

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

COURSE NO. : ECON F313
COURSE TITLE: ISSUES IN ECONOMIC DEVELOPMENT
WEIGHTAGE : 40 %

DATE: 04 DEC 2017
TIME: min 180

COMPREHENSIVE EXAMINATION

Note:

- Write clearly your **NAME** and **ID. No.** in the space provided. Attempt all questions.
- This paper consists of two Parts:
PART – A (Closed Book: 20 marks) and PART-B (Open Book: 20 marks).
- After completing PART-A (Closed Book), submit it and collect answer sheet for PART-B (Open Book) and attempt.

STUDENTS MUST COUNT/CHECK THE NUMBER OF PAGES IN THIS EXAMINATION PAPER BEFORE BEGINNING TO WRITE, AND REPORT ANY DISCREPANCY IMMEDIATELY TO THE INVIGILATOR.

PART-A (Closed Book)

[20 Marks]

NOTE: Attempt all questions. For the following series of short questions, the answers to which should be precise and brief. Credit is awarded for the reasoning underlying each answer, so Yes/No or True/False responses by themselves will earn no credit. All questions have equal credit. Be specific to the question and don't write general answer.

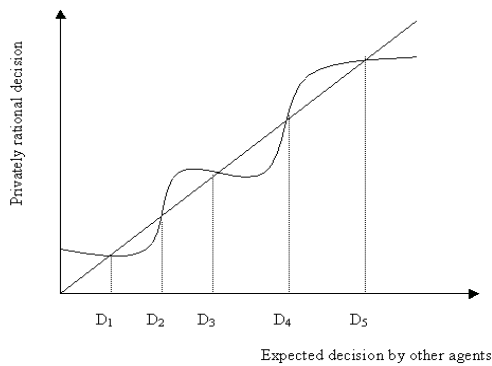
- A1. What are the core values of economic development includes and write the objectives of Economic Development?

A2. Briefly describe nature of the economy, society, political power, and values in Stage 4 of the Rostow Model of economic development

A3. In the simple Solow Growth model (physical capital and labor only) saving/investment serves as the main source of long-term growth and an increase in the rate of savings/investment will boost the long-term growth

A4. What is the difference between the concepts of conditional and unconditional convergence in the context of Solow Model for the developing countries?

A5. Consider the following "multiple equilibria" graph:



Which of the five (5) equilibria are stable? Which are unstable? Of the stable equilibria, which is the most desirable?

A6. What are the implications of the Kremer's Theory of Economic Development?

A7. The Harris-Todaro model of rural-urban migration predicts that government wage subsidies for the urban formal sector alone can achieve the twin goals of eliminating urban unemployment and achieving an efficient allocation of labor. True or False explain your answer.

A8. Describe the key assumptions underlying the Malthusian theory of population, and explain the reasoning underlying its prediction that per capita income cannot grow in the long run.

A9. The principal reason for the spurt in population growth rates in the first stage of demographic transition is an increase in birth rates resulting from an increase in per capita income. True or False - explain your answer.

A10. Explain the reason for the hidden momentum of population growth and state its important implication for population levels.

A11. What is Stiglitz's concept of development and in what ways does it differ from the Washington Consensus?

A12. The per capita income of COUNTRY X has remained close to subsistence for the past 50 years. The COUNTRY X government is convinced that the problem is a poor schooling system, so it has decided to deliver heavily subsidized primary and secondary education to all school-age children.

Drawings on the models of Robert Lucas (“On the Mechanics of Economic Development”) carefully explain what happens to per capita income growth with this policy?

A13. Would you agree with the view that tariffs on food imports should be raised in order to speed up growth in poor countries operating in the early stages of the Lewis development process?

A14. Investment in education has spillover effects. Describe the resulting market failure and the appropriate policy response.

A15. The Kuznet's ratio is the ratio of income earned by the richest 20% of the population to the income earned by the poorest 40% of the population. Roughly Graph the ratio of income held by the richest 20% divided the income held by the poorest 40%. What reasons could one use to describe the shape of this graph?

A16. Write the important conditions (list four conditions) described by Nelson which are conducive to trapping. What relationship equations he used in his model of development?

A17. Provide a concise statement about the relationship between a developing country's emphasis on the export of traditional commodities and

- a. export earnings stability.
- b. comparative advantage.
- c. terms of trade.

A18. What is the definition of a “public good? Give a brief but clear definition of the “Tragedy of Commons. Give an example of a good that suffers from the tragedy of commons.

A19. What is the essence of “The Prebisch-Singer hypothesis”?

A20. Recall the two-gap model. If for a hypothetical country, the amount of capital inflow 'F' = 6,200, the Exogenous level of exports 'E' = 10,000, GNP 'Y' = 120,000, savings 's' = 0.3, Domestic Investment 'I' = 26,000, Import share 'm₁' = 0.3, and the marginal propensity to import out of a unit of GNP 'm₂' = 0.1, will the savings gap be binding or will the foreign exchange gap? Explain what this means.

Space for Rough Work

**COMPREHENSIVE EXAMINATION
PART-B (OPEN BOOK) (20 MARKS)**

Note: Attempt all questions. Open Book examination. Please read the questions carefully before answering them and don't forget to answer all parts of each question at one place

This part has four questions with sub parts. Each question carries equal marks (5.0 Marks). Remember that long answers by themselves do not have any value. Try to keep your answers brief and to the point. Underline or highlight your final answer.

B1)

A Assume the Lewis model of a labor surplus economy with a traditional and modern sector, which is currently in the first phase of economic development. Suppose that the government orders a minimum wage which exceeds the wage currently paid, which must be paid by all employers in the modern sector. Briefly explain the effect of this policy on:

- a) the extent of migration from the traditional to the modern sector;
- b) the rate of growth of per capita income in the economy.

Restrict your attention to the short run impact, when the country continues to operate in the first phase with surplus labor in the traditional sector.

B An economy has a total population of 500 workers. Any given person can earn a constant wage of Rs.1 in the agricultural sector. In the urban sector there are two factories producing an industrial good and sells it at a constant price.

Each factory has a marginal revenue of $10 - 0.3Y$ if it employs Y workers; and takes the urban wage rate as given. Workers incur no transport cost to move between the agricultural and urban sectors.

- a) Explain how labor will be allocated in the economy if urban wages adjust flexibly to equate supply and demand on the urban labor market.
- b) How does the labor allocation change if the government mandates a minimum wage of Rs.4/- in the urban sector?
- c) Explain how your answer to (b) changes one additional factory enters the urban sector

B2) A) In the simplified model, Romer assumes that the growth rate of new ideas is proportional to the number of people trying to discover new ideas: $\dot{A} = \delta L_A$. Where δ is the rate at which new ideas are discovered. Further δ is equal to δA^φ and linked exponent to ideas generation. Based on that we assumed that the production function for new technology (or ideas) was given by: $\dot{A} = \delta L_A^\lambda A^\varphi$

- a) Suppose that φ is greater than zero. What does this imply for the relationship between the current technology level and the difficulty of discovering new ideas? Is it plausible to $\lambda=1$? Why or why not? If the answer is no, what is a more plausible assumption?
- b) Is it possible to get long-run TFP growth with zero population growth with the production function for ideas given above? Why or why not? Using the appropriate equation(s) explain your reasoning.

- B) Consider the Romer model. Output is produced using ideas and labour: $Y = (A_t L_{yt})$, where A is the total stock of "ideas" and L_Y is the total amount of labour employed in the production of output.
- Ideas are generated using past ideas and labour: $\Delta A_t = A_{t-1} - A_t = \bar{z} A_t L_{at}$. Finally the total amount of labour available is given by $\bar{N} = L_{at} + L_{yt}$.
- a) Suppose that a constant fraction of labour \bar{l} is allocated to the technology sector. If $\bar{N} = 2$, $\bar{l} = (1/2)$ and $\bar{z} = (1/4)$, what is the growth rate of A_t ?
- b) Suppose that new research technology makes producing in ideas more productive so that $\bar{z}' = 1/2$. What happens to the growth rate of ideas in the economy?
- B3) Consider a simple economy with only two sectors: urban and rural. Workers in the urban sector who do not obtain formal sector jobs are assumed to be able to obtain informal sector jobs. The wage in the informal sector is fixed at $W_i = 10$. There are 10 million workers in the economy and they are all identical and risk-neutral.

The following table represents the marginal product of labour (MP_L) in the two sectors for various levels of employment:

Workers (millions)	0	1	2	3	4	5	6	7	8	9	10
Urban MP_L	50	45	40	35	30	25	20	15	10	5	0
Rural MP_L	40	36	32	28	24	20	16	12	8	4	0

An economist has drawn a diagram with the number of workers in the urban sector on the horizontal axis, and plotted the marginal product labour of each sector on vertical axis. Based on this diagram, he estimated the number of workers and the marginal product in each sector in competitive migration equilibrium. The number of workers in the urban sector is approximately 5.5 million, leaving 4.5 million in the rural sector. The wage in this competitive migration equilibrium is approximately 22.

- a) Now suppose the formal sector wage is raised to $W_F = 30$. What would be the demand for workers in the formal sector? Starting from the situation given above, what would be an estimate of the probability of obtaining a formal sector job? Would workers start to migrate? Explain briefly.
- b) Compute the probability of obtaining a formal sector job, when the number of workers who have migrated to the urban sector is equal to 2, 3, 4, 5, 6, 7, 8 and 9 million respectively. Note that a probability cannot exceed 1.
- Use the above computed values and calculate the expected wage in the urban sector at each of these migration levels. On a new diagram, plot the expected urban wage from and the marginal product of labour in the rural sector from the table above.
- c) Estimate the numbers of workers in the informal urban sector and the rural sector in a Harris-Todaro migration equilibrium. What is the equilibrium wage in the rural sector? How many more workers migrate relative to the competitive equilibrium?
- B4) Consider that the economy of North Sudan has ten million people and two sectors, traditional and modern exists. In the year 2000, three million people live in the modern sector and earn \$2000 per month. The rest live in the traditional sector and earn \$1000 per month. As a result of new investments in the modern sector during the 2000s, two million people moved out of the traditional sector by year 2010 to take up new jobs in the modern sector. Per capita incomes within each sector did not change throughout the decade.

- a Use the cumulative income shares of successive deciles and get the Lorenz curves for 2000 and 2010 respectively. Calculate the Gini coefficient (G) and coefficient of variation (CV) of the income distributions.
- b Briefly explain what the different inequality measures (the Lorenz curve, G and CV) indicate regarding the change of inequality between 2000 and 2010. If they do not provide similar answers, briefly explain why.
- c Suppose the poverty line is \$1500 per month. Compute the head-count ratio and poverty gap ratio before and after the change.
- d Briefly assess the development experienced by this economy between 2000 and 2010, based on changes in the following development indicators: per capita income, inequality and poverty.
