Total No. of Questions : 8]

SEAT No. :

PB2277

[Total No. of Pages : 2

[6263]-115
B.E. (Electrical Engineering)
ADVANCED ELECTRICAL DRIVES & CONTROL
(2019 Pattern) (Semester - VIII) (403149)

Time : 2½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) ***Solve Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8.***
2) ***Figures to the right indicate full marks.***
3) ***Neat diagrams must be drawn wherever necessary.***
4) ***Assume suitable additional data, if necessary.***
5) ***Use of non-programmable calculator is allowed.***

Q1) a) List braking methods for induction motor and explain regenerative braking. **[4]**

b) What is difference between CSI and VSI drives? **[6]**

c) Discuss VSI fed induction motor drive and write drawbacks of Inverter fed induction motor drives. **[8]**

OR

Q2) a) What is electrical braking? Explain plugging for induction motor. **[4]**

b) Explain principle of vector control for induction motor. **[6]**

c) Explain regenerative braking and multi quadrant operation of Induction motor drives. **[8]**

Q3) a) With neat diagram explain motoring and regenerative braking of BLDC Motor. **[8]**

b) Write advantages of vector control method and explain vector control of BLDC motor with necessary diagram. **[9]**

OR

Q4) a) With neat diagram explain close loop control of BLDC motor. **[8]**

b) Describe the construction and working of BLDC Motor and also draw speed-torque characteristics. **[9]**

Q5) a) With the help of block diagram explain vector control of PM synchronous motor. **[9]**

b) Draw construction and explain operating principle of PM synchronous motor. **[9]**

OR

P.T.O.

Q6) a) Write advantages of synchronous reluctance motor (SRM). **[4]**

b) Compare BLDC motor with PMSM motor. **[6]**

c) Describe the construction and working of synchronous reluctance motor. **[8]**

Q7) a) Explain continuous motor duty with diagram. **[3]**

b) Explain specific requirements and choice of drives for Sugar mills. **[6]**

c) Explain requirements of motor drive for traction applications. **[8]**

OR

Q8) a) Write a brief note on Thermal model for heating and cooling. **[8]**

b) Explain various requirements and choice of drive for EV applications. Also explain basic operations of drive. **[9]**