

Q.P. Code :19851

[Time: 2½ Hours]

[Marks:75]

Please check whether you have got the right question paper.

- N.B:
1. All questions are compulsory.
 2. Figures to the right indicate marks.
 3. Illustrations, in-depth answers and diagrams will be appreciated.
 4. Mixing of sub-questions is not allowed.

Q. 1 Attempt All (Each of 5Marks)

a.

1. The _____ command changes the user and/or group that own a file.

- a. chown b. sudo c. Ch d. ls

2. Use _____ to store or extract files from a tape archive file.

- a. tar b. gunzip c. rar d. win zip

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3. A Raspberry Pi needs power supply.

- a. 5 volts b. 10 volts c. 15 Volts d. 20 Volts

4. Which is not an SoC product.

- a. FPGA b. GPU c. APU d. CPU

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5. Carriots is an Raspberry pi interface?

- a. true b. false

b) Fill in the blanks the help of following pool of options.

{ sudo, touch , set permissions, Thinger.io, HTTP, MQTT, A universal asynchronous receiver/transmitter, A universal adapter receiver/transmitter }

1. _____ Command potentially offers a fine-grained choice of permissions for users and groups to access portions of the admin user's powers.

2. The command _____ sets the lest modified-time-stamp of the specified file(s) or creates it if it does not already exist.

3. _____ is a IoT Service as a Platform.

4. _____ is a client server architecture protocol in IoT.

5. UART stands for _____.

c) State true or false for the following sentence and give a reason for your answer.

1. Clyster is an IoT Service as a Platform?

2. DDoS is a type of security tool for IoT?

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Answer in 1 - 2 sentences

- 3. Define APU
- 4. What is IoT?
- 5. What do you mean by Risk in IoT?

Q. 2 Attempt the following (Any THREE)

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- a) Differentiate between CPU and GPU with an example.
- b) What is compute units? How does it work? Discuss concept of pipelining with example
- c) Explain with neat labelled diagram ARM architecture and its components
- d) How many different types of operating systems are available? Explain in brief Raspbian.
- e) Discuss boot sequence configuration for preparing Raspberry Pi for the first time.
- f) What is SoC? Discuss the structure of SoC.

Q. 3 Attempt the following (Any THREE).

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- a) How to configure the raspberry pi with linux commands.
- b) Explain the following commands with example.
 - i) grep
 - ii) sudo apt-get update
 - iii) head
 - iv) Touch
 - v) sudo apt-get upgrade
- c) Define interface? Write a short note on UART.
- d) Define and explain with an example Pulse Width Modulation.
- e) Discuss the characteristics of SPI. How one can connect Camera module using SPI.
- f) Write a short note on Node.js

Q. 4 Attempt the following (Any THREE)

15

- a) Discuss any two real time applications of IoT.
- b) Discuss HTTP Protocol with Client-Server architecture.
- c) Discuss authorization and communication in XMPP.
- d) Write a short note on MQTT protocol and its architecture.
- e) What are sensors? How they can be incorporated in CoAP.
- f) What is a provisioning server? How it helps in communication between two devices?

Q. 5 Attempt the following (Any THREE).

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- a) Write a short note on ARM 8.
- b) Discuss any one Programming interface used with Raspberry Pi.
- c) How one can connect an LED using Simple IoT LED Program.
- d) What are different Modes of Attacks in IoT?
- e) Write a short note on Security tools for IoT.
