******

***THE HASHMITE UNIVERSITY***

***ELECTRICAL ENGINEERING DEPARTMENT***

***ELECTRICAL MACHINES LAP***

*Lab Sheet*

**Separately Excited DC-Generator.**

|  |  |
| --- | --- |
| **Group number: Students ID:** | |
| **1** |  |
| **2** |  |
| **3** |  |
| **4** |  |
| **5** |  |
| **6** |  |
| **7** |  |

**DC-Separately Excited Generator**

**The no-load characteristic**

Table (6-7)

Table (6-8)

|  |  |  |  |
| --- | --- | --- | --- |
| 1400rpm | | | |
| Increasing | | Decreasing | |
| (V) | (A) | (V) | (A) |
|  | 0 |  | 0 |
|  | 0.1 |  | 0.1 |
|  | 0.2 |  | 0.2 |
|  | 0.3 |  | 0.3 |
|  | 0.4 |  | 0.4 |
|  | 0.5 |  | 0.5 |
|  | 0.6 |  | 0.6 |
|  | 0.7 |  | 0.7 |
|  | 0.8 |  | 0.8 |

|  |  |  |  |
| --- | --- | --- | --- |
| 1200rpm | | | |
| Increasing | | Decreasing | |
| (V) | (A) | (V) | (A) |
|  | 0 |  | 0 |
|  | 0.1 |  | 0.1 |
|  | 0.2 |  | 0.2 |
|  | 0.3 |  | 0.3 |
|  | 0.4 |  | 0.4 |
|  | 0.5 |  | 0.5 |
|  | 0.6 |  | 0.6 |
|  | 0.7 |  | 0.7 |
|  | 0.8 |  | 0.8 |

1. Draw the no load characteristic for increasing and decreasing on (x) axis at 1400 and 1200 rpm on the same graph?

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |

1. Why does the no load characteristic differ for increasing and decreasing excitation current?

…………………………………………………………………………

…………………………………………………………………………

…………………………………………………………………………

**The load characteristic**

Table (6-9)

|  |  |  |  |
| --- | --- | --- | --- |
| (A) | **N(rpm)** | (A) | (V) |
| 0.8 | 1400 |  |  |
| 0.8 | 1400 | 2 |  |
| 0.8 | 1400 | 3 |  |
| 0.8 | 1400 | 4 |  |
| 0.8 | 1400 | 5 |  |
| 0.8 | 1400 | 6 |  |
| 0.8 | 1400 | 7 |  |

1. Draw the external voltagecharacteristic with  on (x) axis?

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |

1. Why does **** increase with decrease ?

…………………………………………………………………………

…………………………………………………………………………

…………………………………………………………………………

**Conclusions:**

…………………………………………………………………………

…………………………………………………………………………

…………………………………………………………………………

…………………………………………………………………………

…………………………………………………………………………

…………………………………………………………………………

…………………………………………………………………………

…………………………………………………………………………

…………………………………………………………………………