Quiz_04_Power System Stability

anuragv.ec.21@nitj.ac.in Switch account

Draft saved

* Indicates required question

Email *

Record anuragv.ec.21@nitj.ac.in as the email to be included with my response

The power angle characteristics of a machine connected to infinite bus is Pe=2sin(del) pu. It is operating at del = 30 degree. Which one of the following is the synchronizing power coefficient. 1 point

- 1.0
- 1.732
- 2.0
- 0.5773

Clear selection

The steady state stability of power system can be improved by 1 point

- (a) Increasing number of parallel lines between the transmission lines
- (b) Connecting capacitors in series with the lines
- (c) Reducing excitation of machines
- Either (a) and (b)

Clear selection

Name *

Your answer

A synchronous generator connected to infinite bus is overexcited. Considering only the reactive power, from point of view of the system, the machine acts as

1 point

- ○ Capacitor
- ○ Inductor
- ◉ Resistor
- ○ None of the above

Clear selection

The stability of power system is not affected by

1 point

- ○ Generator reactance
- ○ Line reactance
- ◉ Line losses
- ○ Excitation of generators
- ○ Output torque

Clear selection

For transient stability analysis, as long as equal area criterion is classified, the maximum angle to which rotor angle can oscillate is 1 point

- ○ 90 degree
- ○ 45 degree
- ◉ Greater than 90 degree
- ○ Less than 90 degree

Clear selection

Maximum power will be transferred from the sending end to receiving end by the transmission lines when the line reactance is 1 point

- ○ Equal to the resistance
- ○ Root two times of the reactance
- ◉ Root three times of reactance
- ○ Zero

Clear selection

Roll Number *

Your answer

A 500 MVA, synchronous machine has H1=4.6 MJ/MVA and a 1500 MVA machine has H2=3.0 MJ/MVA. The two machines are operating in parallel in the power station. The equivalent H constant for the two, relative to a 100 MVA base will be 1 point

- ○ 22
- ○ 45
- ○ 52
- ◉ 68

Clear selection

For a fault in a power system, the term critical clearing time is related to 1 point

- ○ Reactive power limit
- ◉ Transient stability limit
- ○ Short circuit current limit
- ○ Steady state stability limit

Clear selection

Steady state stability of a power system is ability of power system to 1 point

- ○ maintain voltage at the rated voltage level
- ○ maintain frequency exactly at 50 Hz
- ○ maintain a spinning reserve margin at all times
- ◉ maintain synchronism between machines and in external tie lines

Clear selection

The equal area criterion of transient stability is used for 1 point

- [ ] No load on the bus bar
- [x] One machine and infinite bus bar
- [ ] More than one machine and infinite bus bar
- [ ] None of the above

Clear selection

Send me a copy of my responses.

Submit Clear form

Never submit passwords through Google Forms.