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**Question Paper Code : 42452**

B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2018

Fifth Semester

Electronics and Communication Engineering

EC 2304 – MICROPROCESSORS AND MICROCONTROLLERS

(Regulations 2008)

(Common to PTEC 2304 – Microprocessors and Microcontrollers for B.E.

(Part-Time) Fifth Semester – ECE – Regulations 2009)

Time : Three Hours

Maximum : 100 Marks

Answer ALL questions

PART – A

(10×2=20 Marks)

1. Define Microprocessor.
2. List the steps involved in the instruction execution.
3. What are assembler directives ? Give two examples.
4. List the instructions provided by 8086 for ASCII arithmetic.
5. State the importance of sample and hold circuit.
6. List the applications of programmable interval timer.
7. List the jump statements of 8086.
8. Write a program to find the 2's complement using 8051.
9. What is meant by RTC ?
10. State the importance of relay coils.

PART – B

(5×16=80 Marks)

11. a) With a neat diagram, explain the Bus Interface Unit and Execution Unit of 8086 microprocessor.

(OR)

- b) Explain the maximum mode configuration of 8086 with a neat diagram. Mention the functions of various signals.



12. a) Discuss on the various classifications of 8086 microprocessor instructions with appropriate examples.

(OR)

- b) Write the algorithm to sort an array of 10 bytes in ascending order. Also write an 8086 ALP for the algorithm.

13. a) Explain the programming and operating modes of 8255 PPI in detail.

(OR)

- b) With neat block diagram, explain the 8279 keyboard and display controller.

14. a) Explain the architecture of 8051 microcontroller with neat diagram.

(OR)

- b) i) Discuss on the various addressing modes of 8051 with appropriate examples. (10)

- ii) Discuss on the various interrupt sources available in 8051. (6)

15. a) With neat sketch, explain the design of traffic light controller using microcontroller and microprocessor.

(OR)

- b) Draw the diagram to interface a stepper motor with microcontroller/microprocessor and write an ALP to run the stepper motor in both forward and reverse direction with delay.