M.E. First Semester (Electrical (Electronics & Power) Engg.) (New-CGS)

13314 : Power Electronic Converters : 1 EEPME 2

P. Pages : 1 | **AW - 3849**

Time : Three Hours | * 0 3 9 4 * | Max. Marks : 80

Notes : 1. Answer **three** question from Section A and **three** question from Section B.
2. Due credit will be given to neatness and adequate dimensions.
3. Assume suitable data wherever necessary.
4. Use of pen Black ink/refill only for writing the answer book.

SECTION - A

1.	a)	Explain series and parallel operations of thyristors.	**7**
	b)	Explain the working principle of IGBT in brief.	**7**
		OR	
2.	a)	Explain switching principle of GTO.	**7**
	b)	What is power MOSFET ? Explain its switching principles.	**7**
3.	a)	Explain the operating principles of DC-DC converter.	**7**
	b)	What is Buck Principle ? Explain it with respect to converters.	**6**
		OR	
4.	a)	Explain the operating phenomenon of SEPIC converter.	**7**
	b)	Explain the operating principle of flyback converters.	**6**
5.		Explain the detail design procedure of Transformer.	**13**
		OR	
6.	a)	What do you mean by Electrical characteristics of Transformer ? Explain in brief.	**7**
	b)	How to design an Inductor ? Explain in brief.	**6**

SECTION - B

7.		For 3ϕ inverter can you elaborate the 120° modes of operation.	**14**
		OR	
8.		For an 3ϕ inverter can you illustrate its 180° mode of operation.	**14**
9.		Discuss in detail how chopper can act as a DC base drive assembly.	**13**
		OR	
10.		What are the different types of single phase converters, single phase drive ? Explain in brief.	**13**
11.	a)	How PWM techniques are used for AC controllers ? Discuss.	**6**
	b)	For cycloconverters, explain how phase of O/P is controlled.	**7**
		OR	
12.		Discuss the principle of cycloconverter with the effect of circulating and non-circulating current.	**13**

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