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BIEE-020

**B.Tech. - VIEP - ELECTRICAL ENGINEERING
(BTELVI)**

Term-End Examination, 2019

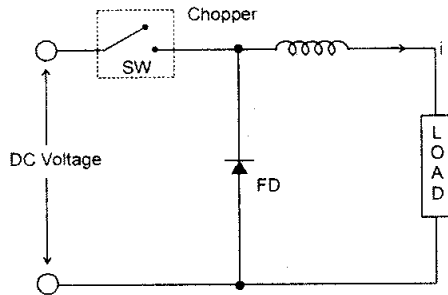
**BIEE-020 : ELECTRICAL MACHINES AND
ELECTRONICS**

Time : 3 Hours]

[Maximum Marks : 70

Note : Attempt any seven questions. All questions carry equal marks. Use of Scientific calculator is permitted.

1. Describe the V-I characteristics of thyristors, in various modes of Operation of SCR. [10]
2. For type - A chopper, dc source voltage = 230V, load resistance = 10Ω . There is a voltage drop of 2V across chopper 1 when it is ON. For duty cycle of 0.4, calculate:
 - (i) average and rms value of output voltage [10]
 - (ii) chopper efficiency



3. Discuss the equivalent circuit and draw the phasor diagram of no load single phase transformer. [10]
4. A 25 KVA, 2200/220V, 50Hz transformer has primary side data : [10]
 OC test (LV Side) : 220V, 4A, 150W
 SC test (UV side) : 90V, 10A, 350W
 Determine efficiency and regulation at half full load, 0.8pf load.
5. Discuss measurement of 3 phase power for balanced and unbalanced load. [10]
6. Explain different methods of starting of 3 ϕ Induction Motor. [10]

7. Discuss the classification of Load torques based on application. [10]
8. Write a short note on any two of the following : [2x5=10]
- (a) Dynamic characteristics of Electric Drives
 - (b) Welding transformer
 - (c) Measurement of reactive volt amperes
9. Discuss the concept of balanced 3-phase circuits. What is the difference between 3-phase star and 3-phase delta connection ? [10]

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