S. Y. B. Sc. (Computer Science)
USCSEL-241 Embedded System Design
Autonomous Semester –I Paper-I

Time: 120 min **Max. Marks: 35**

Instructions to the candidates: 1) All questions are compulsory.
2) Figures to the right indicate full marks.
3) Draw neat diagrams wherever necessary.

Q1) Solve any FIVE of following. **[5]**

a) What is the use of 'time' function?

b) Name the official OS provided by Raspberry Pi foundation.

c) Name the main boot and storage mechanism of the Raspberry Pi.

d) How many core processors are present in Raspberry Pi ?

e) What is MMU?

f) Write the output of the function round (4.576).

g) How many GPIO pins are present is Raspberry Pi?

Q2) Answer any FIVE of the following. **[15]**

a) Explain following functions of Python

I)eval (str) II) GPIO.input (channel) III) GPIO-setup (channel, GPIO.OUT)

b) How physical numbering scheme is selected on Raspberry pi?

c) What is the difference between Lists and Tuples?

d) Write Standard data types used in Python.

e) List the blocks of GPU present in Raspberry Pi.

f) Explain the stages in pipelining during execution of an instruction.

g) Write short note on Python Dictionary.

Q3) Answer any THREE of the following. **[15]**

a) List different types of operators used in Python. Explain any three operators in detail.

b) Draw the neat diagram of architecture of SOC. Explain any three blocks of it.

c) Explain any two types of SBC in detail. List the advantages and disadvantages of SBC.

d) Write the functions of following blocks of Raspberry pi

I) HDMI II) Micro SD Card III) USB ports IV) Ethernet V) Processor

e) Write Python program for LED interfacing to Raspberry pi

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