

國立臺北科技大學

九十七學年第二學期電機系博士班資格考試

電力系統保護與協調試題(公告用)

第一頁 共一頁

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注意事項：

1. 本試題共【7】題，配分共 100 分。
2. 請按順序標明題號作答，不必抄題。
3. 全部答案均須答在試卷答案欄內，否則不予計分。
4. 考試時間：二小時。

1. (25%) Describe the meanings of the following items
 - (1) The mho relay
 - (2) The directional relay
 - (3) The pilot relay
 - (4) The Burden of a CT
 - (5) The percentage differential relay
2. (15%) In power systems, there are four types of system grounding. Describe these four types of system grounding and their application fields in practice.
3. (10%) When the measured current contains DC offset, the CT will become saturation. Explain the reasons to cause the saturation.
4. (15%) In transformer protection systems, explain the reasons to cause the magnetization inrush currents and the method to distinguish these inrush currents.
5. (10%) Plot the one-line diagram of a four-circuit single breaker-single bus protection system and circle the bus differential protection zone of this protection system.
6. (15%) Explain the meaning of a distance relay and the reasons why the first protection zone of a distance relay cannot occupy 100% line length?
7. (10%) What are the reasons to use a high impedance voltage relay for bus protections?