

C.U.SHAH UNIVERSITY

Summer Examination-2017

Subject Name : Advanced Power System

Subject Code : 4TE07APS1

Branch: B.Tech (Electrical)

Semester : 7

Date : 31/03/2017

Time : 02:30 To 05:30

Marks : 70

Instructions:

- (1) Use of Programmable calculator & any other electronic instrument is prohibited.
 - (2) Instructions written on main answer book are strictly to be obeyed.
 - (3) Draw neat diagrams and figures (if necessary) at right places.
 - (4) Assume suitable data if needed.
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Q-1

Attempt the following questions:

(14)

- a) Give the full form of FACT.
- b) Which switching device is used for FACT application ?
- c) By using shunt power compensation the active power transmission can be increased up to _____ time the rated capacity.
- d) The shunt power compensation technique control _____ of the system to increase the power transmission capability.
- e) The power transistor is _____ controlled device.
- f) The harmonics _____ (increase/decrease) the temperature and _____ (increase/decrease) the efficiency of the equipment.
- g) The automatic power factor correction bank uses the _____ for reactive power compensation and _____ for program and control signals.
- h) The thyristor has gate turn _____ (on/off) options for switching function and requires _____ (communication/commutation) circuit for turn off the power.
- i) Smart grid regulates the Load ____ (and/or) power sources and _____ (increase/decrease) the green house effect.
- j) The flow of power is (bidirectional/unidirectional) _____ in smart grid technology and provides the consumer to (earn/pay) _____ money for its in house generation.
- k) The challenges of the smart grid are (regulation/development) _____ of grid and provide the (smart/conventional) _____ communication infrastructure.
- l) For protection of transmission circuit the response time required for communication is _____ (20ms/100ms) for dedicated point to point links.
- m) State the name of key components for smart metering.
- n) Zero detection and comparison operation is required for _____ (Frequency/Phase displacement/Power factor) measurement operation.



