## SCHOOL OF PSYCHOLOGY

 PSYCHOMETRICS.December, 2011

## Name:

Number of identification:

Exercise 1. We want to study the attitude of partner between 25 and 35 years old respect to having children. The following item has been studied by a group of 300 experts in one scale of 10 categories. The obtained results are the following:

| Categories | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Number of <br> judges | 5 | 10 | 15 | 30 | 20 | 10 | 60 | 100 | 30 | 20 |

Calculate if that item should take part of the final scale using the scaling method of apparently equal intervals (Thurstone). 1.5 points.

Exercise 2. Respect to the following table:

| Subjects | Item 1 | Item 2 | Item 3 | Item 4 | Item 5 | Item 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A | 1 | 1 | 0 | 0 | 1 | 0 |
| B | 1 | 1 | 1 | 1 | 1 | 0 |
| C | 1 | 0 | 0 | 1 | 1 | 1 |
| D | 0 | 0 | 0 | 1 | 1 | 1 |
| E | 1 | 0 | 0 | 0 | 0 | 1 |

a) Calculate index of difficulty and corrected index of difficulty of item 1 (Items have three options). 1 points.
b) Interpret the obtained values. 0.5 points.

Exercise 3. Respect to the previous table, calculate the appropriate discrimination index of item 1 and interpret the obtained value. 1.5 points.

Exercise 4. Respect to the following table, calculate the appropriate discrimination index and interpret the obtained value. 1.5 points.

|  | A | B | C $^{*}$ |
| :---: | :---: | :---: | :---: |
| $27 \%$ higher | 3 | 32 | 65 |
| $46 \%$ intermediate | 17 | 45 | 38 |
| $27 \%$ lower | 44 | 31 | 25 |

Exercise 5. In the following table you have the answers of 4 people to 5 attitudes items. Calculate the corrected discrimination index of item 2 through Pearson correlation and interpret the obtained value. 2 points.

| Subjects | Item 1 | Item 2 | Item 3 | Item 4 | Item 5 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| A | 2 | 3 | 4 | 4 | 5 |
| B | 3 | 4 | 3 | 5 | 4 |
| C | 2 | 3 | 3 | 3 | 4 |
| D | 5 | 5 | 5 | 4 | 5 |

