

Hall Ticket Number:

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Code No. : 16136 D

VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS), HYDERABAD

Accredited by NAAC with A++ Grade

B.E. VI-Semester Main & Backlog Examinations, June-2022

Internet of Things and Applications (OE-IV)

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.	Define IoT And List any two health care applications of IoT?	2	1	1	1
2.	Distinguish between M2M and IoT?	2	3	1	2
3.	List any four real world applications of IoT?	2	1	2	1
4.	What is the impact of value, variety and volume for data visualization in IoT based Systems?	2	3	2	2
5.	Abbreviate MQTT and CoAP? In which layer these protocols exist in IoT topology?	2	1	3	1
6.	Compare any four features of CoAP and MQTT?	2	1	3	1
7.	Justify the usage of Raspberry Pi for implementing IoT related applications?	2	1	4	1
8.	List the Python packages used for IoT?	2	1	4	1
9.	What are the Future Factory concepts of IoT Application?	2	2	5	2
10.	Draw different layers of IoT smart city layered architecture?	2	2	5	2
Part-B (5 × 8 = 40 Marks)					
11. a)	Explain The IoT Functional Blocks with a suitable diagram?	4	2	1	1
b)	Explain the M2M system architecture highlighting the different component functions with suitable diagram?	4	2	1	1
12. a)	Write about any four technical design constraints to be considered in the design of IoT Device?	4	3	2	2
b)	Justify the necessity of Power management in IoT Device? List any two methods for effective Power management in IoT Devices?	4	4	2	2
13. a)	Describe MQTT framework and its message format in detail?	4	2	3	1
b)	Explain the implementation steps of AMQP – IoT Protocol?	4	2	3	1

Contd... 2

14. a)	What are the features of Raspberry Pi? List the IoT interfaces that are supported?	5	3	4	2
b)	Summarize the data types used in python for implementing an IoT based Design?	3	3	4	2
15. a)	Discuss about the design methodology of the weather monitoring system briefly?	4	2	5	2
b)	Build the functionality of a Smart home lighting Air conditioning IoT system?	4	3	5	2
16. a)	Write a brief note on Local and Wide area networking?	4	1	1	1
b)	Explain security, privacy and trust in IoT Platforms for smart cities?	4	2	2	2
17.	Answer any <i>two</i> of the following:				
a)	Draw CoAP message format and explain its fields?	4	2	3	1
b)	Mention the basic building blocks that exist in a typical IoT device?	4	3	4	1
c)	Construct the functionality of an Activity Monitoring system for industrial applications using IoT?	4	3	5	2

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

i)	Blooms Taxonomy Level – 1	20%
ii)	Blooms Taxonomy Level – 2	40%
iii)	Blooms Taxonomy Level – 3 & 4	40%

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