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2022

Reg. No. : .....

Name : .....

**Fourth Semester B.Tech. Degree Examination, May 2014**

**(2008 Scheme)**

**Branch : INFORMATION TECHNOLOGY**

**08.403 : Microcontroller Based Design (F)**

Time : 3 Hours

Max. Marks : 100

**PART – A**

Answer **all** questions :

1. What are the criteria for choosing a Microcontroller ?
2. How are stacks accessed in 8051 ?
3. What is machine cycle ? Find the machine cycle if the crystal frequency is 18 MHz.
4. What is called a Cheeksum byte ? Give an example.
5. What is the relevance of TMOD register in 8051 ?
6. What are the steps in executing an interrupt ?
7. What is the role of ALE pin in 8051 ?
8. Explain with example interrupt register.
9. Explain the importance of TI flag in serial communication.
10. Write a program to generate a square wave of 0.5 KHz. Use timer 0. **(10×4=40 Marks)**

P.T.O.



## PART – B

Answer **any one** question from **each** Module.

**Module – I**

11. a) Explain with an example call instructions in 8051. 10  
b) Explain with an example how packed BCD is converted into ASCII and vice-versa. 10

OR

12. Compare and contrast the various addressing modes in 8051. 20

**Module – II**

13. Explain in detail level-triggered interrupts and edge-triggered interrupts. 20

OR

14. Explain in detail with an example how timers are used as counters in 8051. 20

**Module – III**

15. Explain in detail with a diagram how an LCD is interfaced to 8051. 20

OR

16. Explain with a diagram, the 8051 connection to external Data-RAM. 20

(3×20=60 Marks)

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