

Date: 10.10.2019

Time : (2½ Hours)

Total Marks: 75

- N.B. (1) All questions are compulsory.  
(2) Figures to the right indicate marks for respective sub questions.  
(3) Figures to the right indicate marks.  
(4) Illustrations, in-depth answers and diagram will be appreciated.  
(5) Mixing of sub-question is not allowed.

Q.1) Attempt all. (Each of 5 marks) (15)

(a) Multiple Choice Questions (Choose the correct alternative.) (5)

- (i) What is the processor used by ARM8 \_\_\_\_\_  
(a) 8-bit ARM (b) 6-bit ARM  
(c) 32-bit ARM (d) 64-bit ARM
- (ii) Does Raspberry Pi need external hardware?  
(a) True (b) False
- (iii) Which instruction set architecture is used in Raspberry Pi?  
(a) X86 (b) MSP  
(c) AVR (d) ARM
- (iv) LED Stands For \_\_\_\_\_  
(a) Light Emitting Diode (b) Light End Diode  
(c) Light Enhance Diode (d) Light Electronic Diode
- (v) Raspberry Pi GPIO has \_\_\_\_\_ Numbers Pins?  
(a) 15 (b) 40  
(c) 27 (d) 39

(b) Fill in the blanks. (5)

{ Broadcom chip-specific pin numbers, 5, 4 , Node RED, Node.js, touch, chown, Cross Compiler, sudo, MQTT }

- (i) \_\_\_\_\_ is a IoT Service as a Platform.  
(ii) BCM is also referred to as \_\_\_\_\_.  
(iii) The \_\_\_\_\_ command changes the user and/or group that own a file.  
(iv) \_\_\_\_\_ is a compiler that runs on one platform/architecture  
(v) \_\_\_\_\_ USB ports are present in Raspberry Pi 3?

(c) Short Answers Write answers in one or two lines. (5)

- (i) Define System on Chip?  
(ii) What does FPGA Stands For?  
(iii) Which command is use open Raspberry pi configuration file?  
(iv) What is use of cat command in raspberry pi?  
(v) Define IOT?

Q.2) Attempt the following:(ANY THREE) (Each of 5 marks) (15)

- (i) Write a note on SoC (System on chip)?  
(ii) Write a short note on FPGA?  
(iii) Write a note on Raspberry pi in detail?  
(iv) Write a short note on GPU?  
(v) Discuss the Arm 8 Architecture in detail?  
(vi) How to Configuring booting sequence and hardware in raspberry pi model?

- Q.3) Attempt the following:(ANY THREE) (Each of 5 marks) (15)
- (i) Write a note on Raspbian?
  - (ii) Discuss Linux command(file system Command, Networking Command)
  - (iii) Write a Note on Node.js?
  - (iv) Write a Note on GPIO pins?
  - (v) Write the python program for capture image by using camera?
  - (vi) Write a Note on plus width modulation?
- Q.4) Attempt the following:(ANY THREE) (Each of 5 marks) (15)
- (i) What is IOT? & examples of IOT?
  - (ii) Write simple led blinking program in Python?
  - (iii) Write Note on XAMP protocol?
  - (iv) Write note on MQTT Protocol in detail?
  - (v) Explain tools, are used for Network Security in IOT?
  - (vi) Discuss modes of Attack in IOT in Detail?
- Q.5) Attempt the following:(ANY THREE) (Each of 5 marks) (15)
- (i) Write a note on APU?
  - (ii) What do you think You must use raspberry pi?
  - (iii) What are Advantages and Disadvantages of Raspberry pi?
  - (iv) How is Raspberry pi use in IOT
  - (v) What is NOOBS software all about?
  - (vi) Where we use of raspberry pi? Explain any two examples?

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