**EE 114 – Power Engineering - I [S2-DD]**

*Spring Semester, 2022-23*

**Instructors:**

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**TAs:**

|  |  |  |
| --- | --- | --- |
| **Roll No. /email** | **Name** | **Role** |
| [23M1094@iitb.ac.in](mailto:23M1094@iitb.ac.in) | Nachiket Sunil Sonkusare | Assignment, Quiz |
| [204076006@iitb.ac.in](mailto:204076006@iitb.ac.in) | Aditya Aman | Assignment, Quiz |
| [214076005@iitb.ac.in](mailto:214076005@iitb.ac.in) | Saurabh Singh | Class Notes |
| [214070011@iitb.ac.in](mailto:214070011@iitb.ac.in) | Akash Gangwar | Corresponding TA, moodle, quiz / exam coordination, Assignment, Quiz |
| [23M1102@iitb.ac.in](mailto:23M1102@iitb.ac.in) | Sanyam Vaidya | Assignment, Quiz |

**Lecture Slot:** 11A - Tue - LC 302 - 15:30:00 - 16:55:00

11B - Fri - LC 302 - 15:30:00 - 16:55:00

**Quizzes**:

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| **Quiz No.** | **Date (Monday/ Friday)** | **Time** |
| 1 | 19 Jan | 4:30pm-5:00pm |
| 2 | 2 Feb | 4:30pm-5:00pm |
| 3 | 16 Feb | 4:30pm-5:00pm |
| 4 | 15 March | 4:30pm-5:00pm |
| 5 | 2 April | 4:30pm-5:00pm |
| 6 | 16 April | 4:30pm-5:00pm |

**Distribution of Marks:**

Quizzes  30 % (best 5 out of 6 quizzes)

Mid Sem.  25 %

End Sem.  40 %

Attendance  5 % (student attendance ≥70% gets 3/5, ≥90% gets 5/5, <70% gets 0/5)

Total  100 %

**Reference Books:**

1. Principles of Electrical Machines and Power Electronics, 2nd ed., P.C. Sen, John Wiley and Sons, 2005 (Forth reprint student edition 2008)
2. Basic Electrical Engineering, Nagrath & Kothari.
3. Principles and Applications of Electrical Engineering, 5th edition, Giorgio Rizzoni, McGraw-Hill Higher Education
4. Fundamental of Electric Circuits, Alexander and Sadiku, McGraw Hill Education
5. Engineering Circuit Analysis: Hayt, Kemmerly, and Durbin
6. Electric Machinery, 6th ed., A.E. Fitzgerald, Charles Kingsley, Jr, Stephen D. Umans, Tata McGraw-Hill Edition, 2002.
7. Electric Machinery Fundamentals, Stephen J. Chapman
8. Electrical Engineering Fundamentals, V. Del Toro
9. Nilsson, James W., and Susan Riedel. Electric circuits. Prentice Hall, 2014.

**Syllabus (Tentative):**

Sinusoidal steady state linear systems, phasors, active and reactive power, 3-phase vs 1-phase systems, power in 3-phase, magnetic circuits, mutually coupled coil, transformers, OC-SC test

DC Motor, BLDC motor, Induction motor: Construction, equivalent circuit, torque-speed characteristics, voltage regulation, starting, losses

**Note / Instructions:**

1. Attendance is mandatory. DX grade rules to be followed as per institute guidelines.
2. Assignments will be given during the course. No solutions will be provided. Only answers. Assignments will not be evaluated. It is for your own practise and understanding.
3. Notes / books / printouts / Electronic medium / laptops / mobile / google / e-books / videos etc. are strictly not allowed during quizzes and exams.
4. **Quiz will be conducted as per the schedule.** Always show the steps of solution. No marks would be given if answer is provided without justified steps.
5. **No make-up and pro rata** would be considered for the **quizzes** missed.
6. Pro rata (or make-up, based on instructor) for missed mid-sem or end-sem only in case of medical emergency, with approval from instructor.
7. Get you doubts clarified in the lectures. In case any doubt is not clarified during interaction session due to time constraint, you may email the instructor and fix a mutually agreeable time for meeting / discussion. Avoid requesting for meeting / discussions just before mid-sem and end-sem exams.
8. We will use moodle for sharing assignments, announcements, marks etc.