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Code No.: 17432 S

VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS), HYDERABAD*Accredited by NAAC with A++ Grade***B.E. (E.C.E.) VII-Semester Supplementary Examinations, July-2022****IOT Architectures and Protocols (PE-I)**

Time: 3 hours

Max. Marks: 60

*Note: Answer all questions from Part-A and any FIVE from Part-B***Part-A (10 × 2 = 20 Marks)**

Q. No.	Stem of the question	M	L	CO	PO
1.	State the characteristics of IoT.	2	1	1	1
2.	Differentiate between Logical and physical design of IoT.	2	2	1	1
3.	Recall the advantages & disadvantages of IoT	2	1	2	1
4.	Energy harvesting is an important aspect in wireless sensor networks implementation. Justify.	2	3	2	1,2
5.	List out various protocol used in Application layer.	2	1	3	1
6.	It is mandatory to use 6LOWPAN adoption layer in constrained IoT networks. Justify.	2	3	3	1,2
7.	What are the negative impacts of IoT technology on the environment?	2	2	4	1,7
8.	IoT is going to play an impact full role in insurance sector. Justify.	2	3	4	1,6
9.	Define Authentication and Authorization in IoT point of view	2	1	5	1,6
10.	Distinguish sink hole and black hole attacks	2	2	5	1
Part-B (5 × 8 = 40 Marks)					
11. a)	Explain the potential benefits of an IoT oriented approach over M2M by considering a Health band as the real world use case example. Compare the Main characteristics of M2M and IoT.	5	3	2	1,6
b)	Why gateways are required in an IoT solution? And in how many ways we can use it?	3	2	2	1
12. a)	List the functional layers and capabilities of an IoT solution with a neat diagram.	4	1	1	1
b)	Explain the deployment and operational view, resources, services, virtual entities, users in an IoT system by considering a Parking lot example.	4	4	1	1,6,7
13. a)	Design the protocol layer of IoT and explain various protocols used in each layer.	4	2	3	1,3
b)	Draw and Explain MQTT broker architecture with one example use case.	4	3	3	1

14. a)	Design a model for the smart city applications and services.	4	4	4	3,6,7
b)	Explain in brief how IoT is going to help in rural empowerment.	4	2	4	1,6
15. a)	What is Internet of Things security tomography? Explain in detail layered attacker model.	5	3	5	1,6
b)	Security issues related to IoT is delaying wide spread of IoT. Justify with explanation.	3	3	5	1,6
16. a)	Summarize various IoT enabling technologies.	4	3	1	1
b)	List the Real World Design Considerations in implementation of IoT and Explain them.	4	3	2	1,4
17.	Answer any <i>two</i> of the following: Write short notes on				
a)	CoAP Protocol	4	1	3	1
b)	Industry 4.0	4	2	4	1
c)	Security Concerns in IoT Applications	4	2	5	1

M : Marks; L: Bloom's Taxonomy Level; CO; Course Outcome; PO: Programme Outcome

i)	Blooms Taxonomy Level – 1	20%
ii)	Blooms Taxonomy Level – 2	36.25%
iii)	Blooms Taxonomy Level – 3 & 4	43.75%
