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| LESSONPLAN |
| JHARSUGUDAENGINEERINGSCHOOL,JHARSUGUDA |
| NameoftheFaculty:JYOTIRANJAN NAYAK | AcademicYear:2023-34 |
| CourseNo.:Th-1 | CourseName:ENERGY CONVERSION -1 |
| Programe:Diploma | Branch:-Electrical |
| Year/Sem: II/IV |

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| **Sl.****No.** | **Period** | **Time(min)** | **Unit** | **TopictobeCovered** | **TeachingMethod** |
| 1. | 1. | 55 min | 1 | Operatingprinciple ofgenerator,constructionFeature | Blackboard |
| 2. | 2. | 55 min | 1 | Simplelap winding,wavewinding | Blackboard |
| 3. | 3. | 55 min | 1 | Types of d.cmachine,derivation ofemfequationof d.cgerator. | Blackboard |
| 4. | 4. | 55 min | 1 | Problems on d.cgenerator | Blackboard |
| 5. | 5. | 55 min | 1 | Lossesandefficiency , conditionformaximumefficiencyand problems | Blackboard |
| 6. | 6. | 55 min | 1 | Armaturereaction ind.cmachine | Blackboard |
| 7. | 7. | 55 min | 1 | commutation | Blackboard |
| 8. | 8. | 55 min | 1 | Characteristicof d.cgenerator | Blackboard |
| 9. | 9. | 55 min | 1 | Applicationof typesof d.cgenerators. | Blackboard |
| 10 | 10. | 55 min | 1 | Conceptofcriticalresistance andcriticalspeed | Blackboard |
| 11 | 11. | 55 min | 1 | Paralleloperationofd.cgenerator | Blackboard |
| 12 | 12. | 55 min | 1 | Uses ofd.c generator | Blackboard |
| 13 | 13. | 55 min | 2 | D.C motorworkimgprinciple,significanceof backe.m.f | Blackboard |
| 14 | 14. | 55 min | 2 | VoltageequationofD.Cmotor | Blackboard |
| 15 | 15. | 55 min | 2 | Derivetorqueequation,problems | Blackboard |
| 16 | 16. | 55 min | 2 | Characteristicofseries,shunt,compoundmotors | Blackboard |
| 17 | 17. | 55 min | 2 | Startingmethodofseries,shuntandcompoundmotor | Blackboard |
| 18 | 18. | 55 min | 2 | Speedcontrolof d.cseriesmotor | Blackboard |
| 19 | 19. | 55 min | 2 | Speedcontrolof d.cshuntmotor | Blackboard |
| 20 | 20. | 55 min | 2 | Braketestmethod | Blackboard |
| 21 | 21. | 55 min | 2 | Swinburne’stest method | Blackboard |
| 22 | 22. | 55 min | 2 | Lossesefficiencyandusesof D.C motor | Blackboard |
| 23 | 23. | 55 min | 3 | Introductionandworkingprincipleoftransformer | Blackboard |
| 24 | 24. | 55 min | 3 | Constructionalfeatureoftransformer | Blackboard |
| 25 | 25. | 55 min | 3 | Care andmaintenance oftransformer | Blackboard |
| 26 | 26. | 55 min | 3 | E.m.fequation oftransformer | Blackboard |

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| 27 | 27. | 55 min | 3 | No loadcondition, onloadconditionphasordiagram | Blackboard |
| 28 | 28. | 55 min | 3 | Equivalentresistance,leakagereactance andimpeadance oftransformer | Blackboard |
| 29 | 29. | 55 min | 3 | problems | Blackboard |
| 30 | 30. | 55 min | 3 | Exactvoltagedropcalculation | Blackboard |
| 31 | 31. | 55 min | 3 | Regulation oftransformer | Blackboard |
| 32 | 32. | 55 min | 3 | Lossesintransformer | Blackboard |
| 33 | 33. | 55 min | 3 | Opencircuittest,shortcircuittest | Blackboard |
| 34 | 34. | 55 min | 3 | Problems inopenand shortcircuittest | Blackboard |
| 35 | 35. | 55 min | 3 | Explainefficiency ofdifferentloadand powerfactor | Blackboard |
| 36 | 36. | 55 min | 3 | Conditionofmaximumefficiiency | Blackboard |
| 37 | 37. | 55 min | 3 | Alldayefficiencyintransformer | Blackboard |
| 38 | 38. | 55 min | 3 | Determination ofloadcorrespondingtomaximumefficiency | Blackboard |
| 39 | 39. | 55 min | 3 | Paralleloperationofsinglephasetransformers | Blackboard |
| 40 | 40. | 55 min | 4 | Constructionof autotransformer | Blackboard |
| 41 | 41. | 55 min | 4 | Workingprincipleof autotransformer | Blackboard |
| 42 | 42. | 55 min | 4 | Comparisionof autotransformerwithtwowindingtransformer | Blackboard |
| 43 | 43. | 55 min | 4 | Uses of autotransformer | Blackboard |
| 44 | 44. | 55 min | 4 | Explaintapchangerwithtransformeron loadcondition | Blackboard |
| 45 | 45. | 55 min | 4 | Offloadcondition | Blackboard |
| 46 | 46. | 55 min | 5 | Explaincurrenttransformer | Blackboard |
| 47 | 47. | 55 min | 5 | Potentialtransformer | Blackboard |
| 48 | 48. | 55 min | 5 | Ratioerror,phaseangleerror,burden | Blackboard |
| 49 | 49. | 55 min | 5 | UsesofC.Tand P.T | Blackboard |
| 50 | 50. | 55 min |  | REVISION | Blackboard |
| 51 | 51. | 55 min |  | REVISION | Blackboard |
| 52 | 52. | 55 min |  | REVISION | Blackboard |
| 53 | 53. | 55 min |  | REVISION | Blackboard |
| 54 | 54. | 55 min |  | REVISION | Blackboard |
| 55 | 55. | 55 min |  | REVISION | Blackboard |
| 56 | 56. | 55 min |  | REVISION | Blackboard |
| 57 | 57. | 55 min |  | REVISION | Blackboard |
| 58 | 58. | 55 min |  | REVISION | Blackboard |
| 59 | 59. | 55 min |  | REVISION | Blackboard |
| 60 | 60. | 55 min |  | REVISION | Blackboard |