Reg. No.

Question Paper Code : **57296**

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2016

Fourth/Fifth Semester

Computer Science & Engineering

EC 6504 – MICROPROCESSOR AND MICROCONTROLLER

(Common to Information Technology and Medical Electronics/Bio Medical
Engineering/Electronics and Communication Engineering)

(Regulations 2013)

Time : Three Hours   Maximum : 100 Marks

Answer ALL questions.

PART – A (10 × 2 = 20 Marks)

1. List the flags of 8086.

2. Define stack.

3. Differentiate External verses Internal Bus.

4. Compare closely coupled and loosely coupled configurations.

5. List the advantages and disadvantages of parallel communication over serial
    communication.

6. What is key bouncing ?

7. What are the different ways of operand addressing in 8051 ?

8. Write an 8051 ALP to toggle P1 a total of 200 times. Use RAM location 32H to hold
    your counter value instead of registers R0 -R7.

9. Compare polling and interrupt.

10. Define baud rate of 8051.

PART – B (5 × 16 = 80 Marks)

11. (a) (i) Explain the Data transfer, arithmetic and branch instructions with examples. **(9)**

     (ii) Write an 8086 ALP to find the sum of numbers in an array of 10 element. **(7)**

   OR

   (b) Define interrupts and their types. Write in detail about interrupt service routine. **(16)**

12. (a) Explain in detail about the system bus timing of 8086. **(16)**

   OR

   (b) Explain the following :

     (i) Multiprocessor system **(4)**

     (ii) Coprocessor **(4)**

     (iii) Multiprogramming **(4)**

     (iv) Semaphore **(4)**

13. (a) Explain in detail about DMA controller with its diagram. **(16)**

   OR

   (b) Draw and explain the block diagram of alarm controller. **(16)**

14. (a) Explain the architecture of 8051 with its diagram. **(16)**

   OR

   (b) Write an 8051 ALP to create a square wave of 66% duty cycle on bit 3 of port 1. **(16)**

15. (a) Draw the diagram to interface a stepper motor with 8051 microcontroller and Write its ALP to run the stepper motor in both forward and reverse direction with delay. **(16)**

   OR

   (b) Explain 8051 serial port programming with examples. **(16)**

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