

Pre. Ph.D. Course Work (2017 Course) : SUMMER - 2018
(Electrical Engg)

SUBJECT: PAPER – II: (ELECTRICAL ENGINEERING)

Day: **Tuesday**
Date: **26/06/2018**

S-2018-4787

Time: **10.00 AM TO 01.00 PM**
Max. Marks: 100

N.B.:

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.

Q.1 Derive the equations of stator and rotor flux linkages. **(10)**

OR

Q.1 How the classifications of synchronous machine modeling is based on number of winding in each axis? **(10)**

Q.2 Represent the 3ph. Induction machine model using synchronously rotating reference frame. **(10)**

OR

Q.2 Derive the flux linkages equations of 3ph. Induction Motor per unit system. **(10)**

Q.3 Explain the principle of vector control of Induction Motor. **(10)**

OR

Q.3 Explain the flux weakening operation of 3ph. Induction Motor. **(10)**

Q.4 Explain the operation of SVC along with the STSR. **(10)**

OR

Q.4 What are the various FACTS controller used in power systems? **(10)**

Q.5 How the active and reactive power control is done in UPFC? **(10)**

OR

Q.5 Explain the need of static voltage and phase angle regulators in power systems. **(10)**

Q.6 Compare PI, PD and PID controllers with Fuzzy Logic controller. **(10)**

OR

Q.6 Explain PID control action for second order system. **(10)**

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Q.7 Explain Fuzzy Neural integrated system. (10)

OR

Q.7 Explain Robust control system with proper illustration. (10)

Q.8 Explain the serial peripheral interface I2C bus. Also explain synchronous serial port. (10)

OR

Q.8 Explain CPC registers which are used in the exaction of instructions of the PIC microcontroller. (10)

Q.9 Explain the algorithm for lamp dimmer and temperature control of ARM processor. (10)

OR

Q.9 Draw and explain interfacing of LCD with ARM processor. (10)

Q.10 Explain the role of cloud computing in smart grid. (10)

OR

Q.10 Explain various IP based protocols in smart grid and its significance. (10)

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