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Roll No. ....

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**4th Sem./Branch : ECE/ECE**  
**(For Speech and Hearing Impaired)**  
**Subject : Power Electronics**

Time : 3 Hrs.

M.M. : 60

**SECTION-A**

**Note:** Multiple choice questions. All questions are compulsory (6x1=6)

- Q.1 In power electronics, SCR stands for. (CO1)  
a) Silicon Controlled Rectifier  
b) Semiconductor Controlled Rectifier  
c) Semi Controlled Rectifier  
d) None of these
- Q.2 A single-phase full wave fully controlled bridge uses. (CO2)  
a) 1 SCR                      b) 2 SCR  
c) 3 SCR                      d) 4 SCR
- Q.3 Class B chopper operates in. (CO3)  
a) First quadrant              b) Second quadrant  
c) Third quadrant              d) Fourth quadrant
- Q.4 Possible control mode of a dc chopper drive is. (CO4)  
a) Power control or motoring mode  
b) Regenerative braking mode  
c) Dynamic or Rheostatic braking mode  
d) All of these

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- Q.5 TRIAC has \_\_\_\_\_ terminals. (CO1)  
a) 2                              b) 3  
c) 4                              d) 5
- Q.6 A UPS consists of. (CO5)  
a) Battery charger              b) Inverter  
c) Battery                      d) All of these

**SECTION-B**

**Note:** Objective/ Completion type questions. All questions are compulsory. (6x1=6)

- Q.7 Half controlled rectifier contains mixture of diodes and SCR. (True/False) (CO2)
- Q.8 A DIAC is a unidirectional device. (True/False) (CO1)
- Q.9 Inverter converts \_\_\_\_\_ (DC/AC) into \_\_\_\_\_ (DC/AC) (CO3)
- Q.10 The portion of the air gap power which is not converted into the mechanical power is called slip power. (True/False) (CO4)
- Q.11 SMF batteries are \_\_\_\_\_ (Cheaper/costlier) than lead acid batteries. (CO5)
- Q.12 UPS stands for \_\_\_\_\_. (CO5)

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## SECTION-C

**Note:** Short answer type questions. Attempt any eight questions out of ten questions. (8x4=32)

- Q.13 How SCR works as switch. (CO1)
- Q.14 Draw V-I characteristics of UJT. (CO1)
- Q.15 Define DIAC. Draw symbol of DIAC. Write any one application of DIAC. (CO1)
- Q.16 Explain working of single phase full wave controlled bridge rectifier. (CO2)
- Q.17 What is Series inverter? Write any two applications of series inverter. (CO3)
- Q.18 Write a short note on "Dual converter". (CO3)
- Q.19 Explain in brief step down chopper and step up chopper. (CO3)
- Q.20 Define Electric drives. Write any two disadvantages of AC drive over DC drive. (CO4)
- Q.21 Write a short note on "Solar power plant and their components" (CO5)
- Q.22 Differentiate between Online UPS and Offline UPS. (CO5)

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## SECTION-D

**Note:** Long answer type questions. Attempt any two questions out of three questions. (2x8=16)

- Q.23 Explain with the help of suitable diagram, Fan regulator control using Thyristors. (CO1)
- Q.24 Explain the basic principle of Cycle converter. What are its applications? (CO3)
- Q.25 Explain with the help of circuit diagram of dc chopper scheme for speed control of a dc shunt motor. (CO4)

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