Reg.No. 1 2 1 1 0 2 8 3

Bansilal Ramnath Agarwal Charitable Trust's
VISHWAKARMA INSTITUTE OF TECHNOLOGY, PUNE – 411037.
(An Autonomous Institute Affiliated to Savitribai Phule Pune University)

Examination: ESE

Year: SY
Branch: Multidisciplinary
Subject: Internet of Things
Subject Code: CS2221
Max. Marks: 60
Total Pages of Question Paper: 2
Day & Date: Monday, 19-Dec-2022
Time: 11:00 am to 1:00 pm

Instructions to Candidate

1. All questions are compulsory.
2. Neat diagrams must be drawn wherever necessary.
3. Figures to the right indicate full marks.

Q. No.	CO No	BT* No		Max marks
Q. 1.			**Solve any two**	
1-A	1	1	List and explain any four characteristics of IOT.	5
1-B	1	4	Compare TCP/IP and IoT Architecture – Stack.	5
1-C	1	2	Describer Publish–Subscribe Communication Model with neat schematic.	5
Q. 2.			**Solve any two**	
2-A	2	2	Describe Domain Model Specification Step in IOT Design Methodology.	5
2-B	2	3	Illustrate IOT Level Specification Step.	5
2-C	2	6	Develop smart parking system using IOT.	5
Q. 3.				
3-A	3	1	List and explain following static characteristic of sensors. (i) Accuracy (ii) Range (iii) Resolution (iv) Errors (v) Repeatability	5
3-B	3	4	Different between sensor and transducer.	5
Q. 4.				
4-A	4	6	Construct the typical data acquisition system. Explain in brief with neat schematic.	5
4-B	4	5	Summarize the significance of basic smart sensor node architecture in the development of wireless sensor network.	5
Q. 5.				
5-A	5	5	How to decide suitability of IoT network for any specific application w.r.t. power consumption, coverage area, data amount, and device density.	5
5-B	5	3	Compare performance of LP-WPAN, Bluetooth and WLAN w.r.t. range, data throughput, power consumption, size, nodes per network, and cost.	5
Q. 6.				
6-A	6	3	Illustrate MQTT message format with neat schematic.	5
6-B	6	6	Prepare the comparison chart for cloud computing services IaaS, PaaS and SaaS.	5

CO Statements:
CO1: Understand IoT Architecture and framework
CO2: Recognize and differentiate between the various use cases of different sensors, actuators, solenoid valve etc
CO3: Learn about fundamental concepts of networking and protocols.
CO4: Understand IoT Physical, Data link and Higher layer Protocols.
CO5: Apply theoretical knowledge for Cloud computing.
CO6: Implement an IoT solution practically
***Blooms Taxonomy (BT) Level No:**
1 Remembering; 2. Understanding; 3. Applying; 4. Analyzing; 5. Evaluating; 6. Creating