

1486**Code : 15EE61T**Register
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VI Semester Diploma Examination, April/May-2018**INDUSTRIAL DRIVES AND CONTROL****Time : 3 Hours]****[Max. Marks : 100**

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

PART – A

Diploma - [All Branches]

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1. List the advantages of Electrical drive. **5**
2. Draw the process flow diagram of paper mill. **5**
3. Select suitable motors for paper mill and justify the selection. **5**
4. Describe with block diagram open loop and closed loop control system. **5**
5. Explain two-wire and three-wire control circuits. **5**
6. Compare AC drives and DC drives. **5**
7. Explain Hierarchical Control System. **5**
8. With neat diagram, explain 3rd conductor or rail system. **5**
9. Explain Speed-Time curve. **5**

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PART – B

10. (a) List the advantages of variable speed drives. **3**
(b) Draw the block diagram and explain each block of electrical drive system. **7**

11. Draw the neat diagram and explain the process flow diagram of cement mill. 10
12. (a) Explain four quadrant operation of electric drive. 6
(b) Explain train lighting system. 4
13. (a) Draw and explain the operation of electromagnetic contactor. 6
(b) Explain the operation of limit switch. 4
14. (a) Describe the closed loop speed control of Induction motor. 7
(b) Draw the symbols for
(i) Contactor
(ii) Time-delay relay
(iii) Float Switch
15. (a) Develop the control circuit to control motor from two different locations. 6
(b) Draw neat diagram, explain overload relay. 4
16. (a) Explain de-centralised control system. 5
(b) Compare distributed control system and centralised control system. 5
17. (a) Draw the block diagram and explain micro-controller based D.C. motor speed control. 7
(b) Explain motor control centre. 3
18. (a) Explain the term total tractive effort to propel the train. 6
(b) List the advantages of Electrical braking system. 4
19. (a) Explain chopper controlled D.C. motor drive with composite braking for D.C. traction system. 7
(b) Define the following terms : 3
(i) Crest speed
(ii) Scheduled speed
(iii) Average speed

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