Code No: RT21011 **R13** SET - 1

II B. Tech I Semester Supplementary Examinations, May/June - 2016
BASIC ELECTRICAL AND ELECTRONICS ENGINEERING
(Com. to CE, ME, CHEM, AME, MM, PE, PCE)

Time: 3 hours Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B**)
2. Answer **ALL** the question in **Part-A**
3. Answer any **THREE** Questions from **Part-B**

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PART –A

1.	a)	Define ohms law and write its limitations.	(3M)
	b)	Mention the applications of shunt motor.	(3M)
	c)	Define regulation and efficiency of a transformer.	(4M)
	d)	State the function of stator and rotor in the induction motor.	(4M)
	e)	Define drift current and diffusion current.	(4M)
	f)	Mention the advantages of negative feedback.	(4M)

PART –B

2.	a)	Explain the star to delta and delta to star transformation for a given resistive network	(8M)
	b)	Explain the division of current in parallel circuits.	(8M)
3.	a)	Classify the types of d.c generators and explain them briefly.	(8M)
	b)	Derive the torque equation of a d.c motor.	(8M)
4.	a)	Explain how to determine the iron and copper losses in a transformer.	(8M)
	b)	A 10 KVA 1-phase transformer has a turn ratio of 300/23. The primary is connected to a 1500 V, 60 Hz supply. Find secondary voltage on open circuit and the approximate values of current in the two windings on full load. Find the maximum value of flux.	(8M)
5.	a)	Give the reason why an induction motor cannot run at synchronous speed. Give its applications also.	(8M)
	b)	Compare salient pole and non-salient pole rotors of an alternator.	(8M)
6.	a)	Draw the V-I characteristics of a diode and explain them.	(8M)
	b)	Explain the operation of a half-wave rectifier with the help of wave forms.	(8M)
7.	a)	Explain the operation of n-p-n transistor with a neat diagram.	(8M)
	b)	Explain the concept of feedback amplifiers.	(8M)

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