**Unit-1**

1. Explain, How small SoC boots without BIOS.
2. Explain FPGA.
3. Write the steps to install Raspbian operating system on raspberry pi model B.
4. What is ARM? Write a short note on features of ARM 8 (e)
5. Explain the basic hardware components of Raspberry Pi
6. State the difference between Soc and CPU
7. Define Raspberry pi hardware.
8. Write a short note on Graphic Processing Unit (GPU)
9. What is SoC? Discuss the structure of SoC
10. Explain Compute Unit with block diagram.
11. Define steps of configuring boot sequence and hardware.
12. Define SoC products and explain FPGA.
13. Explain general architecture of an SoC with block diagram.
14. Write a short note on FPGA. Mention few advantages of FPGA
15. Explore the features of raspberry pi model 8 in short.
16. Write the steps to install Raspbian operating system on raspberry pi model B.
17. Write a short note on graphic processing unit(GPU).
18. Explain ARMS architecture with block diagram.

**Unit-2**

1. Explain following terms:
   1. Booth multiplier
   2. Control unit
2. Write a short note on free open source Raspbian OS
3. Define and explain with an example Pulse Width Modulation
4. Explain cross compiler with example.
5. Explain, what is node.js? Write note features of node.js?
6. Define and explain GPIO programming
7. Discuss any one Programming interface used with Raspberry Pi
8. Write a short note on free open source Raspbian OS
9. Explain the following Linux commands: rmdir touch, mv, cp, chmod
10. What is node is? Explain benefits of node js
11. Define and explain with an example Pulse Width Modulation
12. What is python? Explain its features?
13. Explain the following linux commands: pwd, rm, touch, ssh, ping.
14. Write a short note on node.js
15. Draw the tree components of node.js. Mention few application of nodejs.
16. Explain C bus as communication interface in raspberry pi model kit
17. Explain the use of linux command apt-get to install software in Raspbian model kit with example.
18. Explain UART as communication interface in raspberry pi model kit.

**Unit-3**

1. Explain XMPP protocol used in loT communication with block diagram.
2. Explain loT Service as a Platform
   1. Clayster platform
   2. thinger.io
3. What are different attacks possible in IOT? Explain the following
   1. Guessing the credentials
   2. Getting access to stored credentials
4. Explain HTTP protocol and its working with 1OT
5. Explain Node-RED as software tool in loT.
6. What is IOT and what are its features?
7. Write a short note on Security tools for loT
8. Explain XMPP protocol used in IoT communication with block diagram.
9. What is the role of CoAP protocol in IOT.
10. Write a python program and diagrammatically represent circuit connection to blink an LED using raspberry pi kit
11. Explain the following tools
    1. VPN
    2. X.509 certificates and encryption
12. Discuss any two real time applications of IoT.
13. Explain, what is loT? Give some examples.
14. Explain HTTP protocol used in loT communication with block diagram.
15. Write a short note on Node-RED as software tool used in embedded designing
16. Explain Native compiler and Cross compiler with example.
17. What are the different modes of attacks in loT based system?
18. What security measures we can have in loT communication?

**Mix**

1. Discuss the characteristics of SPI. How one can connect Camera module using SPL
2. Explain different security tools in OT.
3. Explain general architecture of an SoC with block diagram.
4. Explain the following Linux commands: Is, pwd, cat, tar, unzip
5. Explain the working of MQTT protocol in IOT
6. Explain ARM8 architecture with block diagram
7. Explain following terms
   1. Booth multiplier
   2. Register file
8. Explain loT security in detail
9. Define GPIO programming
10. Explain Carriots as loT service platform in embedded designing
11. How will you connect Raspbian OS with your system? Write the Steps
12. Write a short note on free open source Raspbian OS.
13. Explain XMPP protocol used in laT communication with block diagram
14. Write a short note on Clayster as loT service platform.
15. Write a python program and diagrammatically represent circuit connection to blink an LED using raspberry pi kit