Code: 19ES1501

III B.Tech - I Semester – Regular Examinations – JANUARY 2022

INTERNET OF THINGS
(Common for CIVIL, EEE, ME, ECE, CSE, IT)

Duration: 3 hours   Max. Marks: 70

Note: 1. This question paper contains two Parts A and B.
2. Part-A contains 5 short answer questions. Each Question carries 2 Marks.
3. Part-B contains 5 essay questions with an internal choice from each unit. Each question carries 12 marks.
4. All parts of Question paper must be answered in one place

PART – A

1. a) What does IoT and digitization mean? Elaborate on this concept.
   b) What is sensor and explain its working principle?
   c) Define system-on-chip (SoC)
   d) What are the constraints of TCP protocol?
   e) What is CoAP?

PART – B
UNIT – I

2. a) What is IoT? Explain in detail on genesis of IoT.   6 M
   b) Explain the architecture of IoT with neat diagram.   6 M

                          OR

3. a) Discuss the challenges of IoT.   6 M
   b) Elaborate Distributed Compute and Data Management Across an IoT with neat diagram.   6 M

UNIT – II

4. a) Identify and explain about various actuators and its applications in IoT.   6 M

   b) Elaborate WSN. Explain its advantages & disadvantages.   6 M

OR

5. a) Elaborate in detail about smart objects.   6 M

   b) Explain about IoT Access technologies in detail.   6 M

UNIT-III

6. a) What is Arduino Uno? Explain its features in detail.   4 M

   b) Explain the procedure to build any IoT system with Arduino Uno. What are the physical devices and end points?   8 M

OR

7. a) Explain the parameters required to choose the platform in Embedded Computing.   6 M

   b) Define the following terms:
   i) Wiring   ii)Sketching in hardware
   iii) Arduino IDE software   6 M

UNIT – IV

8. a) What is Internet Protocol? Select and summarize the IP among IPv4 and IPv6 which IP satisfy a better quality of service in industry level.   6 M

   b) Classify and compare the various application layer protocols in IoT.   6 M

OR

9. a) Explain TCP/IP protocol suite with diagram.   6 M

    b) Define the following terms with respect to IoT
       i) IP addresses   ii) Static IP address
       iii) Dynamic IP address   iv) DNS   6 M

UNIT – V

10. a) Compare the key differences between CoAP and XMPP
       protocols.   6 M
    b) What is an API? Explain its types and benefits in detail. 6 M

                              OR

11. a) How to write an API? Explain using CURL to TEST.   6 M

    b) What is CLOCKODILLO? Explain how to solve the
       security issues of an API by CLOCKODILLO?   6 M