Menoufiya University
Faculty of Engineering
Shebin El-Kom
Third Semester Examination
Academic Year: 2013-2014



Department: Electrical Engineering

Year: Diploma-1

Subject/Code: Fractional Horsepower Electrical Machines /ELE 504 Time Allowed: 3 hours, Date:20/9/2014

Answer all the following Questions [100 Marks]

Question (1)

<u>Marks</u>

[20]

What are the advantages of solid rotor induction motor? How its characteristics can be improved? Compare its characteristics with those of squirrel cage induction motor.

Question (2)

[20]

Explain the operation and performance characteristics of synchronous reluctance motor. What are its advantages over the conventional synchronous motor?

Question (3)

[20]

Describe the construction of the various types of switched reluctance motor. What are its advantages over the synchronous reluctance motor?

Question (4)

[20]

Discuss the types and operation of stepping motor. Describe the kinds of excitation systems and drive circuits.

Question (5)

[20]

Explain the operation of hysteresis motor. What are its advantages and disadvantages? State its various types which are used to overcome its disadvantages.

GOOD LUCK