

B.TECH SEM – IV (2007 COURSE) (BIOMEDICAL ENGG.) :

WINTER - 2017

SUBJECT: ELECTRONIC INSTRUMENTS

Day: **Tuesday**
Date: **21/11/2017**

W-2017-2435

02.30 PM TO 05.30 PM
Time:
Max Marks: 80

N.B:

- 1) **Q.No. 1 and Q.No. 5 are COMPULSORY.** Out of remaining questions attempt any **TWO** questions in each section.
 - 2) Answer to both the section should be written in **SEPARATE** answer book.
 - 3) Figures to the right indicate **FULL** marks.
 - 4) Assume suitable data if necessary.
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SECTION-I

- Q.1**
- a) Compare LED and LCD's. (04)
 - b) What do you mean by statistical analysis of errors? Explain with respect to electronic instruments. (06)
 - c) Write short note on pulse generator. (04)
- Q.2**
- a) Describe LED seven segment display driver. (07)
 - b) Describe the working of digital tap recorder with the help of block diagram. (06)
- Q.3**
- a) Describe construction and working of function generator with the help of block diagram. (07)
 - b) Draw block diagram of Digital Multimeter (DMM) and explain its operation. (06)
- Q.4**
- a) Describe the concept of alpha numeric display with a neat diagram. (07)
 - b) What is the main function of 'Lock-in Amplifier'? Explain it. (06)

SECTION-II

- Q.5**
- a) Explain in detail the principle of operation of a Signal Beam Cathode Ray Oscilloscope. (06)
 - b) List steps for trouble shooting of electronic equipments. (04)
 - c) Write short note on TTL family. (04)
- Q.6**
- a) With the help of block schematic explain basic internal counter circuitry. (07)
 - b) Explain frequency measurement with the help of a counter using signal flow diagram. (06)
- Q.7**
- a) Describe the features of cathode Ray Tube in oscilloscope. (07)
 - b) Compare dual trace and dual beam CRO. (06)
- Q.8**
- a) What do you mean by preventive maintenance? How would you carry it in Electronic circuit? (07)
 - b) What are different sources of noise in electronic equipment? Explain in detail. (06)

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