

Total No. of Questions – [6]

Total No. of Printed Pages: 2

G.R. No.	
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DECEMBER 2021 - ENDSEM EXAM
T. Y. B. TECH. (E&TC) (SEMESTER - I)
COURSE NAME: Power Electronics
COURSE CODE: ETUA31185
(PATTERN 2018)

Time: [1Hr]

[Max. Marks: 30]

Instructions to candidates:

- 1) Answer Q.1 OR Q.2, Q.3 OR Q.4, Q.5 OR Q.6.
- 2) Figures to the right indicate full marks.
- 3) Use of scientific calculator is allowed
- 4) Use suitable data where ever required.

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|-----------|--|-----|
| Q.1 a | Analyze the performance of Fly-back SMPS Converter in continuous current mode. | [4] |
| Q.1 b | Analyze the performance of Two quadrant Type D Chopper with motor load with the help of a neat diagram & waveforms | [6] |
| OR | | |
| Q2 a | Compare the various Control strategies used in Chopper Configurations. (minimum 4 points) | [4] |
| Q2 b | Analyze the performance of a Type E, four quadrant Chopper with motor load with the help of a neat diagram & waveforms | [6] |
| OR | | |
| Q.3 a | Justify the need of a ON-line UPS with the help of a neat diagram, how it support the purpose. | [4] |
| Q.3 b | Justify the need of Electronic Ballast for various applications. | [6] |
| OR | | |
| Q.4 a | Compare different types of Induction heating equipment. (minimum 4 points) | [4] |
| Q.4 b | With the help of a neat block diagram, analyze the performance of an Electronic Ballast. | [6] |
| OR | | |
| Q.5 a | Justify the need of resonant converters over switch mode converters superiority with suitable diagrams. | [4] |
| Q.5 b | Analyze the performance of zero voltage & zero current switching in resonant converters. | [6] |

OR

- Q.6 a Examine the Sources of Electromagnetic Interference in Power Electronic devices and its effect on performance. (minimum 4 points) [4]
- Q.6 b Defend the need of over voltage protection needed in SCRs, analyze the situation in absence of protection circuit. [6]