

SANT GADE BABA AMRAVATI UNIVERSITY, AMRAVATI
Summer Examination 2020
HVPM's College of Engineering and Technology, Amravati
Department of Electronics & Telecommunication Engineering
Bachelor of Engineering Sem.:- V

Subject: - Power Electronics and Drives

Code:- 5ET2

Instruction:-

- 1) Solve any two questions
 - 2) All question carry equal marks
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Que 1.

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| a) Explain two transistor analogies for turning of a SCR. | 02 Credit Points |
| b) Explain single phase dual converter with suitable diagram. | 02 Credit Points |
| c) Explain classification of circuits for forced commutation. | 02 Credit Points |
| d) Write a short note on step up chopper. | 02 Credit Points |
| e) Explain constructional features of stopper motor. | 01 Credit Points |
| f) Explain working of AC servo motors also draw suitable characteristics. | 01 Credit Points |

Que 2.

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| a) Explain construction and working of IGBT also draw its operating characteristics. | 02 Credit Points |
| b) Explain with suitable diagram working of three phase half controlled bridge rectifier. | 02 Credit Points |
| c) Write a short note on parallel inverter. | 02 Credit Points |
| d) Write a note on Jones Chopper. | 02 Credit Points |
| e) Explain "Flux control "method of speed control of DC shunt motor with suitable diagram. | 01 Credit Points |
| f) Explain V/F speed control method for three phase induction motor. | 01 Credit Points |

Que 3.

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| a) Explain characteristics of MOSFET. | 02 Credit Points |
| b) Explain necessity and effect of free wheeling diode. | 02 Credit Points |
| c) Explain principle of operation for three phase bridge inverter in 120° and 180° mode. | 02 Credit Points |
| d) Explain basic principle of operation of cyclo-converter. | 02 Credit Points |
| e) Explain speed control of DC series motor using chopper control. | 01 Credit Points |
| f) What is slip power recovery scheme? Explain any one scheme with suitable diagrams. | 01 Credit Points |

Que 4.

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| a) Draw and explain characteristics of Power transistor. | 02 Credit Points |
| b) Explain three phase fully controlled bridge rectifier. | 02 Credit Points |
| c) Write a note on different harmonics reduction techniques. | 02 Credit Points |
| d) Explain the working of single phase thyristorised bridge inverter | 02 Credit Points |
| e) Explain armature control method for speed control of DC shunt motor. | 01 Credit Points |
| f) What are different types of single phase induction motors? Explain any two in details with suitable diagrams. | 01 Credit Points |