

YLIOPISTOTENTTI - UNIVERSITY EXAM

Opiskelijan nimi / Student name:	Opiskelijanumero / Student number:
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Opettaja täyttää / Lecturer fills in:

Opintojakson koodi and nimi / The code and the name of the course: Koodi / Code: 721310S Tentin nimi / Exam name: Economic Theory II	
Tiedekunta / Faculty: OBS (kauppakorkeakoulu)	
Tentin pvm / Date of exam: 27.2.2019	Tentin kesto tunteina / Exam in hours: 3 h
Tentaattori(t) / Examiner(s): Mikko Puhakka	Opintopistemäärä / Credit units: 6
	Sisäinen postios. / Internal address:
Sallitut apuvälineet / The devices allowed in the exam: <input type="checkbox"/> Funktiolaskin / Scientific calculator <input type="checkbox"/> Ohjelmoitava laskin / Programmable calculator <input type="checkbox"/> Muu materiaali, tarkennettu alla / Other material, specified below:	
Tenttiin vastaaminen / Please answer the questions: <input checked="" type="checkbox"/> Suomeksi / in Finnish <input checked="" type="checkbox"/> Englanniksi / in English Suomenkielisessä tutkinto-ohjelmassa olevalla opiskelijalla on oikeus käyttää arvioitavassa opintosuorituksessa suomen kieltä, vaikka opintojakson opetuskieli olisi englanti. Tämä ei koske vieraan kielen opintoja. (Kts. Koulutuksen johtosääntö 18 §) In a Finnish degree programme a student has a right to use Finnish language for their study attainment, even though the language of instruction is English, (excluding language studies) even when the language of instruction is other than Finnish. (See the Education Regulations 18 §)	
Kysymyspaperi on palautettava / Paper with exam questions must be returned: <input checked="" type="checkbox"/> Kyllä / Yes <input type="checkbox"/> Ei / No	

Answer all the questions. You can answer in Finnish. The weight of each question is the same.
Good Luck!

1. (6p) Explain an ISLM model of your choice, where fiscal policy does not affect output. Be sure to specify the needed assumptions. Explain with words and diagrams or formally.
2. (6p) Let the two period lived consumer's lifetime utility function be: $v(c_1, c_2) = c_1 + \beta c_2$, where $1 > \beta > 0$. Note that the utility function is linear. The lifetime budget constraint is: $c_1 + \frac{c_2}{R} \leq y_1 + \frac{y_2}{R}$. y_1 (y_2) are positive endowments (or incomes) and R is the interest factor. Solve her saving function.
3. (6p) Explain the contents of the Phelps-Koopmans inefficiency theorem.
4. (6p) Consider the following optimal growth problem: maximize $\sum_{t=0}^{\infty} \beta^t \ln c_t$ subject to $c_t + k_{t+1} = Ak_t^\alpha$. $0 < \beta < 1$, $0 < \alpha < 1$ and $A > 0$. Solve the problem with dynamic programming as far as you can. In particular, answer the following questions:
 - a. Write down the Bellman equation.
 - b. Characterize the steady state.
 - c. Sketch the dynamics as far as you can.
(Hint: there is the Euler condition somewhere)
5. (6p) Let the objective function (to be maximized) for the policy authority to be $M(y, \pi) = -\frac{1}{2}[(y - k\bar{y})^2 + a\pi^2]$ ja $k > 1$.
 a is the weight given to inflation in the objective function. y (\bar{y}) is the aggregate output (potential output) and π the rate of inflation. The private sector's behavior is described by the following Phillips curve: $y = \bar{y} + \gamma(\pi - \pi^e)$, $\gamma > 0$. π^e is the expected inflation. Solve the time consistent equilibrium. Pay attention to the concepts, you use.

6. (6p) Consider the following macro model, where the variables are in logarithms:

$$(1) \quad m = p + y$$

$$(2) \quad p = p^e + a(y - y^*), \quad a > 0$$

$$(3) \quad m = \bar{m} + \omega.$$

Equation (1) is the demand function for money, (2) is the Phillips curve and (3) the monetary policy rule. y^* is the potential output. ω is a shock to monetary policy. Its mean is zero and the variance is finite.

\bar{m} is some constant. p^e is the expected price level. Solve the rational expectations equilibrium of the model, i.e. solve the level of aggregate output (y) and price level (p) in that equilibrium. What is p^e , when the economic agents (taloudenpitäjät) have rational expectations?

Return the question sheet!!!

