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BOARD DIPLOMA EXAMINATION, (C-14)
MARCH/APRIL-2019
DEEE - FIFTH SEMESTER EXAMINATION
INDUSTRIAL DRIVES

Time: 3Hours]

[Max. Marks:80

PART-A**10x3=30M**

Instructions: 1) Answer all questions and each question carries three marks.
 2) Answers should be brief and straight to the point and shall not exceed five simple sentences.

- 1) Define electric drive.
- 2) List any three advantages of group drive.
- 3) List the types of bearings.
- 4) List any three advantages of electric braking.
- 5) Explain the need of braking resistor in plugging.
- 6) Draw the circuit diagrams of DC shunt motor in dynamic braking at the following conditions:
 - a) During normal Running
 - b) During Braking.
- 7) List the properties required for a washing machine drive.
- 8) Write the parts of a mixer.
- * 9) List the properties required for lathe machine drive.
- 10) Write the suitable motor for the following drives:
 - a) Punches
 - b) Wood working machines
 - c) Belt conveyor

PART-B

5x10=50M

Instructions: 1) Answer any five questions. Each question carries 10 marks
2) The answers should be comprehensive and the criteria for valuation is the content but not the length of the answer

- 11) a) Compare Group Drive and Individual Drive in any five aspects.
b) What are the factors which influence the selection of electric drive?
- 12) a) State noise elimination methods of Electric drives. 3M
b) What is a load curve. Draw load curves for the following: 1+6M
(i) Continuous duty (ii) Short time duty
(iii) Intermittent periodic duty
- 13) A motor has the duty cycle as 120 hp for 10 minutes, No load for 5 minutes, 80 hp for 8 minutes and no load for 3 minutes. The same is repeated indefinitely. Determine the suitable size and rating of motor and draw curve for the load cycle.
- 14) Explain regenerative braking of 3-phase induction motor.
- 15) A 25 hp, 220V dc shunt motor with a full load speed of 600rpm is to be braked by plugging. Estimate the value of the resistance which should be placed in series with it, to limit the current to 130A. What should be the initial value of the electric braking torque and the value when the speed has fallen to half its full load value? Armature resistance of the motor is 0.1Ω . Full load armature current is 95A.
- 16) Explain plugging of dc series motor with neat sketches.
- 17) List the characteristics required for drives used at different stages of paper making process and suggest suitable motors.
- 18) a) Explain the working of drive used in refrigerator.
b) List the characteristics required for drives used in Robot arm.

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