

**B.Sc 6<sup>th</sup> Semester Sessional Test, 2017**

**Subject: Electronics (Major)**

**Paper: Power Electronics (ECM 603)**

**Time: 45 minutes**

**Total Marks: 15**

1. Write very short answer:

1x3=3

- (a) Mention one advantage of power electronic system.
- (b) Mention one disadvantage of power electronic system.
- (c) Mention one difference between conventional and power electronics.

2. Answer the following:

2x3=6

(a) The voltage and current in an AC circuit are given as

$$v=100 \sin (314t)$$

$$i= 10 \sin (314t)$$

Determine the average power and r.m.s power.

(b) What are apparent power and reactive power?

(c) What are the advantages of a three phase system?

3. Answer the following:

3x2=6

(a) What is a converter? Classify converter and give a brief description of each of them.

(b) Draw the circuit diagram of a single phase half wave controlled rectifier with R-L load.

Give the expression of average load voltage. Also draw the voltage and current waveforms.

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