BIRLA INSTITUTE OF TECHNOLOGY & SCIENCE, PILANI
FIRST SEMESTER 2017-18

MID SEMESTER TEST (REGULAR)

ECON F313: ISSUES IN ECONOMIC DEVELOPMENT **DATE: 10 Oct 2017**
MAX MARKS: 30 **TIME: 90 min**

Note:
- The exam is closed-book. You cannot use any parts of the books, lecture notes or other documentation. Use of electronic devices is prohibited.
- The exam consists of 5 questions with some sub questions. Answer the questions in the spaces provided on the question sheets.
- Carefully manage your time and try to provide an answer to each question. Be brief, but make sure to provide justification for all your answers, failing to do so results in zero credit.

Q1 For each of the following statements, answer whether the statement in True or False. You must justify your answer. Merely stating True or False without adequate explanation will deserve no credit. **(4 x 1 = 4.0)**

a *The Harrod-Domar model of growth assumes that the production function for the economy exhibits constant returns to scale in per capita capital stock.*

b *If two countries have the same growth rate in their per capita GDP between 2010 and 2011 then the population growth rate in the two countries between 2010 and 2011 must also be the same.*

c *The Solow model of growth predicts that poor countries need to achieve higher savings rates than rich countries in order for the gap in per capita incomes between them to narrow over time.*

d *Lack of development is generated externally with the linear stages model, and is attributed to a lack of savings and investment where as it is generated internally in the dependency model.*

Q2 For the following questions choose the correct best answer and put a tick (√) against the corresponding letter (A/B/C/D/E) and write the letter A/B/C/D/E in the space provided below. **<u>Corrections/overwriting/illegible answers are strictly invalid and carry zero credit</u>.**

(12 x ½ = 6.0)

2.1	2.2	2.3	2.4	2.5	2.6

2.7	2.8	2.9	2.10	2.11	2.12

2.1 Which of the following indicates a classification which does not determine a country's level of development?

A Level of industrialization
B Level of income
C Level of natural and human resources
D GDP per capita
E Population

2.2 Which of the following is a criticism against the neo-classical school?

A The model does not consider the potential for inequality.
B The model has too large of a role for the government.
C Market failures are not addressed.
D Both A and B
E Both A and C

2.3 Which of the following accurately describes a criticism of Rostow's stages of development model?

A The model does not take into account technological changes.
B The model is not relevant in a globalized world.
C The model assumes that LDCs are just like DCs, except for differences in savings and investment.
D The model is dynamic; it describes the process of how one stage ushers in the next.
E The model's linearity is its strongest proof of its validity.

2.4 Development as freedom," in the view of Nobel-prize winner Amartya Sen, refers to

A. The capacity for choice among improved economic goods.
B. The freedom to use your resources in whatever way that you wish.
C. The maximization of economic growth.
D. The need to supplement luxuries for an individual
E. The lack of supportive social institutions to ensure ones basic livelihood

2.5 Which of the following is not a tenet of the Dependency Theory School?

A According to some Latin American economists, capitalism will not give workers the chance for them to move upward.
B Poor nations provide natural resources to the wealthy nations and are destinations for manufactured products.
C Poor nations have been integrated into the world economy in such a way that it makes them dependent on the wealthy countries.
D As long as the poor remain producers of primary products, they can never become developed.
E As long as developing countries trade with the developed countries, they are bound to develop.

2.6 Which of the following accurately describes a criticism of the Lewis model?

A Urbanization in poor countries happens more quickly than the modern sector can create jobs, leading to problems of unemployment
B Capital might be plowed into labor saving technologies, which might in fact reduce employment in the modern sector.
C Skilled labor is likely to immigrate abroad.
D B and C only
E A and B only

2.7 According to the earlier proponents of the big push strategy for development, a "big push" in investment is necessary in developing countries because of which of the following reasons?

A In a traditional economy, people do not have the required habits for a profitable industrial society and therefore need a push.
B The lack of modern technology requires a large investment in education.
C Poor economies do not grow because complementary industries fail to cooperate; a "big push" is required to get these industries to develop simultaneously.
D Poor economies must resolve pressing health and education challenges before they can industrialize.
E Investment can only come in big lumps; smaller lumps are not profitable.

2.8 What "poverty trap" or "vicious circle of poverty" did Nurkse famously describe in 1953?

A Women in poor countries are uneducated, which tends to result in high fertility rates, which means households do not have enough money to send girls to school.
B Social structures in developing countries tend to limit the options available to the poor.
C The poor tend to live far away from physical infrastructure, which limits their possibilities for accessing markets.
D Workers in poor countries are fatalistic and accept poverty as their lot, so they remain poor.
E People in poor countries are too poor to save, which means that they cannot invest in capital to increase their productivity, which means they remain poor.

2.9 In Solow's exogenous growth model, the principal obstacle to continuous growth in output per capita is due to

A the declining marginal product of labor.
B the declining marginal product of capital.
C limits in the ability of government policymakers.
D too little savings.
E All the above

2.10 Critical minimum effort refers to

A the minimum labor input required to raise the MPI
B the ideal ratio in which to combine labor with capital
C the big push advocated to raise an economy from continued stagnation
D both (A) and (B)
E none of the above.

2.11 Which of the following is a criticism of the neoclassical counter-revolution school's approach?

A Markets are not competitive in developing countries.
B Externalities are common in developing countries.
C Inequality may worsen when interventions are removed in developing countries.
D All of the above.
E None of the above

2.12 The new growth theory attempts to explain

A the rate of population growth within a country.
B the rate of capital accumulation within a country.
C the factors that determine the size of the Solow residual.
D why there are diminishing returns to capital.
E None of the above

Q3 For the following questions, write answer to the point. Irrelevant and excessive answers will be penalized.

(8 x 1 ½ = 12.0)

A What are the important ***characteristics*** of Rostow's stages-of-growth model of economic development?

B The Development Policy Experts in developing countries have three tools they can use to get a “Big Push started to overcome the coordination failures. Which of the following three tools would you most strongly advise a country NOT to pursue if all of the assumptions of the two-sector model are in fact true?

A Have the government fund and run key businesses
B Subsidies for domestic industries to enter certain sectors
C Create incentives for multinational companies to enter the country

C Write the sources of underdevelopment, according to the theory of international dependence in both its neo-colonial and false paradigm conceptualization and also dualistic-development thesis.

D Write the important propositions of Nelson's equilibrium trap for developing or underdeveloped countries?

E What are the criticisms of Patterns of Development Analysis?

F After you graduate from BITS Pilani, you start your new job as a consultant at Goldman Sachs, where your boss asks your advice on which growth model to use for understanding the determinants of China's economic growth since the 1980s. Answer the following two questions using three sentences for each.

I). Your boss is trying to decide between the H-D Model, Stages Model, Solow Model and endogenous growth models. Which one should she use?

II). Would your recommendation change if she was, instead, interested in the determinants of Germany or the United States growth performance since the 1980s? Why or why not?

G What are the differences in the conclusions of the Solow model in a closed economy compared to an open economy?

H According to Leibenstein theory, what are the influences which work against the per capita income growth in developing nations and how to overcome them?

Q4 Consider an economy (with zero population growth) whose production function is as follows:
$y(t) = 0.25\, k(t)$.

where $y(t)$ is the per capita output (or income) and $k(t)$ is amount of per capita capital, in period t. Assume that capital does not depreciate.

I). Suppose the savings rate is 12 % of income. What will be the growth rate of per capita output in this economy? Assume that population remains constant.

II). Suppose this country is trying to achieve a 5 % growth rate of output. What must be its savings rate to achieve this target?

III). Finally suppose that instead of the one mentioned above, the production function is as follows:
$y(t) = 0.25 \sqrt{(k(t))}$
If the savings rate is 12 %, what will be the *level* of output in this economy in the long run? Assume that capital stock does not depreciate and population remains constant.

(3.0)

Q5 Consider that, **the Guinea**, country in western Africa which is just beginning to revive from a long period of agricultural stagnation, with the construction of some new factories in the industrial sector. The economy has relied so far entirely on production of Sweet Potatoes.

Assume that there are 100 identical families each farming their own lands. Each family has 10 family members who participate equally in the Sweet Potatoes production farm work and share in the resulting output. In each farm, the land area is small; it can employ up to five (5) full time workers, each of whom produces one unit of Sweet Potatoes each. Beyond five full-time workers, additional workers generate no additional agricultural output. Hence the Sweet Potatoes output of each farm is the smaller of 5 and X, the number of people working full time on the agricultural farm.

Each new factory produces aluminum products, employing labor. The marginal product of labor in each factory is **(15 – Y) aluminum products**, which is decreasing in Y, the number of workers employed in the factory. Workers are free to move between the farm and industrial sector. There are no transport costs incurred by farm workers to go work in a factory.

Factories are owned by entrepreneurs who maximize profits. They save 10% of their profits and invest these to build new aluminum factories which start the following year. Each new factory requires a set up cost equivalent to 98 aluminum products.

The Guinea trades freely with the rest of the world, and Guinea is small relative to the rest of the world's economy. Hence aluminum product and Sweet Potatoes prices within Guinea are fixed, the price of Sweet Potatoes relative to aluminum products is 2, independent of how much aluminum products or Sweet Potatoes are produced in the country. Each aluminum product produced can thus be sold at a fixed price equivalent to 0.5 = (1/2) units of Sweet Potatoes

a) In Year 0, before the new factories arrive, when each farm has 10 family members working on it, what is the average product of labor (i.e., Sweet Potatoes output per worker) in 1 each farm? What is the marginal product of labor (i.e., incremental Sweet Potatoes output if one more worker were to be employed)? What proportion of the economy's labor force is surplus labor?

b) In Year 1, 30 new factories are created. Assume (as Prof. Lewis did) that wages in the agricultural sector are going to remain fixed at their value in Year 0 until such time that labor scarcity emerges in farms (i.e., the marginal product of labor exceeds the historical wage). What will the wage rate in the industrial sector be (in units of aluminum products)? How many workers will each factory employ in year 1?

c) Calculate the total employment in the industrial sector in Year 1. Will there be surplus labor in agriculture in Year 1? Calculate the profits per factory in year 1.

d) How many factories will there be in Year 2? Will there be surplus labor in agriculture in Year 2?

e) Calculate GDP in Guinea in Years 0, 1 and 2 respectively (in units of aluminum products). Describe in words the growth process experienced by the country Guinea during these years.

(5.0)