

	<p style="text-align: center;"><b>ADAMAS UNIVERSITY</b>  <b>END-SEMESTER EXAMINATION : MAY 2021</b>          (Academic Session: 2020 – 21)</p>		
<b>Name of the Program:</b>	B.Tech	<b>Semester:</b>	VIII
<b>Paper Title :</b>	ELECTIVE III (ELECTRICAL DRIVES)	<b>Paper Code:</b>	EEE43108
<b>Maximum Marks :</b>	40	<b>Time duration:</b>	3 Hrs
<b>Total No of questions:</b>	8	<b>Total No of Pages:</b>	2
(Any other information for the student may be mentioned here)			

**Answer all the Groups**  
**Group A**

Answer all the questions of the following

$5 \times 1 = 5$

**1.**

- a) Which of the following are electrical braking methods ?
  1. plugging
  2. dynamic
  3. regenerative
  - all of the above
- b) The concept of V/f control of inverters driving induction motors results in
  1. constant torque operation
  2. speed reversal
  3. reduced magnetic loss
  - harmonic elimination
- c) Polarity of supply voltage is reversed in which type of braking?
  1. Regenerative braking.
  2. Dynamic braking.
  3. Plugging.
  - None of these.
- d) An elevator drive is required to operate in
  1. one quadrant only.
  2. two quadrants.
  3. three quadrants.
  - four quadrants.
- e) Speed control by variation of field flux results in
  1. constant power drive.
  2. constant torque drive.
  3. variable power drive.

4. none of the above.

**GROUP –B**

Answer *any three* of the following

$3 \times 5 = 15$

2. Define Drive and Electric Drive.
3. What is an individual electric drive? Give some examples.
4. Draw the typical temperature rise-time curve and derive the equation for temperature rise in an electric drive.
5. What is meant by regenerative braking?

**GROUP –C**

Answer *any two* of the following

$2 \times 10 = 20$

6. A 4-pole, lap connected DC machine has 540 armature conductors. If the flux per pole is .03 Wb and runs at 1500 RPM, determine the emf generated. If this machine is driven as a shunt generator with same field flux and speed, calculate the line current if the terminal voltage is 400V. Given the  $R_{SH}=450\Omega$  and  $R_A=2\Omega$ .
  7. Explain the effect of inserting resistance in the field circuit of a dc shunt motor on its speed and torque?
  8. State methods of speed control for three -phase induction motor and explain any one of them in details.
-