# KING FAHD UNIVERSITY OF PETROLEUM & MINERALS
## ELECTRICAL ENGINEERING DEPARTMENT
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**EE-306**
**Key Solution**

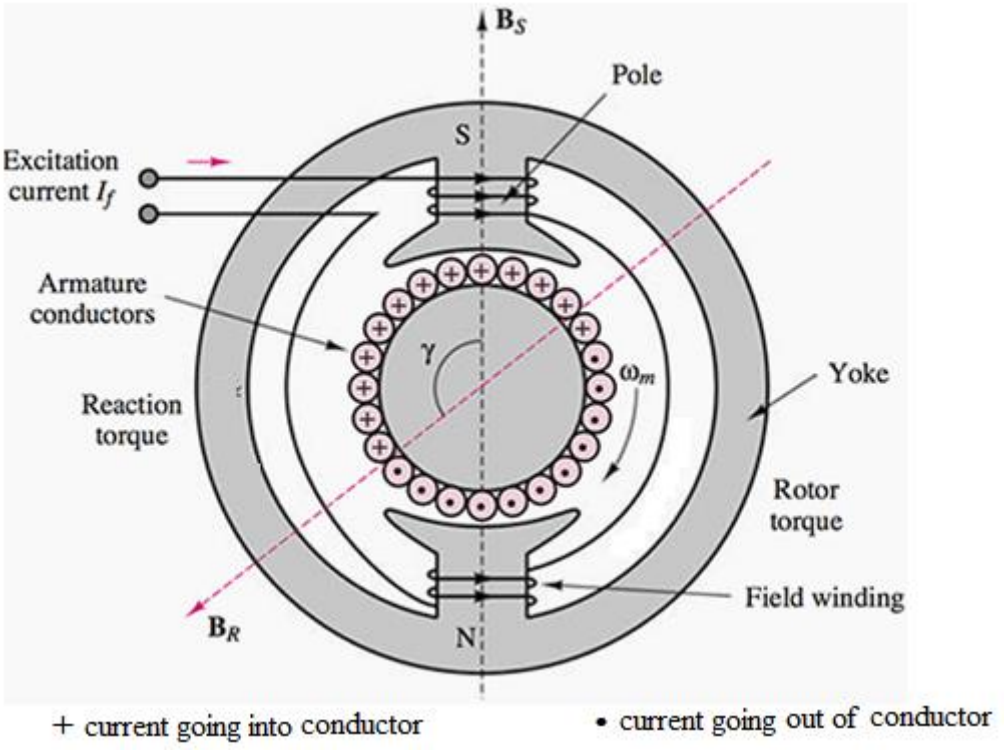
Quiz 4 Sec.: 8 I.D.: Ser#: Name:

Circle the correct answer.

1) The back EMF (i.e., $E_A$ ) of a series DC motor is (3 Marks)
(A = armature; L = load; S = series-field; T = terminal)
a- $E_A = V_T - I_L R_L$
b- $E_A = V_T - I_A R_A$
c- $E_A = V_T - I_S R_S$
d- None of above

2) The terminal voltage of a shunt DC generator can be controlled as follows: (3 Marks)
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- "a" and "b" above

3) The machine shown below is operating as (4 Marks)




a. a motor.
b. a generator.