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Daffodil International University
Dept. of Electrical and Electronic Engineering
Summer 2026 | 0713-213: Energy Conversion I

CO-02

29 July 2026

Full Marks: **15**

Quiz - 2

[8]

1. A 240/540-V transformer gave the following test results :
   O.C Test : 240 V, 1.5 A, 85 W - on low-voltage side.
   S. C. Test : 20 V; 10 A, 120 W - with low-voltage winding short-circuited :
   Determine the circuit constants, and calculate applied voltage and efficiency when the output is 10.5 A at 540 volt and 0.8 power factor lagging.

[7]

2. A 5 kVA, 240/450 V single-phase transformer supplying full-load current at 0.85 lagging power factor. The O.C./S.C. test results are as follows :
   O.C. Test : 240 V, 0.8 A, 75 W – on L.V. side
   S.C. Test : 18.5 V, 15 A, 85 W – on H.V. side
   Calculate efficiency, secondary voltage (V_2) and current into primary at the above load.