2124
B.E. (Electrical and Electronics Engineering)
Fifth Semester
PE-EE-504: Internet of Things

Time allowed: 3 Hours

Max. Marks: 50

**NOTE:** *Attempt* <u>*five*</u> *questions in all, including Question No. I which is compulsory and selecting two questions from each Unit.*

x-x-x

I. Attempt the following:-

a) What is the Internet of Things (IOT), and why is it significant in today's technology landscape?

b) Explain the concept of smart objects in the context of IOT.

c) Describe the role of standards in the development of IoT technologies.

d) What are the significant challenges faced in the IOT industry today?

e) List some applications of IoT in modern industries. (5x2)

## UNIT - I

II. Discuss the various components that make up IoT architecture and explain the function of each component. (10)

III. Explain the significance of various communication technologies like ZigBee, BLE, WiFi, LTE, and their impact on IoT development. (10)

IV. What are the implications of network topologies in IoT? Discuss with examples. (10)

## UNIT - II

V. Discuss how IOT can drive energy savings and enhance power management through smart and dynamic networks. (10)

VI. Explain the challenges associated with data processing in IOT environments and the importance of IP security. (10)

VII. Describe a hands-on project that utilizes Raspberry Pi or Arduino within the context of IOT. What are the key learning outcomes of such a project? (10)

x-x-x