

**B.TECH SEM – VIII (2007 COURSE) (ELECTRONICS
ENGG.) : WINTER - 2017**

SUBJECT: ELECTRONIC SYSTEM DESIGN

Day: **Thursday**
Date: **23/11/2017**

W-2017-2682

Time: **02.30 PM TO 05.30 PM**
Max Marks: **80**

N.B:

- 1) **Q. No. 1 and Q.No.5 are COMPULSORY.** Out of remaining attempt any **TWO** questions from each section.
- 2) Figures to the right indicate **FULL** marks.
- 3) Both the sections should be written in the **SEPARATE** answer books.
- 4) Assume suitable data, if necessary.
- 5) Draw neat and labeled diagrams **WHEREVER** necessary.

SECTION-I

- Q.1** a) Define & discuss system reliability? (04)
- b) Explain ISO 9000 standards. (05)
- c) Explain control section from a RTL sequence. (05)
- Q.2** a) Write in brief AQL & Accelerated testing. (07)
- b) Explain backward linear prediction method with suitable diagram. (06)
- Q.3** a) What is necessity of Gyrator? Explain in detail the structure & working of Gyrator. (07)
- b) What is meant by mean time between failure? Define exponential law of reliability for an engineering system? (06)
- Q.4** a) Explain wiener filter design in detail. Write its significance. (06)
- b) Explain AR, MA & ARMA models for representation of stationary random process. (07)

SECTION-II

- Q.5** a) State specification of microcontroller based lift controller. (04)
- b) Explain any five types of faults. (05)
- c) Explain the terms: (05)
- i) Fault equivalence
- ii) Multiple stuck fault model
- Q.6** a) What is role of ladder diagram & explain use of ladder diagram with suitable example. (07)
- b) Write down the recommended steps in software development of real time microprocessor or microcontroller based product? (06)
- Q.7** a) State bridging fault model with suitable example. (07)
- b) Explain test pattern generation for BIST. (06)
- Q.8** a) Define compiler. What is use of cross compiler in software design & explain features of cross compiler. (07)
- b) Write short note on: (06)
- i) Simulator & simulation tools
- ii) In circuit emulator