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Code No: 156DR

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year II Semester Examinations, February/March - 2022

FUNDAMENTALS OF INTERNET OF THINGS

(Common to CE, EEE, ME, CSE, EIE, IT, MCT)

Time: 3 hours

Max. Marks: 75

Answer any five questions
All questions carry equal marks

- 1.a) Discuss the characteristics of IoT.
b) Explain how important are communication protocols when it comes to IoT? [5+10]
- 2.a) What is IoT? Explain evolutionary phases of the Internet.
b) Which protocol is used to link all the devices in the IoT? Explain in detail. [5+10]
- 3.a) Explain M2M service layer standardization.
b) Explain clearly, the procedure to interface an analog sensor with Arduino programming. [8+7]
- 4.a) What are the distributions supported by Raspberry Pi?
b) Write a Python program on Raspberry Pi to blink an LED. [7+8]
- 5.a) There are two models of Raspberry Pi, A and B. Which model is suitable for IoT applications? Justify your answer with necessary technical details by comparing the above two models.
b) How SDN can be used for various levels of IoT? [7+8]
- 6.a) Describe different Cloud Service Models.
b) Explain Data visualization and its importance in IoT. [7+8]
- 7.a) Discuss the role of Data Analytics in Internet of Things (IoT).
b) Construct the Design of Smart home with Raspberry Pi and other hardware devices with neat sketch. [7+8]
- 8.a) With a neat diagram, explain how actuators and sensors interact with physical world. Classify actuators based on energy type.
b) Explain Smart city security architecture. [7+8]

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