1. Rapid Industrial development, which frequently occurs as a result of investment from Old Core countries, has caused the rapid movement of people from farms to cities in search of jobs. In the cities, fewer children are born i) because children are no longer required to supply labour on family farms and ii) because children in cities are a greater financial burden than children in rural areas. Furthermore, methods of birth control developed in Old Core countries have been introduced to developing countries. As a result, the decline in the birth rate has occurred more rapidly in developing countries than it did in Old Core countries. Developing countries therefore enter late transition more quickly than Old Core countries.
2. Early transition involves a decline in death rates and late transition involves a decline in birth rates. These stages occurred later in some countries than in others for the following reasons:

* They did not have access to sanitation and disease control as early as other countries. As a consequence, death rates declined later than in countries where scientific and medical technology was more advanced. They entered early transition later than other countries.
* Economic development was slower in some countries. Their agriculturally based economics traditionally required large families to work the land. As a consequence, birth rates declined later compared to those in countries where economic development was more advanced. They entered late transition later than other countries.

Developing countries experience the onset of early transition and late transition faster than Old Core countries did because:

* Knowledge and understanding associated with water purification, sanitation, and disease control that had already been developed in Old Core countries was brought to developing countries where it was quickly implemented. The development and implementation of these technologies took place over a relatively long period of time in Old Core countries, and as a consequence, the onset of early transition occurred much more slowly in these countries. In developing countries, the decline in the death rate occurs more rapidly than it ever did in Old Core countries because of the availability of new knowledge. Developing countries therefore enter early transition more quickly than Old Core countries did.

1. Death Control

* Death from some diseases substantially reduced by advances in medical technology such as the invention of vaccines
* Acceptance of germ theory of disease (i.e., diseases come from microscopic organisms)
* Scientific knowledge that supports the importance of personal hygiene, clean water, and proper handling of human and animal sewage

Birth Control

* A higher survival rate for children due to advances in medical technology and acceptance of germ theory means that fewer babies are needed
* Greater financial burden of children in urban societies because of the limited opportunities to contribute significantly to the family income
* The changing character of family life; it became impractical for women to have large numbers of children when they were working
* Families in urban societies became more affluent, and it became less necessary to have large numbers of children to help support the family

If students give ‘modern birth control techniques’ as a factor of demographic transition, point out that modern technological means of birth control are not necessarily an actual factor in demographic transition. Birth rates have begun to decrease in developed countries long before oral contraceptives were available.

6.a) Students may have different views. They should recognize that the definition of carrying capacity must be considered in relation to the quality of life that is considered acceptable.

b) Some possible answers include:

Natural Factors:

* Amount of arable land (for growing food)
* Supplies of fresh water
* Supplies of raw materials to provide the fuels and materials for manufacturing
* Ability of the Earth’s environment to recycle our wastes (e.g., air and water pollution)

Human Factors:

* Extent to which people are free to move from one location (country) to another
* Extent to which food production can meet world population growth
* Extent to which industrial capacity can increase to meet the demands of increased populations before non-renewable resources are depleted
* The standard of living that is considered necessary by various societies

Climate change, from both natural and human inputs, will have an impact on earths carrying capacity. At this point, it is difficult to determine with the influence might be.

c) – when these items are used as fuels, they are consumed. When they are used as industrial raw materials, on the other hand, they can be recycled.

- using nonrenewable resources as fuels (i.e., consuming them) produces a phantom carrying capacity because eventually these raw materials will be depleted and the economic and ecological system based on them will collapse. When used as raw materials, however, these items can be reused so they are not depleted and therefor do not produce a phantom carrying capacity

7. High Population Growth Rate:

- high environmental impact from pollution

- inability of economic growth to keep up with high population growth, with the result that the standard of living for many people will decline

-high demand for raw materials, which will rapidly deplete nonrenewable resources

Low Population Growth Rate:

* Low environmental impact from human activities
* Greater likelihood that economic growth will keep up with the demands of low population growth
* Lower demand for raw materials, which will extend the period of time that nonrenewable resources are available

Medium Population Growth Rate:

* The impact of population growth will be between the high and low level impacts