv6 Protocol	**10 Marks**	**L2**	**CO1**
		Or			
14.	**a.**	Explain the architecture of CoAP Protocol	**10 Marks**	**L2**	**CO1**
15.	**a.**	With example discuss the working of IIC Protocol	**10 Marks**	**L2**	**CO2**
		Or			
16.	**a.**	With example discuss the working of SPI Protocol	**10 Marks**	**L2**	**CO2**
17.	**a.**	Justify with functioning and architecture of RF-ID along with applications	**15 Marks**	**L3**	**CO3**
		Or			
18.	**a.**	Justify the relevance of Cloud computing for IoT and Discuss any two Cloud Deployment models with applications	**15 Marks**	**L3**	**CO3**
19.	**a.**	Justify ARM processor modes and with diagram explain any 5 major ARM processor Segments	**15Marks**	**L3**	**CO4**
		Or			
20.	**a.**	Elaborate the WoT design with respect to TM, Links and Intermediaries	**15 Marks**	**L3**	**CO4**
21.	**a.**	Identify a Problem and Develop an IoT solution using Ultra Sonic sensor and Temperature sensor using Arduino.	**20 Marks**	**L4**	**CO5**
		Or			
22.	**a.**	Identify a Problem and Develop an IoT solution for Raspberry Pi by utilizing LDR interface and LED blinking.	**20 Marks**	**L4**	**CO5**