

Total No. of Questions : 8]

SEAT No. :

P3617

[Total No. of Pages : 2

**[4959] - 1102**  
**B.E. (Electronics)**  
**Electronics System Design**  
**(2012 Pattern) (End Sem.)**

*Time : 2.30 Hours]*

*[Max. Marks : 70*

**Instructions to the candidates:-**

- 1) *Answer the questions Q(1) or Q(2), Q(3) or Q(4), Q(5) or Q(6), Q(7) or Q(8).*
- 2) *Figures to the right indicate full marks.*
- 3) *Neat diagrams must be drawn wherever necessary.*
- 4) *Use of electronic calculator is allowed.*
- 5) *Assume suitable data, if necessary.*

- Q1)** a) How to increase the reliability of the system? Explain the different soldering techniques used in high reliability product. **[8]**
- b) List different ADC specifications and explain it. **[6]**
- c) What are the factors affecting on selection of buses and protocols in high speed electronics product. **[6]**

OR

- Q2)** a) Explain the different soldering techniques used in large scale production and high reliability product. **[8]**
- b) Explain one example of application of instrumentation amplifier. **[6]**
- c) Design and explain Interfacing of LCD with microcontroller. **[6]**

- Q3)** a) Explain different stages of software development in electronic product. **[8]**
- b) Write a note on debugging tools and techniques for software design. **[8]**

OR

- Q4)** a) Explain the factors affecting on the choice of assembly language and high level language with example. **[8]**
- b) What are the features of assembler and cross compilers. **[8]**

**P.T.O.**

- Q5)** a) What are the different PCB Design issues for high speed integrated circuits. Explain in detail. [10]  
b) Explain the importance of shielding and grounding. [8]

OR

- Q6)** a) What are the different PCB Design issues of analog and mixed signal Circuits. Explain in details. [10]  
b) List different EMI/EMC standards. Explain its importance. [8]

- Q7)** a) Explain how debugging of electronics circuit is carried out by logic analyzer. [8]  
b) Explain with suitable example of vibration testing. [8]

OR

- Q8)** a) What is need of environmental testing? Explain different types of environmental testing. [8]  
b) Write a notes on : [8]  
i) Digital storage oscilloscope.  
ii) Mixed single oscilloscopes.

