N.B.

1. Question 1 is compulsory
2. Solve any THREE out of the remaining 5 questions
3. Figures on the right indicate full marks
4. Assume suitable data if necessary

Q1. Solve any THREE

a) Explain the significance of back emf of a DC Motor
b) Name the different starting methods of single phase induction motor & explain the working of split phase motor
c) State the important applications of brushless DC motor
d) Explain v/f method of speed control of 3 phase induction motor

Q2. a) Explain double field revolving theory in a single phase induction motor
    b) Explain the construction & working of 3-phase squirrel cage induction motor.

Q3. a) Describe the construction and working principle of a switched reluctance motor
    b) Explain different speed control methods of a DC shunt motor

Q4. a) Name different types of unipolar brushless DC motor & describe any one type in detail.
    b) With neat diagram, explain the working of star-delta starter in a 3-phase induction motor.

Q5. a) Explain the construction and working of a permanent magnet synchronous motor.
    b) Describe torque-slip characteristics of a three phase induction motor in 4 modes.

Q6. Write short notes on
    a) 3 point starter of a DC motor
    b) Variable reluctance stepper motor
    c) Equivalent circuit of a three phase induction motor