MASTER OF ARTS EXAMINATION, 2024

(2nd Year, 1st Semester)

ECONOMICS

PAPER : ECO 314

(Economics of Social Sector)

Time : *Two Hours*   *Full Marks* : 30

*(Answer question number 1 and **any two** from the rest)*

1. Answer ***any four*** questions :   2·5×4=10

    (a) Find the value of Atkinson Index of the following income distribution assuming the inequality aversion parameter (ε) is unity :

    1, 2, 3, 4, 5

    (b) Evaluate and interpret the marginal contribution of income in HDI (developed after 2010).

    (c) Prove that the Gini Index is distribution insensitive.

    (d) What happens to Human Poverty Index (HPI) if the value of α (viz. order of the average) tends to infinity?

ECO-**171**   *[Turn Over]*

(e) Given that Rita is a two year old girl child and her weight (in kg) and height (in cm) are 9·4 and 83·1 respectively. The WHO reference median weight (in kg) and height (in cm) at this age are 11·5 and 86 respectively; the median weight (in kg) for healthy girl child of this height (in cm) is 10·75. Is Rita stunted or wasted or under-weight? Assume that the standard deviation of the reference population for weight for age, height for age and weight for height is unity.

(f) Evaluate severity of poverty from the following Foster-Greer-Thorbecke [FGT (1984)] Index :

$$FGT(x; x^*, \alpha) = \frac{\sum\limits_{x_i < x^*} (x^* - x_i)^\alpha}{n(x^*)^\alpha}, \text{ where } x_i \text{ be the}$$

income of the i-th poor, x^* is the poverty level income which is exogenously given, and α stands for sensitivity parameter defining the FGT Index.

2. Examine the relevance of public investment in education and healthcare in economic growth especially in the context of a country like India which is expected to experience the demographic dividend in near future.   10

3. Following Schultz, T. Paul (1988), how do you determine the unit price of public schooling services and expenditure per child equation at the primary level of education? How can you decompose the school expenditures (per school going children) into a multiplicative function of four observable components viz. quantity, quality, capital intensity and teacher salaries? Do you agree with the view that the sum of the log linear regression coefficients for each conditioning variable in these four component regressions is equal to that variables' coefficient in the overall expenditure per child function? Assume that each regressand in the model depends on income, price, technology and population composition.   5+2+3=10

4. (a)   Following Hurd and Kapteyn (2003), formulate a model highlighting the relationship between income, health status and health expenditure. Also deduce the time path of income and health. (b) Assume a female child who contracts Tuberculosis (TB) at the age of 10 years and survives next 20 years (after being affected by TB) and then she dies. Given that the total horizon of time is 87·5 years, disability weight is 0·5 and discount rate is 3% , find the DALYs lost due to early death following disability of the girl child, given that the age-weighting parameter, $\beta = 0·04$ and C=0·16243.   5+5=10

5. What are the steps to be followed towards construction of Gender Development Index (GDI) before 2010? How does the methodology change in measuring GDI after 2010?
                                                                    7+3=10

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