

GUJARAT TECHNOLOGICAL UNIVERSITY
B.E. SEMESTER : VIII
ELECTRICAL & ELECTRONICS ENGINEERING

Subject Name: **TESTING AND INSTALLATION OF ELECTRICAL EQUIPMENTS AND SYSTEMS**

Sr. No.	Course Contents	Total Hrs
1.	Safety management : Objectives, safety management during operation and maintenance, clearance and creepages, electric shock,	3
2.	Testing of Plants and Equipments: Temperature Rise test, insulation and HV test, dielectric absorption, switching impulse test, oscillographic test.	3
3.	Power quality: Power quality specifications, strategy, harmonics, and measurement of harmonics, measurement and investigation. IEEE Recommended Practice for Monitoring Electric Power Quality	3
4.	Testing of Rotating Machine: Degree of protection, cooling system, enclosures, rating of industrial rotating electric machine, installation and commissioning of induction motor and rotating electric machine, drying out of electric rotating machine, insulation resistance measurement, site testing and checking, care, services and maintenance of motors, commissioning of synchronous generator, protection and automation of synchronous generator, synchronous motor, D.C. generator and motor with reference to Indian Standard (IS).	15
5.	Transmission line: Commissioning of A.C transmission line and HVDC transmission, galvanize steel structure, towers and insulator for transmission and distribution line, substation equipment, bus bar system, power cable, low power control cable, fibre optic cable, testing of current transformer and voltage transformer, testing of switch gear, circuit breaker, contactor, metal clad switch gear, GIS (gas insulated substation), power transformer, distribution transformer and special transformer with reference to Indian Standard (IS).	15

Text Books:

1. Rao, S., “Testing , commissioning, operation and maintenance of electrical equipment”, 4th Ed., Khanna Tech. Publication,

Reference Books:

1. Paul Gill, “Electrical power equipment maintenance and testing”, CRC Press, 2008.
2. Philip Kiameh, “Electrical equipment handbook: troubleshooting and maintenance”, McGraw-Hill, 2003.
3. Relevant IEEE Standards and Indian Standards.