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**B.E.(FULL TIME) DEGREE END SEMESTER EXAMINATIONS, NOV / DEC 2011**

**ELECTRONICS AND COMMUNICATION ENGINEERING BRANCH**

24

**FIFTH SEMESTER ( REGULATIONS :2008 )**

**EC9303 – MICROPROCESSOR AND MICROCONTROLLER**

**Duration: 3 Hrs.**

**Maximum Marks : 100**

**Answer All Questions.**

**Part A**

**10 X 2 = 20 Marks.**

1. What is the use of interrupt vector table in 8086?
2. Mention the pins and instructions used for serial communication using 8085.
3. Differentiate between minimum and maximum mode operation in 8086.
4. What is a string instruction? Give example.
5. Give the control word to make all ports of 8255 as input port.
6. What are the functions of ISR and IRR in 8259.
7. Write a program in 8051 to find the average of two numbers.
8. How will you access the register banks in 8051.
9. List down the SFRs used in serial communication in 8051.
10. Draw the schematic to interface ADC with microcontroller.

**Part B**

**5 X 16 = 80 Marks.**

- 11(i). Let the content of the different registers in the 8086 be as follows: DS=1000H, SS=2000H, ES=3000H, BX=4000H, SI=5000H, DI=6000H, and BP=7000H. Find the memory address/ addresses from where the 8086 accesses the data while executing the following instructions. (8 Marks).  
(1) MOV AX,[BX]. (2) MOV BX,[SI]. (3i) MOV CX,[BP]. (4) MOV CX,ES:[DI]
- 11(ii). Draw and explain the architecture of 8086 microprocessor. (8 Marks).
- 12.(a)(i). Draw the timing diagram for the 8085 instruction IN. Assume other relevant details. (8 Marks).  
(ii). Briefly explain the instruction set of 8085 with an example. (8 Marks).

**(OR)**

**P.T.O**

13.(a)(i) Explain the five architectural methods that are used to increase the capacity of a cellular system. (10)

(ii) Assume that you have six sector cells in a hexagonal geometry. Draw the hexagonal grid corresponding to this case. Compute signal to interference ratio for reuse factors of 7 and 3. Comment on your results. (6)

**OR**

13.(b) Explain the following location management mechanisms (i) Location update (ii) Paging schemes and (iii) Location information dissemination. (16)

14.(a) Draw the GSM protocol architecture. Explain the various physical packet burst and various logical channels of GSM. (16)

**OR**

14.(b) Explain the mobility management and handoff procedure in CDPD. (16)

15.(a)(i) Draw and explain the protocol stack for Bluetooth. (8)

(ii) Explain the protocol stack for implementation of cordless telephone over Bluetooth and FTP over Bluetooth. (8)

**OR**

15.(b) Explain the following technologies for wireless geolocation (i) Direction Based Technique (ii) Distance Based Technique and (iii) Finger printing Based Technique. (16)

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