Q.P. Code :19851

[Time: $2\frac{1}{2}$ 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)**   **15**

a.   **05**
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

(4) 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

(1) 5. Carriots is an Raspberry pi interface?
   a. true   b. false

b) **Fill in the blanks the help of following pool of options.**   **05**
{ 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 loT Service as a Platform.

4. _____is a client server architecture protocol in loT.

5. UART stands for _____.

c) **State true or false for the following sentence and give a reason for your answer.**   **05**
1. Clyster is an loT Service as a Platform?
2. DDoS is a type of security tool for loT?

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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)   **15**
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).   **15**
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).   **15**
a) Write a short note on ARM 8.
b) Discuss any one Programing 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.

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