

Total No. of Questions : 8]

SEAT No. :

P2247

[Total No. of Pages : 3

[5254]-582

B.E. (Electronics)

ELECTRONICS SYSTEM DESIGN

(2012 Course)

Time : 2.30 Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *Answer the questions. Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7 or Q8.*
- 2) *Figures to the right indicates full marks.*
- 3) *Neat diagram must be drawn wherever necessary.*
- 4) *Use of electronic, calculator is allowed.*
- 5) *Assume suitable data, if necessary.*

- Q1)** a) Explain the bath tub curve for reliability indicating all its regions. Also explain how failure rate can be reduced in different regions of bath tub curve. [8]
- b) List different DAC specifications and explain its importance in design. [6]
- c) Explain R & D prototype in details. [6]

OR

- Q2)** a) Explain instrumentation amplifier with it's different specifications. [8]
- b) Design and explain interfacing of relay circuit with microcontroller. [6]
- c) What are the different LED configurations? Give suitable example for the same. [6]
- Q3)** a) Explain different phases of software design. List the common bugs and how to overcome these bugs. [8]

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- b) What are the different factors affecting on the choice between assembly & high level language. [8]

OR

Q4) Explain following approaches in development of application software for electronic product. [16]

- a) Top-Down approach
- b) Bottom-up approach
- c) Modular programming
- d) Water fall model

Q5) a) What are the different PCB design issues for high speed integrated circuits. Explain in detail. [10]

- b) Define crosstalk? What should be the remedy to minimize the crosstalk. [8]

OR

Q6) a) What are the different PCB design issues of analog and mixed signal circuits. Explain in detail. [10]

- b) What are the testing standards for EMI/EMC? [8]

Q7) a) What are the features and limitations of analog CRO, DSO, Logic analyzer and mixed signal Oscilloscope for fault findings? [8]

- b) Explain with suitable example of vibration testing. [8]

OR

Q8) a) What is monte Carlo method? Explain the use of environmental testing. [8]

b) Explain the significance of following specification of DSO. [8]

i) Memory depth

ii) Sampling rate

iii) Band width

iv) Frequency

