

# BHARAT INSTITUTE OF ENGINEERING & TECHNOLOGY

SIVARAM VIHAR, GHATAKESWAR HILLS  
MOHADA, BERHAMPUR (GM.)



## STUDENT'S ATTENDANCE REGISTER

Time	9.05 to 9.55	10.15 to 11.35	11.35 to 12.25	12.25 to 1.15	
Day					
MON		✓			
TUE			✓		
Wed			✓		
Fri				✓	
Sat	✓				

(CP/W)

Year/ Session	(2022-23) Summer
Semester & Branch	6th sem, electrical
Subject with Code	Switch gear and protective device
Name of the Faculty Member	Ex. brajibalo fonde

# B.I.E.T., COURSE PLAN

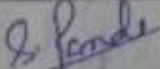
Month	Week	Class Day	Theory/Practical Topic
February	2nd	13/2/23	<u>Introduction to Switchgears</u> 1.1 Essential Features of Switch gears.
		14/2/23	1.2 Switchgear Equipment
		16/2/23	1.3 Bus-bar Arrangement
		17/2/23	1.4 Switchgear Accommodation
		20/2/23	1.5 Short circuit.
			1.6 Short circuit
		21/2/23	1.7 Faults in a Power System.
			<u>FAULT CALCULATION</u>
	4th	22/2/23	2.1 Symmetrical faults on 3- $\phi$ Systems
		23/2/23	2.2 Limitation of fault current.
		24/2/23	2.3 Percentage Reactance
		27/2/23	2.4 Percentage Reactance and Base KVA
		28/2/23	2.5 Short-circuit KVA
		1/3/23	2.6 Reactor Control of Short circuit current.
2/3/23		2.7 Location of reactor	
March	1st	6/3/23	2.8 Steps for Symmetrical fault Calculation.
		9/3/23	
		10/3/23	2.9 Solve numerical problems on

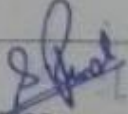
*S. Prasad*  
Signature of the Faculty:

*S. Prasad*  
Signature of the Principal/Course Co-ordinator/HOD:

# B.I.E.T., COURSE PLAN

Month	Week	Class Day	Theory/Practical Topic	
MARCH	3rd		Symmetrical fault:	
			<u>FUSES</u>	
		13/3/23	3.1 Desirable characteristics of fuse element	
		14/3/23	3.2 Fuse element material	
		15/3/23	3.3 Types of fuses and Important terms used for fuses.	
		16/3/23	3.4 Low and High voltage fuse.	
	4th		17/3/23	3.5 Current carrying capacity of fuse element.
			20/3/23	3.6 Difference bet <sup>n</sup> a fuse and circuit breaker.
				<u>CIRCUIT BREAKERS</u>
			21/3/23	4.1 Definition and Principle of circuit breaker.
			22/3/23	4.2 Arc phenomenon and Principle <del>are</del> of Arc Extinction.
			23/3/23	4.3. methods of Arc Extinction

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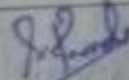
Month	Week	Class Day	Theory/Practical Topic
March		24/3/23	4.1 definitions of Arc Voltage, Re-striking voltage and Recovery voltage.
		27/3/23	4.5 classification of circuit Breakers
	5th	28/3/23	4.6 oil CB and its classification 4.7 Plain Break oil CB 4.8 Arc control oil CB 4.9 Low oil CB 4.10 maintenance of oil CB 4.11 Air-Blast CB and its classification
		29/3/23	4.12 SF <sub>6</sub> circuit breaker 4.13 Vacuum circuit Breakers.
		31/3/23	4.14 switchgear component.
		03/4/23	4.15 Problems of circuit interruption 4.16 Resistance switching.
		4/4/23	4.17 circuit breaker Rating


*L. Pande*  
Signature of the Faculty:

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# B.I.E.T., COURSE PLAN

Month	Week	Class Day	Theory/Practical Topic
April	1st	5/4/23	unit-5: 5.1 Definition of protective relay
		6/4/23	5.2 Fundamental requirement of protective relay. 5.3 Basic relay operation.
	5th		5.3.1 Electromagnetic Attraction type.
			5.3.2 induction type.
		10/4/23	5.4. Definition of following important terms
			5.5. Definition of following important terms.
		11/4/23	5.5.1 Pick up current
			5.5.2 Current setting
			5.5.3 Plug setting multiplier
			5.5.4 Time setting multiplier
12/4/23	5.6 classification of functional relays.		
	5.7. induction type over current relay (non-directional)		
	(5.8) induction type directional power relay.		
13/4/23	(5.9) induction type directional over current relay.		

  
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# B.I.E.T., COURSE PLAN

Month	Week	Class Day	Theory/Practical Topic
April		14/4/23	5.10 Differential Relay 6.10.1 current differential relay
		17/4/23	5.10.2. voltage differential relay 5.11 TYPE of protection.
			<u>unit-6</u> Protection of Electrical power equipment and lines
	At	18/4/23	6.1 protection of Alternator. 6.2. Differential protection of Alternators.
		19/4/23	6.3 Balanced earth fault protection. 6.4. protection system for transformer.
		20/4/23	6.5. Buchholz Relay.
		21/4/23	6.6. protection of bus-bar. 6.7. protection of Transmission line.
		24/4/23	6.8. Different pilot line protection.
		25/4/23	6.9 Explain protection of feeder by over current and earth fault relay

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# B.I.E.T., COURSE PLAN

Month	Week	Class Day	Theory/Practical Topic
May	1st	20	<u>unit-7:</u> Protection against over voltage and lightning.
		26/4/23	7.1 voltage surge and causes of over voltage. 7.2 internal cause of over voltage.
		27/4/23	7.3 External cause of over voltage. (lightning)
		28/4/23	7.4. mechanism of lightning discharge.
		1/5/23	7.5 types of lightning strokes
		2/5/23	7.6 Hazards of lightning.
		3/5/23	7.7 lightning arresters and type of lightning arrester
		4/5/23	7.7.1 - rod-gap lightning arrester 7.7.2. Horn-gap arrester 7.7.3 valve type arrester
		8/5/23	7.8. Surge Absorber

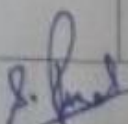
*S. Reddy*


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# B.I.E.T., COURSE PLAN

Month	Week	Class Day	Theory/Practical Topic
May	2nd	11/5/23	<u>Unit - 8</u> 8.1 Advantage of static Relay
		12/5/23	8.2 Instantaneous over current relay
		15/5/23	8.3 principle of IDMT relay.

  
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