Econ 333: Economic Development: Spring 2001
Professor L.K. Raut
Mid-term Exam, March 20,2001, Room# LH301
Time Duration: 2 Hours.

*Please write your answers on the exam itself, and for multiple choices, put tick-mark(s) in the [ ]
corresponding to your choice of correct answer(s).*
   Your name ————————————————————, Student ID # ————————

1. Suppose during 1996-1999, the country Imagineme's exponential annual growth rates of
   GNP, labor and capital are respectively 6.01%, 1.71% and 9.13%, and the average shares
   of labor income and capital income in national income are respectively .652 and .348. Sup-
   pose, GNP at time t is given by the production function $Y(t) = A(t)F(K(t), L(t))$. Recall
   the growth accounting formula:

$$r_Y = r_A + \eta_{FL} \cdot r_L + \eta_{FK} \cdot r_K$$

   where, $\eta_{FK}$ and $\eta_{FL}$ are respectively the rental income share and labor income share of GNP

   (i) (5 points)

   Growth in total factor productivity (TFP)
   [ ] 1.23121%
   [ ] 1.24784%
   [*] 1.71784%
   [ ] 0.02191%
   none of the above, the correct answer is _____

   (ii) (5 points)

   The contribution of growth in capital
   [ ] 4.09340%
   [*] 3.17724%
   [ ] 0.82302%
   [ ] 0.02531%
   none of the above, the correct answer is _____

   (iii) (5 points)

   The major source of growth in income is
   [*] growth in capital
   [ ] growth in labor
   [ ] growth in total factor productivity growth
   none of the above, the correct answer is _____

   (iv) Another country Competeme is currently about at the same level of development as
   Imagineme, but has been growing its GNP at a faster rate of 8.01 % per year. The
   country Competeme has the total factor productivity growth rate of 1.72%, contribution
   of growth in labor as 3.12% and the contribution of growth in capital as 3.17%. In the
   light of higher growth performance of Competeme, you would like identify a source of
   growth to focus your policies on.

1

**(a)** (5 points) Is it growth in capital, labor or total factor productivity? ____LABOR_____

**(b)** (5 points) Suggest at least three government policies that will achieve higher growth in the factor that you identify.

(5 points) During 1960-1980 India's annual growth rate of GNP was 5.0% per year and population growth rate was 3.0% per year. India's growth rate of per capita income during the period was

[ ] 1.667%
[ ] 2.667%
[*] 2.000%
[ ] 3.000%
none of the above, the correct answer is _____

2. This problem relates to Lewis growth model.

**(a)** (5 points) Check the correct answers. As a model of development, Lewis model is better than Harrod-Domar model because

[*] It models explicitly the structural change
[ ] It captures the labor absorption process but Harrod-Domar does not
[ ] It places savings and investment as a main force of development, Harrod-Domar does not
[*] It explains better the rural-urban migration process, Harrod-Domar does not.

**(b)** (5 points) Check one. The surplus labor in agriculture are those whose

[ ] whose average product is zero
[*] whose marginal product is zero
[ ] whose marginal product equals average product
[ ] None of the above, the correct answer is _____

**(c)** (5 points) Check the statements that are correct. The labor absorption rate in the Lewis model will be slower if

     [ ] faster is the population growth rate

     [∗] higher amount the capitalist invest in developing labor saving technological change

     [ ] higher amount of foreign capital inflow (into the country)

     [∗] Higher amount of capital outlow (out of the country)

3. (5 points) ( Keep up to 4-digits before you round-off. No partial credits for wrong answers). The following is the National Income Statistics of a country called Faraway.

| Year | GNP |
|------|-----|
| 1990 | 286 |
| 1991 | 300 |
| 1992 | 320 |
| 1993 | 336 |

Faraway's population growth rate during 1990-1993 was 1.2 Per capita income of Faraway during the period 1990-1993 was growing annually at the rate of  (Check one)

     [ ] .0123

     [ ] .0301

     [∗] .0552

     [ ] .1215

     [ ] None of the above the correct answer is _____

4. Let us denote by $g_Y$ the growth rate GNP, by $s$ the savings rate and $v$ the output-capital ratio in an economy. The Harrod-Domar model of economic growth and development derived a simple formula linking savings rate to growth rate of GNP as follows:

$$g\_Y = v \cdot s$$

**(a)** (5 points) Currently Bangladesh has a savings rate of 15 percent, and the annual growth rate in total output is 5.0 percent per year. The capital-output ratio $v$ for Bangladesh is:

     [ ] 1/2

     [ ] 1/4

     [ ] 3

     [∗] 1/3

     [ ] 4

**(b)** (5points) Suppose the output-capital ratio of Bangladesh is 1/4. Bangladesh would like to increase its growth rate of total output from 5.0 percent to 6.0 percent per year, what

should be the corresponding savings rate in percent?

[ ] 10
[ ] 20
[∗] 24
[ ] 30
[ ] 36

**(c)** (10 points) Recommend three important policies that might help Bangladesh to increase its savings rate.

5. (Answer these questions very precisely and clearly in the space provided below):

   (a) (10 points) What are the common characteristics of the less developed countries and how do they differ from the industrialized countries?

(b) (5 points) Comment on the following: *The essence of the argument that per capita income and growth rates can be misleading indicators of development is that these measures ignore the distribution income.*

(c) (10 points) Using your answer above explain what are the main goals of development economics. (In answering this question, clearly explain what is meant by economic development, and why do we need a separate discipline such as Development Economics).

6. (5 points) Describe in words (no graph necessary), the structure of the Lewis model and how Lewis explains the process of development.