Reg. No. : | | | | | | | | | | | | |

# Question Paper Code : 40964

B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2018
Fourth/Fifth Semester
Electronics and Communication Engineering
EC 6504 – MICROPROCESSOR AND MICROCONTROLLER
(Common to Biomedical Engineering/Computer Science and Engineering/Medical Electronics/Information Technology)
(Regulations 2013)

Time : Three Hours | Maximum : 100 Marks

Answer ALL questions

PART – A **(10×2=20 Marks)**

1. Define stack pointer.
2. List the various addressing modes of 8086.
3. List two differences between maximum mode and minimum mode configuration of 8086.
4. What is meant by multiprogramming ?
5. Give the various modes of 8254 timer.
6. Write a 16-bit delay program in 8086.
7. Draw the pin diagram of 8051.
8. What are bit manipulation instructions ? Give two examples.
9. What are the types of sensors used for interfacing ?
10. Give the priority level of the interrupt sources in 8051.

PART – B **(5×13=65 Marks)**

11. a) Draw and explain the architecture of 8086 with neat diagram. **(13)**

(OR)

b) Explain in detail about the interrupts and interrupt service routines of 8086. **(13)**

12. a) Discuss the maximum mode configuration of 8086 with a neat diagram. Mention the functions of various signals. **(13)**

(OR)

b) Discuss about the multiprocessor configurations of 8086. **(13)**

13. a) Draw the block diagram and explain the operations of USART. **(13)**

(OR)

b) Explain in detail about DMA controller. **(13)**

14. a) Explain the architecture of 8051 with a neat diagram. **(13)**

(OR)

b) Discuss on the different addressing modes of 8051 with suitable examples. **(13)**

15. a) Describe the different modes of operation of timers/counters in 8051 with its associated registers. **(13)**

(OR)

b) Draw the diagram to interface a stepper motor with 8051 microcontroller and write an ALP to run the stepper motor in both forward and reverse direction with delay. **(13)**

PART – C **(1×15=15 Marks)**

16. a) Draw and explain the block diagram of alarm controller. **(15)**

(OR)

b) Draw the block diagram of traffic light control system using 8086. Write the algorithm and ALP for traffic light control system. **(15)**