

**B.TECH SEM - V (2007 COURSE) (E & TC ENGG.) : SUMMER -  
2018**

**SUBJECT: ELECTRONICS CIRCUIT DESIGN**

Day : **Tuesday**

Date : **22/05/2018**

**S-2018-2695**

Time : **10.00 AM TO 01.00 PM**

Max. Marks:80

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**N. B. :**

- 1) **Q. No.1 and Q. No.5 are COMPULSORY.** Out of the remaining attempt **ANY TWO** questions from each section.
  - 2) Figures to the right indicate **FULL** marks.
  - 3) Answer the both sections should be **SEPARATE** answer book.
  - 4) Assume suitable data if necessary.
  - 5) Use of non-programmable **CALCULATOR** is allowed.
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**SECTION-I**

- Q. 1**
- a) Explain Reliability. State different methods to improve reliability. **(05)**
  - b) Draw and Explain linear power design. **(05)**
  - c) Write note on Parameter Optimization **(04)**
- Q. 2**
- a) Explain concept of Availability. State its types, also explain Markov Model. **(07)**
  - b) What if Screening Test? Explain Bath-Tube curve. **(06)**
- Q. 3**
- a) Design Regulated power supply using IC 723 to give output of 5V at 10 A current. The input voltage given is 10V and explains fold back characteristics of the IC 723. **(07)**
  - b) Define switch mode regulator and describe its topologies. **(06)**
- Q. 4**
- a) Write short note on IC based Switching regulator. **(07)**
  - b) Design IC723 based linear regulated power supply to vary the output from 2V to 30V with maximum load current  $I_L = 100$  mA. **(06)**

**SECTION-II**

- Q. 5**
- a) Explain design considerations of radio frequency. **(05)**
  - b) Write Top-Down and Bottom-Up approaches in software design methods. **(05)**
  - c) Define and Explain State Machine and State Diagram. **(04)**
- Q. 6**
- a) Explain implementation of Combinational logic in state machines using MSI, LSI devices. **(07)**
  - b) Develop an ASM chart for an "Automated Bank Teller" which will dispense the cash if the customer enters the correct account number and correct amount. **(06)**
- Q. 7**
- a) Explain design of communication system based on TDM. **(07)**
  - b) Write note on PCM. **(06)**
- Q. 8**
- a) Write a note on Role of Software tools in design Verification. **(07)**
  - b) Write Advantages of Software design in electronic design automation. **(06)**

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