## SCHOOL OF PSYCHOLOGY PSYCHOMETRICS. December, 2011

UNIVERSITY OF SEVILLE

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  | 5 | 10 | 15 | 30 | 20 | 10 | 60 | 100 | 30 | 20 |
| judges     |   |    |    |    |    |    |    |     |    |    |

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 |
|----------|--------|--------|--------|--------|--------|--------|
| А        | 1      | 1      | 0      | 0      | 1      | 0      |
| В        | 1      | 1      | 1      | 1      | 1      | 0      |
| С        | 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.

|                  | А  | В  | 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 |
|----------|--------|--------|--------|--------|--------|
| А        | 2      | 3      | 4      | 4      | 5      |
| В        | 3      | 4      | 3      | 5      | 4      |
| С        | 2      | 3      | 3      | 3      | 4      |
| D        | 5      | 5      | 5      | 4      | 5      |