

THRT(V)

104

(2½ Hours)

[Total Marks: 75]

- N. B.: (1) **All** questions are **compulsory**.  
 (2) Make **suitable assumptions** wherever necessary and **state the assumptions** made.  
 (3) Answers to the **same question** must be **written together**.  
 (4) Numbers to the **right** indicate **marks**.  
 (5) Draw **neat labeled diagrams** wherever **necessary**.  
 (6) Use of **Non-programmable** calculators is **allowed**.

1. **Attempt any three of the following:** 15
  - a. Explain the components of Internet of Things.
  - b. Write a note on Calm and Ambient Technology.
  - c. What is MAC (Media Access Control) address? Explain.
  - d. Discuss the issue of Privacy in Internet of Things.
  - e. Explain the working of IP Protocol.
  - f. Write a note on DNS (Domain Name System).
  
2. **Attempt any three of the following:** 15
  - a. Write note on Sketching
  - b. Differentiate between open source and closed source.
  - c. Write note on Sensors and Actuators.
  - d. Write note on Raspberry Pi.
  - e. Discuss the factors we should consider when deciding to build Internet of Things device.
  - f. What are the disadvantages of Open source?
  
3. **Attempt any three of the following:** 15
  - a. Discuss the methods of 3D printing.
  - b. Write note on LASER Cutting
  - c. Explain the term Scraping.
  - d. What is Polling? Explain in brief
  - e. Write note on MQTT Protocol
  - f. What is CNC Milling? Explain.
  
4. **Attempt any three of the following:** 15
  - a. Explain the different types of memories
  - b. What is Debugging for Internet of Things device? Explain.
  - c. Write note on Long tail of Internet
  - d. Discuss the business model canvas for Internet of Things
  - e. Explain how to achieve customization in Internet of Things devices.
  - f. Explain the term Venture capital.
  
5. **Attempt any three of the following:** 15
  - a. What is Crowdsourcing? Explain.
  - b. Discuss the different environmental issues in Internet of Things
  - c. Explain common PCB (Printed Circuit Board) making techniques.
  - d. Discuss the phase of Testing in manufacturing of Internet of Thing devices.
  - e. Explain the important guidelines to deal with issue of security in Internet of Things.
  - f. Discuss the main goals of Open Internet of Things definition