SIDDHARTH GROUP OF INSTITUTIONS :: PUTTUR
Siddharth Nagar, Narayanavanam Road – 517583
(Autonomous)

QUESTION BANK (DESCRIPTIVE)

Subject with Code : Digital Control of Power Electronic and Drive Systems (18EE2113)
Course & Branch: M.Tech - EEE   **Year & Sem:** I & II-Sem
Regulation: R18

UNIT –I
Introduction

1. Explain the review of numerical methods to control power electronic converters?   12M

2. Explain the application of numerical methods to solve transients in D.C. switched R?   12M

3. Explain the application of numerical methods to solve transients in D.C. switched L?   12M

4. Explain the application of numerical methods to solve transients in D.C. switched R-L?   12M

5. Explain the application of numerical methods to solve transients in D.C. switched R-C?   12M

6. Explain the application of numerical methods to solve transients in D.C. switched R-L-C?   12M

7. Explain the working of R-L circuit with dc excitation under steady state?   12M

8. Explain the working of R-L circuit with dc excitation under dynamic state?   12M

9. Explain the working of R-C circuit with dc excitation under steady state?   12M

10. Explain the working of R-L-C circuit with dc excitation under dynamic state?   12M

UNIT –II

1. Discuss the working of diode with R load with AC supply?   12M

2. Discuss the working of diode with R-L load with AC supply?   12M

3. Discuss the working of diode with R-C load with AC supply?   12M

4. Discuss the working of diode with R-L-C load with AC supply?   12M

5. Explain the modeling of SCR and TRIAC in simulation?   12M

6. Explain the modeling of IGBT in simulation?   12M

7. Explain the application of numerical methods to R, L, C circuits with power electronic switches? 12M

8. Explain the Simulation of gate/base drive circuits?   12M

9. Explain the modeling of Power transistor in simulation?   12M

10. Explain the simulation of snubber circuits?   12M

UNIT –III

1. Explain the State space modeling and simulation of linear systems?   12M

2. How harmonics are produced and what are the harmonic introducing devices?   12M

3. Explain the introduction to electrical machine modeling of induction machine?   12M

4. Explain the introduction to electrical machine modeling of DC machine?   12M

5. Explain the introduction to electrical machine modeling of synchronous machine?   12M

6. Explain the simulation of basic electric drives?   12M

7. Explain the simulation of stability aspects?   12M

8. Explain the working of induction machine with neat equivalent circuit diagram?   12M

9. Explain the working of DC machine with neat diagram?   12M

10. Explain the working of synchronous machine with neat equivalent circuit diagram?   12M

UNIT –IV

1.   Explain the Simulation of single phase uncontrolled (SCR) rectifiers?   12M

2.   Explain the Simulation of three phase uncontrolled (SCR) rectifiers?   12M

3.   Explain the Simulation of three phase controlled (SCR) rectifiers?   12M

4.   Explain the Simulation of single phase controlled (SCR) rectifiers?   12M

5.   Explain the Simulation Converters with self-commutated devices?   12M

6.   Explain the simulation of power factor correction schemes?   12M

7.   Explain the power factor correction schemes with neat figures?   12M

8.   Explain the principle of operation of single phase controlled (SCR) rectifiers?   12M

9.   Explain the principle of operation of three phase controlled (SCR) rectifiers?   12M

10. Explain the principle of operation of Converters with self-commutated devices?   12M

UNIT –V

1.   Explain in detail Simulation of thyristor choppers with current commutation schemes?   12M

2.   Explain in detail Simulation of thyristor choppers with voltage commutation schemes?   12M

3.   Explain in detail Simulation of thyristor choppers with load commutation schemes?   12M

4.   Explain the Simulation of chopper fed DC motor?   12M

5.   Explain in detail Simulation of single phase inverters with thyristors?   12M

6.   Explain in detail Simulation of Three phase inverters with thyristors?   12M

7.   Explain in detail Simulation of self-commutated devices?   12M

8   Explain Space vector representation?   12M

9.   Explain Pulse-width modulation methods for voltage control and Waveform control?   12M

10.   Explain Simulation of inverter fed induction motor drives?   12M

Prepared by: **S.MUNISEKHAR**