

CLASS: M.Sc. ELECTRONICS

15A/ 286

St. JOSEPH'S COLLEGE (AUTONOMOUS) TIRUCHIRAPPALLI – 620 002

SEMESTER EXAMINATIONS – APRIL 2015

TIME: 2 Hrs. 20 Mins.

MAXIMUM MARKS: 70

SEM	SET	PAPER CODE	TITLE OF THE PAPER
II	2014	14PEL2107	POWER ELECTRONICS

SECTION – B

Answer all the questions:

5 x 5 = 25

31. a. Draw and explain the single phase half wave controlled rectifier circuit.

OR

- b. Draw and explain the three phase half-controlled bridge with resistive load circuit.
32. a. Explain the voltage reset controlled method in magnetic amplifier SCR firing circuit.

OR

- b. Draw and explain Carrier – Frequency gating circuit.
33. a. Explain the basic chopper with neat diagram.

OR

- b. Explain type C four quadrant chopper in detail.
34. a. Explain the working of single phase voltage source inverter in detail.

OR

- b. Draw and explain the working principle of single phase current source inverter.
35. a. Briefly explain single – phase SCR drive.

OR

- b. Enlist the speed control methods of induction motor in detail.

SECTION – C

Answer any THREE questions:

3 x 15 = 45

36. Explain the structure, and modes of operation of IGBT with necessary diagrams.
37. Describe the working of single phase inverse – cosine method with necessary diagrams.
38. Draw and explain the working of series Turn-off chopper in detail.
39. Explain the working principle of cycloconverter in detail.
40. Discuss the characteristics of induction motor.
