

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI  
(END SEMESTER EXAMINATION)**

CLASS: IMSc.  
BRANCH: QEDS

SEMESTER : IV  
SESSION : SP/2023

SUBJECT: ED219 ECONOMIC DEVELOPMENT AND DEMOGRAPHY

TIME: 3 Hours

FULL MARKS: 50

**INSTRUCTIONS:**

1. The question paper contains 5 questions each of 10 marks and total 50 marks.
  2. Attempt all questions.
  3. The missing data, if any, may be assumed suitably.
  4. Before attempting the question paper, be sure that you have got the correct question paper.
  5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.
- 

	CO	BL
Q.1(a) For the male population of a country, Life expectancy Index = 0.67, Educational Index = 0.78 and Income Index is 0.77. For the female population of the country Life expectancy Index = 0.71, Educational Index = 0.58 and Income Index is 0.43. Calculate the Gender Development Index (GDI) for this nation. Comment, whether it has high or low GDI.	[5]	1
Q.1(b) Suppose, National Sampling Survey decides to use Income Method for calculating poverty in India. Explain whether poverty will be underestimated or overestimated.	[5]	1
Q.2(a) Differentiate between Solow and Harrod Domar Model of economic growth.	[5]	2
Q.2(b) We know the following facts about countries A and B: $\delta$ = depreciation rate of both countries = 0.05, $s_a$ = saving rate of country A = 0.1, $s_b$ = saving rate of country B = 0.2, and $y = k^{0.5}$ is the per-worker production function for both countries. Calculate and compare the output, consumption and capital for both countries at steady state.	[5]	2
Q.3(a) The Lorenz curve of a country is given by $L(x) = 3x - 2 + 2(1 - x)^{3/2}$ . Calculate the Gini Index.	[5]	3
Q.3(b) If individual data is not available and only aggregate data is available, then how do you calculate the Theil's T-statistics? ( <i>Only intuitively explain the formula</i> )	[5]	3
Q.4(a) A Democracy Index (DI) is defined as: $DI = (IP * PV * NP)^{1/3}$ IP = Income Per capita, PV = Percentage of adult population voting, NP = Number of private news channels operating. Critique this Democracy Index.	[5]	4
Q.4(b) Analyze the linkages between democracy and economic growth.	[5]	4
Q.5(a) Explain the stages of demographic transition. Where will you place India?	[5]	5
Q.5(b) The age specific fertility rates of a country are: 15-19 age = 73; 20-24 age = 112; 25-29 age = 132; 30-34 age = 78; 35-39 age = 61; 40-44 age = 19; 45-49 age = 5. Calculate the Total Fertility Rate of this nation.	[5]	5

:::27/04/2023 M:::