Total No. of Questions : 8]

SEAT No. :

PB2293

[Total No. of Pages : 2

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B.E. (Electronics & Telecommunication)

MODERNIZED IOT

(2019 Pattern) (Semester - VII) (404184 E) (Elective - III)

Time : 2½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) ***Answer Q.1 or Q.2, Q.3 or Q.4 Q.5 or Q.6 Q.7 or Q.8.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Figures to the right indicate full marks.***
4) ***Use of an electronic pocket calculator is allowed.***
5) ***Assume Suitable data, if necessary.***

Q1) a) Compare IPv6, 6LoWPAN and 6Ti SCH Network layer Protocols. List three applications of each. **[9]**

b) Describe in detail the wireless HART Communication Protocol. **[8]**

OR

Q2) a) Describe the session layer-HTTP, CoAP, and MQTT protocols. Also write their advantages and disadvantages. **[9]**

b) Describe in detail the TCP and UDP transport layer protocal. **[8]**

Q3) a) What is an IoT board? List the available IoT boards. Explain interfaces that IoT boards typically have. **[9]**

b) List out and explain any 8 Arduino functions in detail. **[8]**

OR

Q4) a) Interface the LED with Arduino board and write a program for LED Blinking? **[9]**

b) Explain deployment of IoT with Raspberry Pi Board? **[8]**

P.T.O.

Q5) a) Explain the application of IIoT in: **[9]**

i) Oil and Gas Industry,

ii) Healthcare

b) Describe the catalyst and Precursors of IIoT and innovations in IIoT with its challenges. **[9]**

OR

Q6) a) Draw and explain the Architecture of IIoT. **[9]**

b) What is Zigbee? Explain Zigbee architecture. List out applications of Zigbee. **[9]**

Q7) a) Explain in detail the Air Pollution monitoring system. **[9]**

b) Discuss in detail the concept of smart cities. **[9]**

OR

Q8) a) Design an IoT-based forest fire detection system, specifying the sensors, communication methods, and data analysis techniques. **[9]**

b) Briefly explain the application of IoT in: **[9]**

i) Smart Grid and

ii) Smart Parking

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