

Subject: **Switchgear and Protection [403147]**

[2015 Pattern]

Class: **BE Electrical Engineering**

AY 2019-20 Semester – II

Teaching Scheme

Theory: 03 Hrs./Week

Practical: 02 Hrs./Week

Credits

03

01

Examination Scheme [Marks]

In Sem: 30 Marks

End Sem: 70 Marks

Oral: 25 Marks

Term work : 50 Marks

Unit – 2 Fundamentals of Arc Interruption

Sr. No.	Question [Fundamentals of Arc Interruption]
1	A three phase circuit breaker is rated 2000 MVA, 33 kV. What will be its making current?
a	35 kA
b	49 kA
c	70 kA
d	89 kA
2	What is the making capacity of the circuit breaker?
a	Less than the asymmetrical breaking capacity of the breaker
b	Greater than the asymmetrical breaking capacity of the breaker
c	Equal to the asymmetrical breaking capacity of the breaker
d	Equal to the symmetrical breaking capacity of the breaker
3	Circuit breakers usually operate under
a	Steady short circuit current
b	Sub transient state of short circuit current
c	Transient state of short circuit current
d	None of these
4	Which among these circuit breakers produce the least arc energy?
a	Plain oil
b	Minimum oil
c	Air blast
d	Air break
5	Why is the resistance switching used in a air blast circuit breaker?
a	Reduce the magnitude of fault current
b	Control the CB operating time
c	Damp out the fast transient
d	Change the fault current power factor
6	When using air blast circuit breaker, current chopping is a phenomenon observed when
a	A long overhead line is switched off
b	A bank of capacitors is switched off
c	A transformer on no load is switched off
d	A heavy load is switched off
7	A 50 Hz 3 phase synchronous generator has inductance per phase of 15mH. The capacitance of generator and the circuit breaker is 0.002μ F. What is the natural frequency of oscillation?
a	29 kHz
b	2.9 kHz
c	290 kHz
d	29 MHz
8	A 50 Hz, 11 kV, 3 phase alternator with earthed neutral having a reactance of 3 ohms per phase and is connected to a bus bar through a circuit breaker, if the distributed capacitance upto CB

		between the phase and neutral is 0.01 μ F. What is the frequency of oscillations?
	a	10000 Hz
	b	12500 Hz
	c	12628 Hz
	d	13265 Hz
9		A 50 Hz, 11 kV, 3 phase alternator with earthed neutral having a reactance of 3 ohms per phase and is connected to a bus bar through a circuit breaker, if the distributed capacitance upto CB between the phase and neutral is 0.01 μ F. What is the peak re striking voltage?
	a	18.36 kV
	b	17.96 kV
	c	15.96 kV
	d	12.65 kV
10		The making and breaking currents of a 3 phase ac circuit breakers in power systems are respectively in _____ form.
	a	rms value, rms value
	b	instantaneous value, rms value
	c	rms value, instantaneous value
	d	instantaneous value, instantaneous value