LuTK, OyKKK, KaTK, TTK, TST ja BMTK (Linnanmaan tentit)
SCI, OBS, OMS, TECH, ITEE and BMM (Linnanmaa campus)

UNIVERSITY OF OULU

YLIOPISTOTENTTI - UNIVERSITY EXAM

Opiskelijan nimi / Student name:	**Opiskelijanumero / Student number:**

Opettaja täyttää / Lecturer fills in:

Opintojakson koodi and nimi / The code and the name of the course:

Koodi / Code: 721 310S

Tentin nimi / Exam name: **Economic Theory II**

Tiedekunta / Faculty: Oulu Business School

Tentin pvm / Date of exam: December 13, 2016	**Tentin kesto tunteina / Exam in hours:** 3
Tentin nro / No. of the exam: Exam, 1.	**Opintopistemäärä / Credit units:** 6
Tentaattori(t) / Examiner(s): Prof. Mikko Puhakka	**Sisäinen postios. / Internal address:**

Sallitut apuvälineet / The devices allowed in the exam:

☐ Nelilaskin / Standard calculator ☐ Funktiolaskin / Scientific calculator ☐ Ohjelmoitava laskin / Programmable calculator

☐ Muu materiaali, tarkennettu alla / Other material, specified below:

Tenttiin vastaaminen / Please answer the questions:

☒ Suomeksi / in Finnish ☒ 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:

☒ Kyllä / Yes ☐ Ei / No

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

1. (6p) Consider the following diagram of an ISLM model:

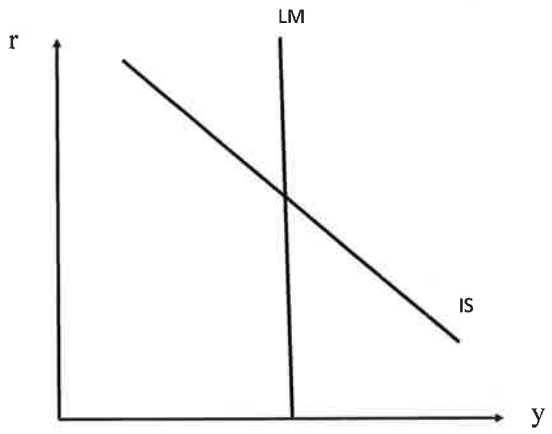

Fig1Exam1216.

r is the real rate of interest and y the aggregate output (GDP).

(i) What is the effect of an expansionary fiscal policy in this model?

(ii) Write down a formal ISLM model, which results into the model described in the diagram above. Be sure to be explicit about the assumptions you use.

2. (6p) Let the two period lived consumer's lifetime utility function be: $v(c_1,c_2)=c_1+\beta c_2$, where $1>\beta>0$. The storage technology in the two-period model is $f(k)=Ak$, where $A>0$. Solve the planner's problem, i.e. c_1, c_2 and k. Is the solution always unique? Argue briefly that your solution is also a competitive equilibrium.

3. (6p) Solve the following problem

$$\max_{\{c_t\}_{t=1}^{\infty}} \sum_{t=1}^{\infty} \beta^{t-1} \ln c_t$$

subject to $W_{t+1}=W_t-c_t$, ja $W_1=10000$.

c_t is consumption and W_t is wealth ("the size of the cake") at time t.

4. (6p) A worker is interested in maximizing the expected present value of her lifetime wage income, i.e. $E\sum_{t=1}^{\infty}\beta^{t-1}y_t$, where y_t is the income in period t, and $0<\beta<1$ is the discount factor. E is the expectations operator. She gets one job offer per period. She can either accept the offer or reject it, and then get another offer next period. If she rejects the offer she gets unemployment compensation, the amount of which is denoted by c. If she accepts the offer, she gets the wage, w, for the rest of her life. The optimal value function is the following: $V(w)=\max\left\{\frac{w}{1-\beta}, c+\beta EV(w')\right\}$. Assume $\beta=4/5$ and $c=2.2$. The distribution (density function) for the wage is $w=(0,1,2,3,4)$ each with probability 1/5. Solve the reservation wage. Start with the definition of reservation wage!

Return the question sheet!!!