

Duration: - 2.30 hrs

F5180IO19

Maximum Marks : 75

Note: - 1. All Questions are Compulsory.  
2. Figures to the right indicate Marks.

**Q.1 Attempt all the questions (Each of 5 Marks)**

(15)

**I. Multiple Choice Questions :-**

1. \_\_\_\_\_ is Tools for achieving security.  
(a) Virtual Private , (b) Tri G Security, (c) MGTT, (d) DDOS
2. Which one of the following is not an HTTP method  
(a) GET, (b) Post, (c) UNDO, (d) Delete
3. Raspberry Pi GPIO has \_\_\_\_\_ number of Pins  
(a) 20, (b) 40 (c) 25 (d) 30
4. State True or False "Raspberry Pi does not have any internal memory:-  
(a) True, (b) False
5. MQTT stands for \_\_\_\_\_  
(a) MQ Telemetry Things b) MQ Transport Telemetry  
(c) MQ Transport Things d) MQ Telemetry Transport

**II. Fill in the blanks the help of following Pool of options:-** (Sydo, touch, chown, ls, Node RED, Node JS, HTTP, Broadcom chip – Specific pin numbers)

- a. \_\_\_\_\_ Command Potentially offers a fine grained choice of permissions for users and groups to access portions of the admin users powers.
- b. The command \_\_\_\_\_ sets the last modified time stamp of the specified file(s) or creates it if it does not already exist.
- c. BCM is also referred to as \_\_\_\_\_.
- d. The \_\_\_\_\_ command changes the uses and / or group that own a file.
- e. \_\_\_\_\_ is a IOT service as a platform.

**III. Answer in ONE-TWO sentences :-**

1. List stager of 3 stage pipeline organization?
2. What is things IOT?
3. What is sense IOT?
4. What is REST?
5. Node RED is a protocol for communication in IOT?

**Q.2 Attempt the following questions (Any Three)**

(15)

- a. Explain ARM 8 architecture with block diagram?
- b. Explain the basic Hardware components of Raspberry pi?
- c. Write a note on Compute unit with block diagram?
- d. Differentiate between CPU & GPU with an example.
- e. Explain FPGA?

**Q.3 Attempt the following questions (Any Three)**

(15)

- a. Explain the Linux commands with example any 5?
- b. Explain following terms : (i) Booth multiplies (ii) Control Unit?
- c. What is Python? Explain its features?
- d. Define and explain GPIO programming?
- e. What is node JS? Explain benefits of node.JS
- f. Explain UART as communication interface in raspberry pi model kit?

(15)

**Q.4 Attempt the following questions (Any Three)**

- a. Explain native compiles and cross compiles with example?
- b. Discuss any two real time applications of IOT?
- c. Write a short note on MQTT Protocol and its architecture?
- d. What is the role of COAP protocol in IOT
- e. What are different attacks possible in IOT? Explain the following :  
(a) Guessing the credentials (b) Getting access to stored credential?
- f. Write a short note on XMPP protocol used in IOT.

(15)

**Q.5 Attempt the following questions (Any Three)**

- a. Explain the working of MQTT Protocol in IOT?
- b. Explain security tools for IOT?
- c. What is a provisioning SGVS? How it helps in communication between two devices
- d. How will you connect Raspbian O.S with your system? Write the steps?
- e. Write a short note on free open source Raspbian O.S.
- g. Write a Python program and diagrammatically represent circuit connection to blink an LED using Raspberry pi kit?

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