UNIVERSITY OF OSLO
DEPARTMENT OF ECONOMICS

Exam: **ECON4271 – Distributive Justice and Economic Inequality**

Date of exam: Monday, May 30, 2016 **Grades are given: June 20, 2016**

Time for exam: 09.00 a.m. – 12.00 noon

The problem set covers 2 pages

Resources allowed:
- No written or printed resources – or calculator - is allowed (except if you have been granted use of a dictionary from the Faculty of Social Sciences)

The grades given: A-F, with A as the best and E as the weakest passing grade. F is fail.

The exam consists of four problems, which are divided into several parts. The percentage weights on each part are indicated in parenthesis. Start by reading through the whole exam, and make sure that you allocate time to answering problems you find easy. You can get a good grade even if there are parts of problems that you do not have time to solve.

1 Welfare Economics (36/100)

a) (7/100) What are the advantages and limitations of the standard utilitarian criterion?

b) (7/100) How does the utilitarian criterion compare with the leximin criterion? Which arguments can you provide in support of the latter?

c) (8/100) Prove that ordinal and interpersonally comparable information about utilities (co-ordinality) is sufficient for the leximin criterion, but not for the utilitarian criterion.

d) (7/100) What is the difference between Arrow's "social welfare function" approach and Sen's "social welfare functional" approach?

e) (7/100) The opportunity-equivalent utilitarian criterion in Piacquadio (2016) achieves interpersonal comparability of well-being based on the axiom of "non discrimination." Briefly describe this axiom and discuss why the standard utilitarian and leximin criteria do not satisfy it.

2 Inequality measurement (24/100)

a) (6/100) Explain what it is meant by partial and complete orderings of distributions with regard to social welfare and (relative) inequality.
b) (6/100) Give an account of the theoretical justification for the primal and dual measures of (relative) inequality and explain similarities and differences between these two families of inequality measures.
c) (6/100) Briefly discuss what is meant by "equally distributed equivalent income" for primal measures of social welfare and show that the dual social welfare functions can be interpreted as "equally distributed equivalent incomes".
d) (6/100) Show that the dual measures of inequality can both be defined in terms of the Lorenz curve and the dual measures of social welfare.

3 Intergenerational justice (24/100)

The time-discounted utilitarian (TDU) criterion of intergenerational equity is represented by the following social welfare function:

$$W(x_1, \dots, x_t, \dots) = (1-\beta)\sum_{t=1}^{\infty} \beta^{t-1} u(x_t),$$

where x_t is the wellbeing of generation t, u is a continuous, increasing and strictly concave function that transforms wellbeing into (generalized) utility, and β is a utility discount factor between 0 and 1.

a) (8/100) Provide arguments for TDU as a criterion of intergenerational equity.
b) (8/100) Provide arguments against TDU as a criterion of intergenerational equity.
c) (8/100) Give two alternative criteria of intergenerational equity and explain how they might avoid the deficiencies of TDU. Discuss also possible problems associated with these alternative criteria.

4 Applications (16/100)

a) (6/100) Explain what Lind and Moene (2011) mean by a country being miserly? What separates this measure from measures of inequality and poverty?
b) (5/100) What characterized miserly countries empirically?
c) (5/100) To what extent can we say that a country with a high score on the Miser index has high unfair inequality?