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Uni. Roll No. ....

Program: B.Tech. (Batch 2018 onward)

Semester: 5

Name of Subject: Microprocessors and Microcontrollers

Subject Code: PCEE-111

Paper ID: 16463

Scientific calculator is Not Allowed

Time Allowed: 03 Hours   Max. Marks: 60

NOTE:

1) Parts A and B are compulsory

2) Part-C has Two Questions Q8 and Q9. Both are compulsory, but with internal choice

3) Any missing data may be assumed appropriately

Part – A   **[Marks: 02 each]**

Q-1

a) What are the advantages of assembly language over high level language?

b) What is the function of stack pointer?

c) Draw a flow chart depicting steps to create a hex file.

d) Name various data types in C language.

e) Differentiate jump and call instructions.

f) Write an assembly language program to ADD two numbers and display the result across port 0.

Part – B   **[Marks: 04 each]**

Q.2. Draw and explain each bit of PSW.

Q.3. Write a short note on basic serial communication using RS232.

Q.4. Discuss the internal memory organisation of 8051 µC.

Q.5. Create an assembly language program to generate square wave on P1.2.

Q.6. Differentiate microprocessor and microcontroller with atleast 8 points

Q.7. Write a C program to bring in a byte of data serially one bit at a time via P1.0. The LSB should come in first.

Part – C   [Marks: 12 each]

Q.8.   Explain the architectural block diagram of 8051 microcontroller in detail?

OR

Draw the pin diagram of 8051 µC and explain the function of each pin

Q.9.   Interface an LCD to 8051 µC. Write an assembly language programme to display the message 'SAVE WATER'

OR

With the help of circuit diagram explain the interfacing of ADC to 8051 µC

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