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UNIVERSITÀ
DEGLI STUDI DI TRIESTE

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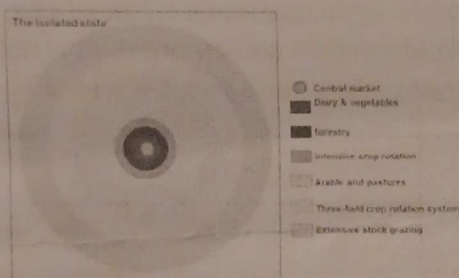
Name: _____ Surname: _____ Student ID Number: 0102457

Marks are expressed in "X/30". Open questions are worth 5 points each, multiple choices 3 points each for a total of 30/30 points.

- 1) Space is complex, but economic geographers try to simplify it in order to observe how spatial elements behave. In particular many models of location theory share common initial assumptions about space:
- Space is modified by water bodies, hills, mountains, depressions.
 - Space is homogeneous and isotropic. That means that no barriers or orography are considered.
 - Location theories do not consider space

- 2) John Heinrich Von Thunen in 1826 wrote 'The Isolated State', an essay in which he studied the effects of a unique urban central market on the distribution of cultivations in a homogeneous space. The picture illustrates the organization of cultivations around a central market according to his model. Highlight the correct statement of the following, related to the figure on the left.

Von Thunen's model of land use



- Space is anisotropic, the means that woods, rivers, hills change the orography and the pattern drawn by cultivations.
- Perishable goods can be preserved in refrigerators and can be produced everywhere in space.
- Positional rent articulates a physically uniform space in zones with specific land uses, corresponding to computable distances from the central place.

- 3) Geographers borrowed from physics a variation of the gravity law, applying it to places on the Earth's surface. One of the following sentences related to gravitation in space is true.
- The dimensions of two places in space have a power of attraction on other geographical features, but distance is not important.
 - The volume of interaction between two centres is directly proportional to the product of the different populations and inversely proportional to the distances separating them.
 - Only distance determines the attraction of one place over a territory.
- 4) Transport systems allows goods and people to be moved in space, can rely on different means and infrastructure and hold peculiar characteristics. State which of the following statement is correct.
- Transport costs increase with distance, but less than proportionally.
 - Road transport (by car or bus) is the cleanest transport mode we can find.
 - Air transport is best suited for short distance connections.



5) The theory of urban rent (or bid rent theory) deals with the different activities competing for urban land use. Mark the correct statement (only one is true):

- a. Retail activities gain the highest utility by being central and located at major road network intersections.
- b. Single families residential activities finds always place in extraurban locations.
- c. Land use values in the city centre are higher for residential activities rather than retail.

6) Explain what is the demographic transition, in its different stages, and what are the elements that control and influence them.

7) Industries tend to cluster in space, and in many parts of the world they create industrial districts or industrial clusters. Explain what are the main characters of industrial districts or industrial clusters and what areas of the World host some of the most important clusters (use a separate sheet if necessary).

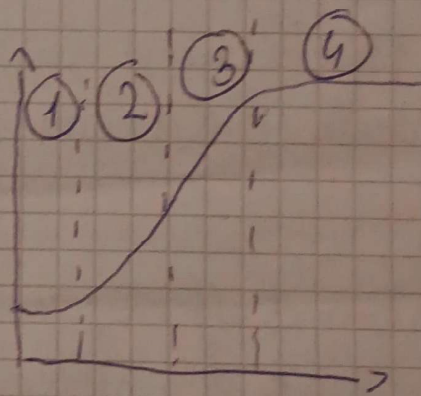
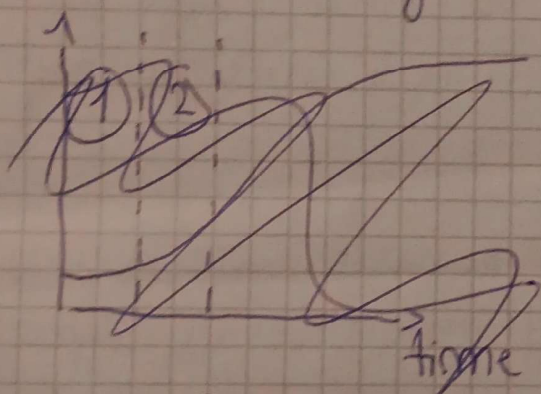
8) Present and discuss briefly a topic of your choice, referred to some spatial aspects tackled during the course [the topic can be referred also to a paper or a video analysed in class] (use a separate sheet if necessary).

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6) Demographic transition theory takes into account the social modernization of the reproduction process. It starts with a situation with high birth and death rates and it ends with a situation of low birth and death rates due to improved health care, economic development and urbanization.

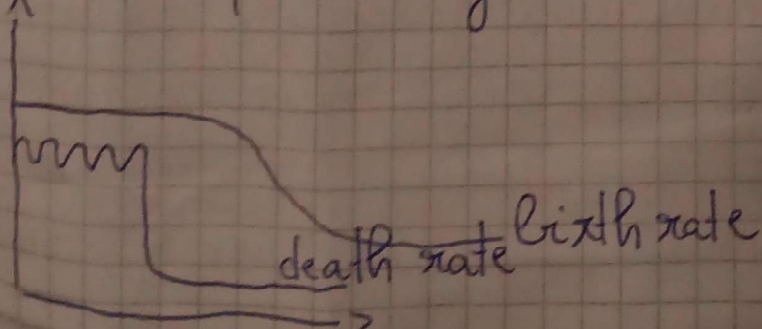
Demographic transition is a graph showing the trend of population over time starting from a situation of ^{low} high population density and ending with a situation of ^{high} low population density.

It has 4 stages.



The first stage is the initial one with a situation of low density, the second and third stage is where we have a population increase, and the fourth stage where which is the final one where there's a high population density.

The graphs can be expressed also with the birth and death rates as following:



(2)

Birth depends on religious, cultural and social factors while death depends on the development of health care technology etc.

In the first stage there are a high birth rate, due to religious beliefs and children needed for labour in land; and high death rate due to disease, poor diet and poor hygiene.

In the second stage there is a falling ^{death} birth rate due to improved medicine, diet and hygiene.

In the third stage there is a falling birth rate due to decreased infant mortality, less need for labor and the emancipation of women.

In the fourth and last stage we find a low birth rate because children are seen as liabilities not assets.

7) Industry clusters, according to Porter, are a geographical group of interconnected industries in a particular field that are linked by commonalities of various type. Porter developed a model called the diamond of advantages to give insights into industrial clusters and their competitiveness, and what gives them competitive advantages. The advantages of industrial clusters are lower transaction and input costs, higher quality information at lower cost, higher level of trust and skilled labor force. The factors of innovation and growth are: condition factors, which are specialized workforce and infrastructure; local demand, which pushes companies to innovate;

related and surrounding industries, i.e. nationally competitive local suppliers; industry strategy and rivalry, because local rivalry is more motivating than foreign competition; finally, government actions that have a significant role in the development and location of industry clusters. The life cycle of an industrial cluster is the following:

- 1) emergence phase, which is the initial phase in which there are a few firms with a new product. Here the cluster is not defined yet because firms have not started interconnecting with each other.
- 2) growth phase, in which the cluster becomes definable and heterogeneity decreases.
- 3) sustaiment phase, in which there ^{are} the stability of interconnections and spread of technology among firms.
- 4) decline phase, in which the ~~are~~ number of firms decreases and the number of mergers increases and capital moves away from the area.

Industrial districts, according to Marshall, ~~are~~ ^{are} geographical areas in which there is a concentration of complementary, competing and interconnected firms that do business together and/or have common needs. The geographical variables of industrial clusters are lower transport costs, localized economies. The firms' external economies are identified to be the ~~for~~ basic foundation of industrial ->

districts' competitiveness. The agglomeration ^{in space} of several firms determines a particular efficiency condition for the overall economy. The advantages are the reduction of production costs, the reduction of ~~transport~~ transaction costs, and ~~the~~ innovative and incremental dynamic settings. Industrial districts are areas in which the environment allows an organization with a non-hierarchical system.

The differences between industrial clusters and districts are that industrial districts are characterized by competition/cooperation, they have defined boundaries, small market areas and are made of small and medium size firms. Industrial clusters instead are made also of large firms and both firms and financial institutions and are characterized by non defined boundaries, ~~small~~ larger market area. An example of industrial cluster is the Silicon Valley, where we find technology companies/computer companies. Another example is the geographical area where Bulgaria is located. A local example of industrial district is in Mamiano, where the ~~chair~~ company making chairs is located.

8) The topic of my choice is ^{population} geography of population. Demography, which is related to time, is the systematic analysis of the population phenomena through empirical, statistical and mathematical methods. Population geography, which is related to space, represents all the spatial factors of population.

including the location of population, the explanation of the spatial pattern drawn by population and distribution, and the geographical analysis of the population phenomena.

Population consumes resources, including food and raw materials, which are often scarce and poorly managed; energy, which requires important efforts to be supplied. There are several forms of energy supply but they are highly damaging for the environment. Last, population consumes space, which is taken at the expense of agriculture and natural environment.

When talking about population, it is important to consider three main topics: population growth, fertility and mortality and migration. I will briefly discuss them.

Population growth is the process in which the population of an area increases. The main reasons for huge population growth, which has happened in the 20th century, have been: ^{depth} birth control, due to ~~improved health~~ ^{modern medicine}, which decreased the number of deaths, improved diet, with better agriculture, storage and distribution, infant mortality, which has decreased in most areas, and availability and quality of water, for better hygiene conditions. Birth control has been more difficult to reach because of religious beliefs, cultural traditions,

children as security and limited role of women. There are different population growth rates which are: high growth rate, which is 2% or above, that is typical of third world countries; average growth rate, between 2% and 1%, typical of China, Asia and Latin America; low growth rate, between 0% and -1%, typical of Europe, USA, Canada; zero population growth, lower than 0%, in several European countries. Population expansion is a process of strong population growth, which started after the WWII.

Fertility when talking about fertility and mortality is important to consider their rates.

Fertility rate is the number of live births per female of reproductive age (15-49). It determines population change over a long period of time. If it's lower than 2,1 we have a decrease in population, if it's equal to 2,1 we have a replacement birth rate; if it's larger than 2,1 we have an increase in population.

Life expectancy is the number of years a person is expected to live and it depends on current death rate.

The last criteria to consider is migration, which is the movement of people ^{over} around the world. ~~It's related to the distance decay factor, which is~~

(*) characterized by two factors: number of births larger than number of deaths; and ^{positive} migration flow.