KING FAHD UNIVERSITY OF PETROLEUM & MINERALS

ELECTRICAL ENGINEERING DEPARTMENT

Dr. Ibrahim O. Habiballah

EE 360

Quiz # 5 Serial # Name: I.D.#

Key Solution

1) The terminal voltage of a shun DC generator can be controlled as follows:

a- $n \uparrow \Rightarrow E_A \downarrow \Rightarrow V_T \uparrow$

b- $R_F \downarrow \Rightarrow I_F \uparrow \Rightarrow E_A \downarrow \Rightarrow V_T \uparrow$

c- $R_F \uparrow \Rightarrow I_F \downarrow \Rightarrow E_A \downarrow \Rightarrow V_T \downarrow$

d- None of above

2) A long-shunt differentially compounded 240 V DC generator has armature, shunt field, and series field winding resistances of 0.2 Ohm, 200 Ohm, 0.1 Ohm, respectively. If the generator delivers 11.7 kW, the back EMF (i.e., E_A) of the generatos is

a- 254.3 V

b- 225 V

c- 255 V

d- 225.7 V