Total No. of Questions : 12]

SEAT No. : ____

P1981

[Total No. of Pages : 2

[5254] - 90
B.E. (Electronics)
SYSTEM ON CHIP
(2008 Pattern) (Elective - II)

Time : 3 Hours] ***[Max. Marks : 100***

Instructions to the candidates :

1) ***Attempt Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6 from Section - I.***
2) ***Attempt Q.7 or Q.8, Q.9 or Q.10, Q.11 or Q.12 from Section - II.***
3) ***Answer to the two sections should be written in separate books.***
4) ***Neat diagrams must be drawn whenever necessary.***
5) ***Assume suitable data, if necessary.***

SECTION - I

Q1) a) Explain 4 transduction methods of mechanical transducers. **[8]**

b) Write a short note on material of MEMS. **[8]**

OR

Q2) a) Explain the principles & applications of MEMS. **[8]**

b) Explain the micromachining process in detail. **[8]**

Q3) a) Explain various substrate materials used for MEMS. **[8]**

b) What is the concept of sliding control. Explain in brief. **[8]**

OR

Q4) a) Explain various Digital controls in MEMS. **[8]**

b) Write short note on silicon piezo resistors. **[8]**

Q5) a) What are various mechanical transducers. **[9]**

b) Write short note on biosensors. **[9]**

OR

Q6) a) Explain the concept of electrophorosis. **[9]**

b) Explain various thermal transducers. **[9]**

P.T.O.

SECTION - II

Q7) a) Explain the SOC design flow. **[8]**

b) Explain the VLSI Design flow w.r. to FPGA. **[8]**

OR

Q8) a) Explain 4 compilation techniques of digital media. **[8]**

b) Explain the concept of automation w.r. to MEMS design. **[8]**

Q9) a) Explain the core architecture of digital media. **[8]**

b) What is the effect of the process of photolithography? Explain in detail. **[8]**

OR

Q10)a) What are the three basic steps of front end design in MEMS. **[8]**

b) Explain the process of FPGA synthesis. **[8]**

Q11)a) Explain TAP controller in detail. **[9]**

b) Explain BZLBO - in detail. **[9]**

OR

Q12)a) What is the advantage of mechanical packaging? How it is done. **[9]**

b) Explain h/w s/w co. design issues. **[9]**

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