

# 元智大學 107 學年度 碩士班 招生試題卷

系(所)別：電機工程學系碩士班 組別：甲組

科目：電力系統

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●不可使用電子計算機

1. (25%) The daily load of a substation is given in the following **Table 1**. Using the given data compute the average load, the peak load, the daily load factor, and plot the daily load curve.

Interval hr.	Load MW
0-2	6
2-6	5
6-9	10
9-12	15
12-14	12
14-16	14
16-18	16
18-20	18
20-22	16
22-23	12
23-24	6

2. (25%) For the network shown in **Fig. 1**, assume no mutual coupling between elements. Form the positive-sequence bus admittance matrix  $Y_{bus}$ .

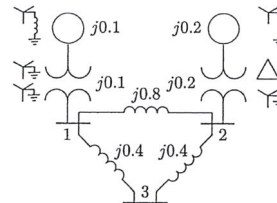


Fig. 1. Single-line diagram for Problem 2.

3. (25%) State the procedure for power flow solution by the Newton-Raphson method.
4. (25%) Derive the sequence network circuit model for Line-to-Line Fault (LL) by the boundary conditions.