

**PART A-Short answer questions. (COMPULSORY)**

Answer **ALL** questions from Part A.

**(Worth 5 marks each-50 minutes recommended: 5 minutes/question)**

A1. Brasilia, the planned national capital of Brazil, included many interesting infrastructure design features which we saw presented in the DVD in week 1. Briefly describe and critically comment on **one** of these features (eg. the road system, the housing, the design of the buildings, public transport, the open space system, the shopping centres, etc)

A2. In the Bossel reading in part 1 of your Reader, two alternative pathways for infrastructure provision are mentioned: competition or partnership. Which pathway would you recommend and what would be your reason?

A3. In the Peter Newman reading in part 2 of your Reader, energy conservation in transport is stressed. Mention at least three changes that would be needed to conserve energy usage of urban transport activity. At least one of your proposed changes should look at urban form and transport infrastructure.

A4. What is the syphonic drainage system and how would it encourage more environmentally sustainable management of water?

A5. What are some measures that can be used in urban development to minimize water usage?

A6. What do we mean by a 'zero waste strategy'? What are some strategies to achieve a 'zero waste strategy'?

A7. In terms of energy infrastructure provision, briefly discuss the main technologies that could be used to achieve greater energy sustainability.

A8. Why is Information and/or Communications Technology an important element in achieving greater environmental sustainability and how would it do this?

A9. In the Low reading in part 7 of your Reader, a number of measures are discussed to make buildings and homes more environmentally sustainable. Identify at least one measure of how this can be achieved for:

1. energy efficiency
2. thermal efficiency (i.e. climate comfort)
3. water efficiency
4. transport efficiency
5. resources efficiency (i.e. use of materials and/or management of waste products)

A10. Define the term 'eco-city' and describe some of the main characteristics of an 'eco-city'.

**PART B-Short Essay (COMPULSORY)**  
**(Worth 35 marks-45 minutes recommended)**

*Sub-headings and dot points can be used in your answer, provided that they make sense.*

Our modern society is faced by twin looming threats to our future lifestyle, global warming and the concept of "Peak Oil" where oil production is expected to fail to keep pace with increasing global oil demand.

In considering new urban development for the Parafield Airport site (which you have worked on in your group project), in the first part of your essay, briefly define what these threats are and discuss the possible implications of these two threats for this area.

In the second part of your essay, briefly discuss what would be the best urban form and characteristics (i.e. urban density, centres, the transport network, open space systems) and human activity patterns (i.e. locally focused or metropolitan) for the Parafield Airport site.

*(HINT: You should not feel restricted to what your group did in the group assignment and you are free to suggest an alternative if you think that your personal suggestion would be more environmentally sustainable compared to what your group actually did).*

In the third part of your essay, discuss one or more **main** components of infrastructure provision [such as (but not necessarily limited to) energy, transport, buildings, water management, waste management, etc.] for the Parafield Airport site that would minimize the possible impacts posed by the effects of global warming and a shortage of oil and oil derived resources.

In concluding your essay, comment on the main action/s that governments need to take locally, at the state, national and even global level in order to make the necessary changes for future urban infrastructure projects to be as environmentally sustainable as possible.

**PART C-Your contribution to the group Project (COMPULSORY)**  
**(Worth 15 marks-20 minutes recommended)**

Discuss your contribution to the group project with regard to the tasks that you helped with. What aspect of the Parafield Airport Infrastructure Provision project did you find most interesting and why?