1315 **Code : 15EE61T**

Register Number | | | | | | | | | | |

VI Semester Diploma Examination, Nov./Dec.-2018

INDUSTRIAL DRIVES & CONTROL

Time : 3 Hours] **[Max. Marks : 100**

Note : (i) Answer any **six** questions from Part – **A**. (Each question carries **5** marks)
(ii) Answer any **seven** questions from Part – **B**. (Each question carries **10** marks)

PART – A

1. Draw the block diagram of an Electric drive. **5**

2. Select suitable drive for the following and justify the same : **5**
   (a) Cane cutters
   (b) Cane crushing mills

3. Select suitable drive for large centrifugal pump and justify the same. **5**

4. Define open loop and closed loop systems. **5**

5. Draw the symbols for the following : **5**
   (a) ON push button
   (b) OFF push button
   (c) Coil
   (d) Limit switch
   (e) Float switch

6. Draw 2-wire and 3-wire control circuit for controlling an induction motor. **5**

7. Develop control circuit for controlling an induction motor from one location. **5**

8. Develop control circuit for jogging control of an induction motor. **5**

9. List the advantages of Electric traction. **5**

PART – B

10. Explain multiquadrant operation of electric drive. **10**

11. Draw the process flow diagram of sugar mill and explain various processes. **10**

12. Draw the process flow diagram of cement mill for dry process and explain. **10**

13. Explain the operation of thermostat switch with a diagram. **10**

14. Develop control circuit for the following :
    (a) Forward and reverse control of an Induction motor. **5**
    (b) Fully automatic star-delta starter. **5**

15. Draw and explain the basic structure of computer controlled system. **10**

16. (a) Draw the block diagram of computer integrated manufacturing system. **5**
    (b) Draw the block diagram of clinker burning control in a cement plant. **5**

17. Describe chopper controlled drive for DC motor with composite braking for DC fraction system. **10**

18. Draw and name the parts of the following speed time curves :
    (a) City service **3**
    (b) Sub-urban service **3**
    (c) Main line service **4**

19. (a) List the advantages of electric braking. **5**
    (b) Explain with diagram current collection through single arm pantograph collector. **5**