OCT-2015

B. Sc. (Physics) Semester – V

Paper–505: Power Electronics and Solar Energy

Code: 4298

MARKS: 70 **TIME:** 2:30 HOURS

Instructions: (1) Symbols have their usual meaning.
(2) Figures on right hand side show marks of that question.

1. (a)	What do you understand by Class A, Class B and Class C power amplifiers?	[07]
(b)	Derive an expression for collector efficiency of power amplifiers.	[07]
	OR	
1.	Write in detail about Series-Fed Class A power amplifier.	[14]
2.	What is solar pond? Describe the construction and working of solar pond. Write its applications.	[14]
	OR	
2. (a)	Write short notes on : (1) Ripple and Voltage regulation. (2) Op-Amp series regulator.	[10]
(b)	Write in brief about Adjustable positive voltage regulators.	[04]
3.	Write in detail about solar angles.	[14]
	OR	
3. (a)	Write in detail about the operation of Zener Diode as a voltage regulator.	[10]
(b)	Write the differences between unregulated and regulated power supply.	[04]
4.	Write note on Flat-Plate collector.	[14]
	OR	
4. (a)	Write in brief on solar constant.	[07]
(b)	Write notes on solar time.	[07]
5. (a)	Explain the transformer coupled Push – Pull circuit with a neat diagram.	[07]
(b)	Write in short about thermal run- away and need for heat sink.	[07]
	OR	
5.	Write in detail about transformer coupled Class A amplifier.	[14]