

Macroeconomics I - JEB114

Name and school email address: _____

FINAL EXAM

Date: XXX

Time Limit:

90 mins

This exam consists of ?? pages and ?? questions. It contains a total of ?? points, with each question contributing correspondingly.

You may use any non-programmable calculator. No books or notes are allowed = closed book exam.

Good luck!

This is incomplete sample of final exam.

1. (10 points) Briefly describe one empirical application discussed during lectures that gave support to Solow model, and one that showed its limitations.
2. (18 points) Consider production function (a) $Y = \sqrt{K}\sqrt{L}$ and (b) $Y = aK + bL$, where a and b are some parameters. Answer following questions for both cases.
 - (a) (2 points) What does it mean for production function to satisfy constant returns to scale?
 - (b) (4 points) Show whether these production functions satisfy constant returns to scale or not.
 - (c) (2 points) What does it mean for production function to feature diminish marginal product of capital.
 - (d) (4 points) Show whether these production functions feature diminish marginal product of capital or not.
 - (e) (4 points) Derive the fundamental equation of Solow model in per-worker terms.
 - (f) (4 points) Derive the steady state value of capital.
 - (g) (3 points) Derive the steady state value of output, consumption and investment.