Time: 2 hour 30 minutes   Max. Marks: 80

Q1.	Choose the correct option for following questions. All the Questions are compulsory and carry equal marks
1.	A synchronous machine is
Option A:	A single excited machine
Option B:	A double excited Machine
Option C:	Made to run at a speed less than Ns
Option D:	Generally a lagging power factor machine.
2.	Which of the following fault occurs most frequently
Option A:	Three phase fault
Option B:	LLG faults
Option C:	Double line fault
Option D:	Single line to ground faults.
3.	For the fault analysis in power system,we use symmetrical components
Option A:	The results are required in terms of symmetrical components
Option B:	The number of equations becomes smaller
Option C:	The sequence network do not have mutual coupling
Option D:	All of the above
4.	In a transmission line there is a flow of zero sequence current when
Option A:	There is an occurrence of over voltage on line due to a charged cloud
Option B:	Line to line faults
Option C:	Three phase faults
Option D:	Double line to ground fault
5.	In which type of fault listed below , the positive and negative sequence voltages are equal
Option A:	Line to line faults
Option B:	Double line to ground fault
Option C:	Single line to ground faults.
Option D:	None of the above
6.	Which of the following network gets affected by the method of neutral grounding
Option A:	Zero sequence network
Option B:	Positive sequence network
Option C:	Negative sequence network
Option D:	All of the above
7.	Transient phenomenon last in power system for a period ranging from
Option A:	Few ms to 1 second
Option B:	1 second to 2 second
Option C:	2 second to 3 second
Option D:	Greater than 3 second
8.	Lightnening arrester should be located
Option A:	Near the circuit breaker
Option B:	Away from the circuit breaker
Option C:	Near the transformer
Option D:	Away from the transformer
9.	Transients in electric circuits normally disappears within a time equal to

Option A:	4 * time constant
Option B:	2 8 time constant
Option C:	8 * time constant
Option D:	Time constant
10.	When a line to ground fault occurs,the current in a faulted phase is 100 A . the zero sequence current in this case will be
Option A:	Zero
Option B:	33.3 A
Option C:	66.6 A
Option D:	100 A

Q 2	Solve any Two Questions out of Three 10 marks each
A	Derive the equation for fault current for LG fault.
B	Discuss the transients on transmission line.
C	Discuss the Phenomenon of Arcing ground.

Q 3.	Solve any Two Questions out of Three 10 marks each
A	Discuss the short circuit of synchronous Machine at loaded condition.
B	Derive the expressions of coefficients for reflection and refraction of travelling waves .
C	Describe the phenomenon of corona. Explain radio interference due to corona.

Q 4.	Solve any Two Questions out of Three 10 marks each
A	*Discuss the advantages and disadvantages of corona.*
B	Explain clearly how lighting arrester is selected ? What is the best location of a lighting arrester and why?
C	*What are the various factors affecting the selection of circuit breaker.Explain Short circuit MVA.*