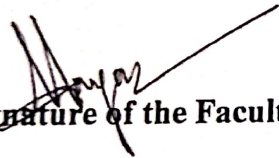


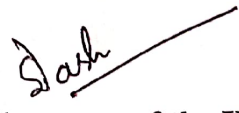
LESSON PLAN

| Name of the Institute: | | C. V. RAMAN POLYTECHNIC |
|---------------------------------------|--|---|
| Department: | | ELECTRICAL ENGINEERING |
| Semester/Division/Branch: | | 6 th SEM/EE |
| Subject Name with code: | | SWITCH GEAR AND PROTECTIVE DEVICE(TH-2) |
| Total No. of Class (Required): | | 60 |
| Faculty Name: | | MADHUPRACHI NAYAK |
| Class No. | <i>Brief description of the Topic/Chapter to be taught</i> | Remarks |
| 1 | Essential Features of switchgear | |
| 2 | Switchgear Equipment. | |
| 3 | Bus-Bar Arrangement | |
| 4 | Switchgear Accommodation. | |
| 5 | Short Circuit. | |
| 6 | Faults in a power system. | |
| 7 | Symmetrical faults on 3-phase system | |
| 8 | Limitation of fault current. | |
| 9 | Percentage Reactance. | |
| 10 | Percentage Reactance and Base KVA | |
| 11 | Short circuit KVA | |
| 12 | Location of reactors. | |
| 13 | Steps for symmetrical Fault calculations | |
| 14 | Solve numerical problems on symmetrical fault | |
| 15 | Low and High voltage fuses. | |
| 16 | Current carrying capacity of fuse element. | |
| 17 | Difference Between a Fuse and Circuit Breaker. | |
| 18 | Definition and principle of Circuit Breaker. | |

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| 19 | Arc phenomenon and principle of Arc Extinction | |
| 20 | Methods of Arc Extinction. | |
| 21 | Classification of circuit Breakers. | |
| 22 | Oil circuit Breaker and its classification. | |
| 23 | Method of ARC Extinction | |
| 24 | Plain brake oil circuit breaker | |
| 25 | Arc control oil circuit breaker | |
| 26 | Low oil circuit breaker. | |
| 27 | Maintenance of oil circuit breaker | |
| 28 | Air-Blast circuit breaker and its classification. | |
| 29 | Sulphur Hexa-fluoride (SF6) circuit breaker | |
| 30 | Vacuum circuit breakers. | |
| 31 | Switchgear component | |
| 32 | Problems of circuit interruption | |
| 33 | Resistance switching | |
| 34 | Circuit Breaker Rating | |
| 35 | Definition of Protective Relay | |
| 36 | Fundamental requirement of protective relay. | |
| 37 | Basic Relay operation | |
| 38 | Electromagnetic Attraction type | |
| 39 | Definition of following important terms | |
| 40 | Pick-up current | |
| 41 | Current setting. | |
| 42 | Time setting Multiplier. | |
| 43 | Classification of functional relays | |
| 44 | Induction type over current relay (Non-directional) | |
| 45 | Induction type directional power relay. | |

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| 46 | Induction type directional over current relay | |
| 47 | Differential relay | |
| 48 | Current differential relay | |
| 49 | Voltage balance differential relay | |
| 50 | Types of protection | |
| 51 | Protection of alternator | |
| 52 | Differential protection of alternators. | |
| 53 | Balanced earth fault protection | |
| 54 | Protection systems for transformer | |
| 55 | Buchholz relay. | |
| 56 | Protection of Bus bar | |
| 57 | Protection of Transmission line | |
| 58 | Rod-gap lightning arreste | |
| 59 | Horn-gap arrester | |
| 60 | Valve type arrester, Surge Absorber | |


Signature of the Faculty


Signature of the H.O.D