M.Sc. (Part–II) Semester–III (CBCS) Examination
ELECTRONICS
(Power Electronics)
Paper–3 ELE 2

Time : Three Hours] [Maximum Marks : 80

Note :— (1) All questions are compulsory.

(2) Draw neat sketches wherever necessary.

EITHER

1. (a) Explain interdisciplinary nature of Power Electronics. 6

(b) Draw block diagram of Power Electronic System. 4

(c) Explain efficiency and reliability in Power Electronics. 6

OR

(p) Explain Total harmonic distortion and Power Factor in Power Electronics. 8

(q) Explain thermal management in detail. 4

(r) Write applications of Power Electronics. 4

EITHER

2. (a) Explain construction and working of SCHOTTKY DIODE. 8

(b) Explain construction and working of MOSFET. 8

OR

(p) Explain construction and working of SCR. 8

(q) Explain ideal requirement of Power Electronics Devices. 6

(r) Write applications of TRIAC. 2

EITHER

3. (a) Explain construction and working of single phase Bridge Rectifier with R.L. Load. 8

(b) Explain construction and working of single phase Bidirectional controller with R.L. Load. 8

OR

(p) Compare between PWM and Resonant convertors. 4

(q) Explain construction and working of three phase Bidirectional controller. 8

(r) What is cyclo convertor ? 4

EITHER

4. (a) Explain construction and working of step up chopper with R.L. Load. 8

(b) Explain modulation technique of invertor. 8

OR

(p) Explain construction and working of single phase invertor. 8

(q) Explain construction and working of step down chopper with R.L. Load. 8

EITHER

5. (a) Explain Buck, Boost and Buck-Boost Regulators. 8

(b) Explain types of motor drives and equivalent circuit. 8

OR

(p) What is SMPS ? Explain any one type of SMPS. 8

(q) Explain Torque-speed characteristics of motor. 8