Exam.Code:0935
Sub. Code: 33765

2076

B.E. (Electrical and Electronics Engineering)

Fifth Semester

PC-EE-504: Internet of Things

Time allowed: 3 Hours | Max. Marks: 50

***NOTE:*** *Attempt five 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) Define IoT.

(b) What is a smart object?

(c) Define BLE.

(d) State one IoT challenge.

(e) What is ZigBee?

(f) Define QoS.

(g) What is LTE?

(h) Name one IoT standard.

(i) What is Raspberry Pi?

(j) Define analytics. (10×1)

## UNIT - I

II. Explain the concept, importance and interdisciplinary nature of IoT. Discuss major IoT applications, industry players and standards. (10)

III. Describe the architecture of an IoT node with a neat diagram. Explain sensing, processing, communication and powering subsystems. (10)

IV. Discuss networking topologies and layer/stack architecture used in IoT. Explain their significance in large-scale deployments. (10)

## UNIT - II

V. Compare ZigBee, BLE, Wi-Fi, LTE and IEEE 802.11ah in terms of data rate, range, power consumption, bandwidth and QoS. (10)

P.T.O.

VI. Explain signal processing and analytics in IoT. Discuss their impact on power saving, energy efficiency and dynamic networks with suitable examples. (10)

VII. Explain IoT Fabricator. Discuss embedded electronics, communication network requirements, data processing challenges and IP/security issues. (10)

*x-x-x*