ANSWER KEY TO PROBLEM SET ONE

QUESTION ONE

This question asked you to pick six countries (two from least developed, two from middle income, and two from highly developed) and prepare a table with a few important development indicators.

In order to pick the countries, you can use the classification of countries in the World Development Report into low, middle and high income countries. Some examples are

Low Income: Afghanistan, Nepal, India, Zambia, Mozambique etc.
Middle Income: Thailand, Turkey, Brazil, Indonesia, Sri Lanka etc.
High Income: USA, Britain, Japan, Singapore, France etc.

There is a wide range of development indicators that you could pick. But it is important to pick indicators that capture the many different dimensions of development. Some of the dimensions (and indicators) are

1) Income: GNP per capita ($), GNP per capita (PPP)
2) Human Development: HDI, PQLI, Adult Literacy, Life Expectancy, Infant Mortality
3) Inequality: Gini coefficient, % of income of the top 20%, % of income of the bottom 40%
4) Structure: % of industry, services and agriculture in GDP, labor force participation by sector.

QUESTION TWO

The distinguishing features of developing countries include:

1) Low quality of life: low incomes, high inequality, poor health resulting in high infant mortality and low life expectancy, low literacy, especially female literacy.
2) High percentage (as high as 80% to 90%) of population in the agricultural sector in which much of the labor is underutilized and labor is low productive.
3) High rates of population growth and dependency burdens.
4) Underdeveloped markets, infrastructure, and lack of social insurance to provide insurance against health, old-age disability, and unemployment. Legal system is inadequate to enforce contracts at a reduced transaction costs. Underdeveloped credit and financial markets. Leaving much of these functions to be performed in family and informal institutions.
5) Significant dependence on agricultural production and primary product exports.
6) Dominance, dependence and vulnerability in international relations.

It must be noted, however, that these are broad generalizations. There are exceptions to almost all the features listed. Sri Lanka, for example, is a developing (lower middle income) country with high levels of education, health and low population growth. Some Arab and African countries are wealthier, but have low human development levels. Unemployment also can be present in high income countries (e.g. Europe). Weakness in international relations also has exceptions. For example, there is no doubt that China and India wield more influence than Luxembourg and Finland!

The main difference between middle and high income countries is the large difference in income. These two groups are quite similar in terms of basic human development indicators and the structure of the economy. Middle income countries are also distinguished by high inequality. The single most important characteristic of the lowest income group is the very low levels of human development.

<u>QUESTION THREE</u>

a) Per capita income is an average measure of income in an economy. As we've discussed in class, the average value of income does not give us a sense of the quality of life of the people in that country. Suppose 90% of the people earn nothing and are starving, and 10% of the people are like Bill Gates. Such a country, in spite of its widespread poverty and underdevelopment, will have a higher per capita income than a country where everyone gets their subsistence income. In addition, the per capita income is not directly related to the fruits of growth i.e. the quality of life. As Sen points out, income is only a means to an end. The end goal of development is a high quality of life. Certain Arab countries, for example, have a very high income level but a relatively low quality of life. Some other countries, Costa Rica, Cuba etc., have low incomes but a relatively high quality of life.

b) part a discusses two problems
    1) it ignores inequality (distribution of income)
    2) it measures only the means, but not the end goal (education, health etc.) of development.

some other problems are

    3) it doesn't account for purchasing power differences not captured by the market exchange rate.
    4) it ignores non-market activity which can be very large in developing countries (e.g.: women's work at home, subsistence farming etc.)

c) The market exchange rate is determined by the goods and services that are traded internationally. However, many goods and especially services are not traded. For example, labor intensive services such as hair cuts, medical and legal services, college education etc. are not traded much at all. Since most developing countries are labor abundant, these non-traded labor-intensive items are generally much cheaper in these countries (i.e. the law of one price doesn't hold due to high transportation costs). As a result, one can buy many more hair cuts with a hundred dollars in India than in the US. This means that the true purchasing power (quality of life) in India is underestimated by the per capita income that uses the market exchange rate between dollars and rupees.

When purchasing power is accounted for, the per capita income of developing countries is increased relative to that of richer countries such as the US.

d) The Physical Quality of Life Index (PQLI) is an index that attempts to summarize three variables that indicate the basic level of human development. The three variables are life expectancy, adult literacy and infant mortality. The index is a simple average of these three variables, but since they are in different units that can't be added directly, each one is translated to a 0-100 index by rescaling them such that 0 is the value of the worst country and 100 is the value of the best country in terms of that indicator.

The Human Development Index (HDI) is similar in the sense that it also tries to capture the quality of life dimension of development. However, it includes income as a variable in recognition of the fact that income by itself is a valuable component of the quality of life (it allows us to buy things that we like). In addition, education is measured by a weighted average of adult literacy and school enrollment.

e) You are asked to compare your countries. In general, you will see that low income countries have a considerably lower HDI or PQLI than the rest. The gap between middle and high income countries narrows when these measures are used. Of course, there are individual exceptions like Sri Lanka, Cuba, Costa Rica etc. which have high HDIs relative to income. The HDI appears to be the best measure of development given that it includes both income and other dimensions. The problem of both these indices is that the choice of variables and the method of combining them in to an index are quite arbitrary.

QUESTION FOUR

Development is the process by which people and countries achieve a higher quality of life. It is the process by which people who have low levels of health, education, life expectancy and a low quality of life (little leisure, entertainment, productivity, happiness etc.) attempt to attain better living conditions where they are healthier, more educated, more productive and, most importantly, happier. The development process involves the improvement in incomes by building up capital and labor and increasing productivity (economic growth), the transformation from rural agriculture to urban industry and service oriented economies (structural change) and the improvement of the physical and intellectual quality of life (education, health, culture etc.).

We need a separate discipline of development economics because certain aspects of development are not studied in the context of developed economies. For example, the structural change and rural subsistence economies are a thing of the past in the developed world, but still lies at the heart of the problems faced by lower income countries. Issues such as why half the people are illiterate in India, why there is starvation in Sudan, and why more than 50% of the population in many countries are engaged in low productivity farming need the attention of a separate discipline of economics that takes into account the unique historical, social and institutional environment of developing countries.