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**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)

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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)