Department of Electronics Engineering

Course Code: ETU503 Date: 27/08/2019 Time: 12.00 to 1.00 p.m.
Course: Power Electronics Duration: 1Hr Max. Marks: 15

Attempt the following

1.	Enlist the characteristics of an ideal switch.	3	Remembering
2.	Compare and contrast: power MOSFET and power IGBT	3	Understanding
3.	Derive an equation for anode current with the help of two transistor analogy. Interpret the result.	3	Understanding
4.	Discuss the class D commutation	3	Understanding
5.	Calculate the number of SCRs, each with rating of 500V, 75A required in each branch of a series and parallel combination for a circuit with the total voltage and current rating of 7.5kV and 1000A. Assume derating factor of 14%.	3	Applying

Electronics and Telecommunication Department

Course Code: ETU503 Date: 05/08/2016 Time: 12.00-1.00 p.m.
Course: Power Electronics Duration: 1Hr Max. Marks: 15

CT – I

Attempt any THREE of the following

1.	Draw the Gate Characteristics and SCR static characteristics. And explain Gate Characteristics.	05
2.	Mention the types of commutation. How class D commutation works.	05
3.	What are the problems related with series connected SCRs? How will resolve the problem.	05
4	Write a short note on surge suppressor.	05

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GOVERNMENT COLLEGE OF ENGINEERING, AMRAVATI

(An Autonomous Institute of Govt. of Maharashtra)

Electronics and Telecommunication Department

Class Test I — Marks: 15

Sub: ETU 503 POWER ELECTRONICS — Date: 6th Aug, 2015

Q1.Draw and explain the gate characteristics of an SCR in detail 4M

Q2.Explain the following current ratings of SCR 4M

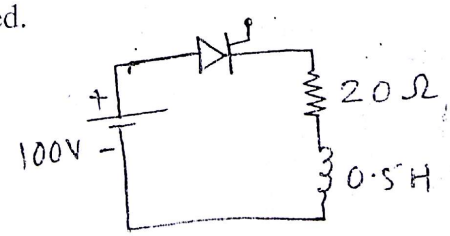
a. Average on state current
b. Surge current rating
c. Holding current
d. Latching current

Q3. Draw the basic structure of IGBT with its symbols and explain its operation 3M

OR

Q4.Explain the operation and output characteristics of P-channel E-MOSFET 3M

Q5.The latching current of thyristor is 5mA.the duration of the firing pulse is 40us, will the thyristor get fired. 4M



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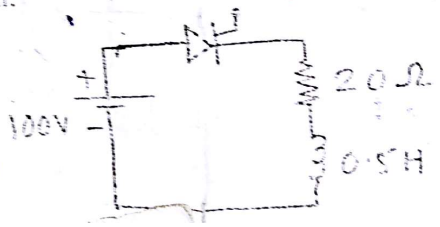

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D.56

Electronics and Telecommunication Department

Course Code: ETU503 Date: 04/08/2017 Time: 12.00 - 1.00 p.m.

Course: Power Electronics Duration : 1 Hr Max Marks: 15

CT – 1

Attempt the following

1. Explain static characteristics of an SCR. Define all important terms related to it. 5
2. Draw the waveforms for single phase bridge rectifier with inductive load. Also derive an expression for output voltage 5
3. Discuss the working of three phase bridge rectifier with resistive load in discontinuous conduction mode. 5