

# **Teaching Diary**

## **2020-21**

# Power Systems-II

| Sl. No.           | DATE     | PERIOD | TOPICS TAUGHT                                                                             | REMARKS |
|-------------------|----------|--------|-------------------------------------------------------------------------------------------|---------|
| <u>Unit - I</u>   |          |        |                                                                                           |         |
| 1.                | 1/9/2020 | II     | { Introduction to Thyristor controlled drives, Block diagram                              |         |
| 2.                | 2/9/20   | III    | { 1- $\phi$ Semi & Full converter fed SEBC motor (N-T plot, exp <sup>n</sup> , wffs)      |         |
| 3.                | 3/9/20   | II     | { 1- $\phi$ Semi & full converter fed DC series drive (N-T plot, exp <sup>n</sup> , wffs) |         |
| 4.                | 4/9/20   | II     | 3- $\phi$ Semi converter fed SEBC & DC series drives                                      |         |
| 5.                | 5/9/20   | I      | { 3- $\phi$ full converter fed SEBC & DC series drives.                                   |         |
| 6.                | 8/9/20   | II     | { Numerical problems on                                                                   |         |
| 7.                | 9/9/20   | III    | { 1- $\phi$ & 3- $\phi$ converter fed                                                     |         |
| 8.                | 10/9/20  | II     | { DC drives                                                                               |         |
| <u>Unit - II</u>  |          |        |                                                                                           |         |
| 9.                | 11/9     | II     | { Introduction to 4-Quadrant operation of a DC drive.                                     |         |
| 10.               | 12/9     | I      | { Single & 2-Quadrant chopper                                                             |         |
|                   | 15/9     | II     | { fed DC drives                                                                           |         |
| 11.               | 16/9     | III    | { Electric Braking methods                                                                |         |
| 12.               | 17/9     | II     | { Dynamic - Plugging & Re                                                                 |         |
| 13.               | 18/9     | II     | { - generative Brakings                                                                   |         |
| 14.               | 19/9     | I      | { 4-Quadrant operation of DC motors by 1- $\phi$ / 3- $\phi$ dual conds                   |         |
| 15.               | 22/9     | II     | { closed loop operation of DC motors (Block Diagram only)                                 |         |
| 16.               | 23/9     | III    | 4-Quadrant chopper fed DC drive                                                           |         |
| 17.               | 24/9     | II     | { Numerical problems                                                                      |         |
| 18.               | 26/9     | I      | { "                                                                                       |         |
| 19.               | 25/9     | II     | { "                                                                                       |         |
| 20.               | 29/9     | II     | { closed loop operation of DC chopper fed DC Drive                                        |         |
| 21.               | 30/9     | III    | Revision class                                                                            |         |
| <u>Unit - III</u> |          |        |                                                                                           |         |
| 22.               | 1/10     | II     | Study & analysis of eqt chl-                                                              |         |

Lecturer

H.O.D.

Principal





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|-----|--------|------|--------------------------------------------------------------------------------------------------|---------|
|     |        |      | of 3- $\phi$ Induction motor.                                                                    |         |
| 23  | 3/10   | I    | { derivations for $T_{max}$ , $S_{max}$ ,<br>$T_{st}$ , Performance curves                       |         |
| 24. | 6/10   | II   | Stator Vg control                                                                                |         |
| 25. | 7/10   | III  | Variable Vg characteristics.                                                                     |         |
| 26  | 8/10   | II   | { control of IM by ACVDS                                                                         |         |
| 27. | 9/10   | II   | { 1- $\phi$ & 3- $\phi$ .                                                                        |         |
| 28  | 10/10  | I    | { (Motoring & plugging)                                                                          |         |
| 29. | 13/10  | II   | Variable freq. characteristics                                                                   |         |
| 30. | 14/10  | III  | Variable freq. of IM by VSI                                                                      |         |
| 31. | 15/10  | II   | VFC of IM. by CSI                                                                                |         |
| 32. | 16/10  | II   | VFC of IM by cyclo's.                                                                            |         |
| 33  | 27/10  | II   | PLM control of 3- $\phi$ IM drive                                                                |         |
| 34  | 28/10  | III  | VSI Vs. CSI fed drives, NT char's                                                                |         |
| 35  | 29/10  | II   | { closed loop operation of<br>T.M drives (Block diagram only)                                    |         |
| 36. | 30/10  | II   | { Numerical problems on 3- $\phi$                                                                |         |
| 37  | 31/10. | I    | { T.M. drives                                                                                    |         |
| 38. | 3/11   | II   | {<br>UNIT-IV                                                                                     |         |
| 39. | 4/11   | III  | { Introduction to Rotor Side<br>control of I.M. drive (SRIM)                                     |         |
| 40  | 5/11   | II   | { <del>also</del> conventional Rotor Resist<br>control of IM, adv's, dis adv's<br>& applications |         |
| 41. | 6/11   | II   | { Static Rotor Resistance control<br>of SRIM drive.                                              |         |
| 42. | 7/11   | I    | { Slip power recovery schemes:                                                                   |         |
|     | 10/11. | II   | { conventional methods                                                                           |         |
| 43. | 11/11  | III  | { Static Scherbius drive<br>(Through DC Link)                                                    |         |
| 44  | 8/12   | II   | { Static Scherbius drive by<br>cyclo converter.                                                  |         |

Prattina

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Principal





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|---------|-------|--------|---------------------------------------------------------|---------|
| 45      | 9/12  | III    | Static Kramer's Drive.                                  |         |
| 46      | 10/12 | II     | { Modified (or) Improved version of Static Kramer drive |         |
| 47      | 11/12 | II     |                                                         |         |
|         |       |        | { Performance & Speed-Torque characteristics            |         |
| 48      | 12/12 | I      | Advantages & applications.                              |         |
| 49      | 15/12 | II     | { Numerical problems                                    |         |
| 50      | 16/12 | III    |                                                         |         |
| 51      | 17/12 | II     |                                                         |         |
| 52      | 18/12 | II     |                                                         |         |
| 53      | 19/12 | I      | { closed loop control of static Kramer drive.           |         |
| 54      | 22/12 | II     | { closed loop control of static Scherbius drive.        |         |
| 55      |       |        | Unit-V                                                  |         |
| 55      | 23/12 | III    | separate control of S.M.                                |         |
| 56      | 24/12 | II     | self control of S.M                                     |         |
| 57      | 25/12 | II     | { self control of S.M drives by VSI                     |         |
|         |       |        |                                                         |         |
| 52      | 26/12 | I      | { self control of S.M drives by CSI                     |         |
|         |       |        |                                                         |         |
| 53      | 29/12 | II     | { self control of S.M drive by cyclo converter.         |         |
| 54      | 30/12 | III    | { load commutated CSI fed synchronous Motors            |         |
| 55      | 31/12 | II     | Applications & advantages                               |         |
| 56      | 2/1   | I      | { Numerical problems                                    |         |
| 57      | 5/1   | II     |                                                         |         |
| 58      | 6/1   | III    |                                                         |         |
| 59      | 7/1   | II     |                                                         |         |
| 60      | 8/1   | II     | closed loop control of S.M drives. (Block diag only)    |         |

Lecturer

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Principal

