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Total No. of Printed Pages: 1

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B. Tech (Civil Engg.) (Semester – 8th)
BASICS OF TRANSFORMERS
Subject Code: BELE0F95
Paper ID: [OE2110715]

Time: 03 Hours

Maximum Marks: 60

Instruction for candidates:

1. Section A is compulsory. It consists of 10 parts of two marks each.
2. Section B consist of 5 questions of 5 marks each. The student has to attempt any 4 questions out of it.
3. Section C consist of 3 questions of 10 marks each. The student has to attempt any 2 questions.

Section – A

(2 marks each)

Q1. Attempt the following:

- a. What is working principle of transformer?
- b. Which test is performed on transformer to find out load losses?
- c. State two applications of Autotransformer.
- d. Which type of three phase transformer connection is present at generating stations?
- e. Why are bushings required in transformer?
- f. Which type of insulating material is used for transformer windings?
- g. Out of autotransformer and a normal transformer which has better efficiency?
- h. What is condition for maximum efficiency of a single phase transformer?
- i. Draw a star-delta connection.
- j. Which type of material is used for making transformer core?

Section – B

(5 marks each)

- Q2. What is effect of temperature on transformer performance?
- Q3. What is Scott connection? Where is it used?
- Q4. Explain phase shifting from primary to secondary windings for a three phase transformer.
- Q5. How is material saved in making a autotransformer of same capacity as compared to a single phase transformer?
- Q6. Why transformers are rated in kVA? Define voltage regulation of transformer.

Section – C

(10 marks each)

- Q7. Draw and explain the phasor diagram of a single phase transformer under
 - a) no load condition
 - b) Loaded condition (inductive load)
- Q8. Compare autotransformer with two winding transformer. Also list advantages and disadvantages of autotransformers.
- Q9. How is conversion from three phase to six phase performed for three phase transformers?