SANSKRITI UNIVERSITY	**SANSKRITI UNIVERSITY** Mathura, Uttar Pradesh	**Enrol. No:**

Semester End Examination - January 2022
Course Code : EEE 405 Course Name : Electric Drives
School of Engineering & Information Technology
Programme: B.Tech (EE)(Regular & Lateral) **Semester: VII**
Time: 3 hrs **Max. Marks:100**

PART - A (10 questions X 2 marks = 20 Marks)
Answer ALL the Questions

1. Attempts all parts. All parts carry equal marks. Write answer of each part in short.
   a. What is meant by Electrical Drives? **[2]**
   b. What is meant by V/F control? **[2]**
   c. What are various advantages of electrical drives? **[2]**
   d. What is meant by slip power? **[2]**
   e. What is meant by regenerative braking? **[2]**
   f. What is meant by stator current control? **[2]**
   g. What is meant by dynamic braking? **[2]**
   h. What is meant by chopper? **[2]**
   i. What is meant by brushless DC motors? **[2]**
   j. What is purpose of yoke in dc machines? **[2]**

PART - B (4 questions X 5 marks = 20 Marks)
(Answer all questions)

2. What are modes of operation of electrical drives? **[5]**
3. What is meant by four Quadrant operation? **[5]**
4. What is the function of freewheeling diode in phase controlled rectifier? **[5]**
5. What are different types of DC generators? **[5]**

PART - C (3 questions X 10 marks = 30 Marks)
Answer Three out of Four Questions

6. Explain the different types of Electric drives and the factor affecting the selection of drives? **[10]**
7. Explain in detail about any two methods of electrical breaking in DC machines. **[10]**
8. (a) Explain the working of single phase have wave circuit with R load? **[10]**
   (b) Explain the working of single-phase dual convertor?
9. (a) Discuss the characteristics of DC shunt motors. **[10]**
   (b) State the reason of using stators in DC motors.

PART - D (2 questions X 15 marks = 30 Marks)
Answer Two out of Three Questions

10. Explain the speed control of DC series motors using controlled rectifiers. Also draw the transfer characteristics. **[15]**
11. Explain with neat sketch of working principle of three point starter and its disadvantages. **[15]**
12. (a) Discuss briefly of ward-Leonard speed control method with neat sketch. **[15]**
    (b) Draw the heating and cooling curves of electric drive.