[6055]-205

S.Y.B.Sc. (Computer Science)
ELECTRONICS SCIENCE
ELC - 241 : Embedded System Design
(2019 Pattern) (Semester - IV) (24321) (Paper - I)

Time : 2 Hours]   *[Max. Marks : 35*

Instructions to the candidates:
1) *Q.1 is compulsory.*
2) *Solve any three questions from Q.2 to Q.5.*
3) *Figures to the right indicates full marks.*
4) *Neat diagrams must be drawn whenever neccessary.*
5) *Use of calculator is allowed.*

Q1) Attempt any Five.   **[5×1=5]**

    a) State use of UART in communication.

    b) What does the term flexibility related to soc's?

    c) State role of watchdog module in soc's.

    d) What is the use of 'print str[o]' instruction in python?

    e) List any two standard datatypes in python.

    f) State use of 'GPIO. Cleanup ()' function.

Q2) Answer the following.   **[2×5=10]**

    a) Explain embedded system with a general layout diagram.

    b) Draw the proper interfacing diagram of PIR sensor to Raspberry Pi. Write a python program for defection of motion.

Q3) Answer the following.   **[2×5=10]**

    a) Explain Branch prediction and folding concept.

    b) List any four assignment operators in python. Write a python program for multiplication of two numbers.

Q4) Answer the following.   **[2×5=10]**

    a) What is the library function? State the use of following instructions.

       i) print tuple [o]

       ii) dict (d)

       iii) time ( )

    b) With proper circuit diagram explain LCD interfacing to Raspberry Pi.

Q5) Write short note on any <u>four</u> of the following.   [4×2.5=10]

   a) SOC.

   b) Microcontroller.

   c) Digital signal processors.

   d) Network on a chip.

   e) NOOBS.

   f) Bluetooth module.

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