

- Q.23 Draw the circuit diagram of mid-point bridge type cycloconverter.
- Q.24 Explain the working of single phase full wave dc drive.
- Q.25 Explain four quadrant chopper drive.
- Q.26 Write the five effects of poor power factor.
- Q.27 Explain the synchronous condenser.
- Q.28 Write the purpose of thyristor controlled reactors and where they used.
- Q.29 Explain the working of fly back power supply.
- Q.30 Write the Five applications of SMPS.
- Q.31 Explain the working of on line UPS.
- Q.32 Write a short note on STATCOM.
- Q.33 Explain the purpose of SVC.
- Q.34 Differentiate between Ac and DC circuit breaker.
- Q.35 Explain the slip power recovery scheme of 3 phase induction motor.

#### Section-D

- Note:** Long answer Questions. Attempt any two Questions out of three Questions. (2x10=20)
- Q.36 Explain the working of three phase to single phase cycloconverter.
- Q.37 Explain the method of V/F control of a 3 phase induction motor.
- Q.38 Explain the different method of reactive power compensation.

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### Power Eltx. Subject : Power Electronics-II

Time : 3 Hrs.

M.M. : 100

#### SECTION-A

**Note:** Multiple choice questions. All questions are compulsory. (10x1=10)

- Q.1 In AC voltage controllers the
- Variable ac with fixed frequency is obtained
  - Variable ac with variable frequency is obtained
  - Variable dc with fixed frequency is obtained
  - Variable dc with variable frequency is obtained
- Q.2 The single phase mid-point type cycloconverter uses \_\_\_\_\_ number of SCRs'
- 4
  - 8
  - 6
  - None of the mentioned
- Q.3 Which of the following is/are components of an electric drive?
- Control unit and Power Modulator
  - Electric Motor and Control System
  - Input Command
  - Sensing Device and Electric Motor
- Q.4 Power factor of a load can be improved by using
- Static capacitors

- b) Synchronous condenser
  - c) Phase advancer
  - d) All of the above
- Q.5 FACTS devices are generally used for to compensate \_\_\_\_\_ of the transmission line
- a) Reactive power      b) Active power
  - c) Apparent power      d) True power
- Q.6 SMPS is used for
- a) Switch from one source to another
  - b) Storage for DC power.
  - c) Obtaining controlled DC power supply
  - d) Obtaining controlled AC power supply
- Q.7 Where uninterruptible power supplies are used?
- a) Data centers      b) Industries
  - c) Telecommunication      d) All of the above
- Q.8 SVC and STATCOM are \_\_\_\_\_ devices.
- a) Series      b) Series and shunt
  - c) Shunt and Series      d) Shunt
- Q.9 A four quadrant operation requires
- a) Two full converter connected back to back
  - b) Two full converter in series
  - c) Two full converter connected in parallel.
  - d) Two semi converter connected back to back
- Q.10 Applications of cycloconverters include
- a) Speed control of ac drives.
  - b) Induction heating

- c) Static VAR compensation
- d) All of the above

### Section-B

**Note:** Objective types Questions. All Questions are compulsory. (10x1=10)

- Q.11 List the types of AC voltage controller circuits controller circuits.
- Q.12 Draw the circuit diagram of single phase step up cycloconverter.
- Q.13 Define Electric Drive.
- Q.14 Write the purpose of capacitor bank.
- Q.15 Define static switch.
- Q.16 Write the full form of STATCOM.
- Q.17 Write the purpose of UPS.
- Q.18 Mention one difference between two stage and multistage sequence control of ac voltage
- Q.19 Enlist the thyristor controlled reactors.
- Q.20 Define SMPS.

### Section-C

**Note:** Short answer type Questions. Attempt any twelve Questions out of fifteen Questions. (12x5=60)

- Q.21 Explain the operation of single phase voltage controller with resistive load.
- Q.22 Describe the principle of operation of single phase step down cyclo converter.