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Total No. of Questions: 8

M.Tech. (Emb Sys) (2018 Batch) (Sem.-2)
DESIGNING WITH POWER DEVICES
Subject Code: MTES-PE4A-18

M.Code: 76214

Time: 3 Hrs. Max. Marks: 60

INSTRUCTIONS TO CANDIDATES:

- 1. Attempt any FIVE questions out of EIGHT questions.
- 2. Each question carries TWELVE marks.
 - 1. Explain the construction, principle of operation of IGBT with a neat diagram.
 - 2. Explain the step-by-step design procedure of a high frequency power transformer using a suitable example.
 - 3. How an inductor coil is designed for the operation of power frequency? Explain it with the help of design procedure.
 - 4. Describe the operation of on-line UPS system with the help of neat block diagram. Also, list the important specifications of on-line UPS.
 - 5. With the help of neat circuit diagram and waveforms explain the operation of forward converter with tertiary winding. Also list the advantages and disadvantages of the same.
 - 6. Write a note on:
 - (a) Boost converter
 - (b) Cuk converter.
 - 7. Explain the PWM control design of input, output and control sections in reference to SMPS system.
 - 8. a) With the help of circuit and relevant waveforms, discuss the working of single switch push-pull converter.
 - b) Explain the necessity of isolation in switched mode power converters.

NOTE: Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.

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