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**PRESIDENCY UNIVERSITY  
BENGALURU**

**SET – B**

**SCHOOL OF ENGINEERING  
END TERM EXAMINATION – MAY/JUNE 2024**

**Semester :** Semester VIII - 2020

**Course Code :** ECE3068

**Course Name :** Embedded Intelligence in WIoT

**Program :** B.Tech.

**Date :** June 03, 2024

**Time :** 01.00pm to 4.00pm

**Max Marks :** 100

**Weightage :** 50%

**Instructions:**

- (i) Read all questions carefully and answer accordingly.
- (ii) Question paper consists of 3 parts.
- (iii) Scientific and non-programmable calculator are permitted.
- (iv) Do not write any information on the question paper other than Roll Number.

**PART A**

**ANSWER ANY THREE QUESTIONS**

**(3 Q X 5 M = 15 M)**

1. The two commonly used communication API in IoT are REST API and Web socket API. Categorize the characteristics Stateless, Bi-Directional, Full duplex, Request-response model, and Real-time as applicable to REST API or Web socket API.  
(CO1) [Knowledge]
2. IoT architectures differ on the industry or technology used. Simplified IoT architecture is one such architecture consists of two parallel stacks. List the two parallel stacks in Simplified IoT Architecture.  
(CO2) [Knowledge]
3. IoT world forum reference model consist of seven level. Identify the level for sensor, actuators, and graphical representation of data.  
(CO2) [Knowledge]
4. The network layer protocols are IPv4 and IPv6 responsible for sending IP datagrams from source network to destination network. State the address length of IPv4 and IPv6.  
(CO3) [Knowledge]
5. The layer implemented at the device end like computer or mobiles is the application layer. List the application layer protocols in context of IoT.  
(CO4) [Knowledge]

## PART B

### ANSWER ANY TWO QUESTIONS

(2 Q X 20 M = 40 M)

6. A reference model enables the IoT problem to decompose, identify technologies, define system with different parts, define interfaces, and security models. Discuss the seven levels of IoT World Forum Reference Model.  
(CO2) [Comprehension]
7. The TCP/IP model is commonly used for connectivity of smart objects involving various protocols. Describe the IoT protocols at each layer in the TCP/IP model  
(CO3) [Comprehension]
8. To deploy cloud in IoT application it is essential to know the suitable cloud deployment models. Describe the cloud deployment model categories.  
(CO4) [Comprehension]

## PART C

### ANSWER ANY THREE QUESTIONS

(3 Q X 15 M = 45 M)

9. The Representational State Transfer (REST) API is commonly used communication API in IoT application. Describe the REST architectural constraints.  
(CO1) [Application]
10. Simplified IoT architecture is represented as two stacks. Describe the Data management and compute stack of simplified IoT architecture.  
(CO2) [Application]
11. Sensors differ greatly and the connecting technologies depends on the criteria used to analyze. Discuss any three criteria considered for smart object connectivity.  
(CO3) [Application]
12. Cloud services provider owns and operates data storage capacity by maintaining large data centers in multiple locations around the world. What are the types of cloud storage?  
(CO4) [Application]