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Roll No.

221044

**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) 1SCR
- 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

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 ADIAC 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)

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)

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)