

Sem 2 Examination 2015-2016 (April/may)

CV0001 - civil engineering and sustainable built environment

Section A

DISCLAIMER!

Answers may not be 100% accurate. Apologies if there are any errors! :c

1) b (401.85 for Dec 2015)

2) c

3) d

4) d

5) b

6) a

7) c

8) c

9) b

10) c

11) Greenwashing is a form of spin in which green marketing is deceptively used to promote the perception that an organisation's aims and policies are environmentally friendly.
eg. "Natural" shampoos like Herbal essences contain different chemicals and synthetic fragrances. / Mineral water brands promoting it as very pure and natural.

12) Developers and some farmers burn down a large area of forest to build houses, factories and to grow crops and cattles. Burning forests increase the amount of carbon dioxide in the atmosphere, and since CO₂ is a greenhouse gas, it raises the temperature of the atmosphere. Some form of agriculture may not thrive due to the higher temperature, this will affect the livelihood of the farmers who depend on agriculture for survival. Thus, there is imbalance as the contributors will not be affected by their actions as compared to some communities.

13. False

14. False

15) concrete water

16) greenmark 155 90 Clean Tech One NTU School of Adm

17) 1: United States 2: European Union
3: China 4: India

Section B

① (a) E. Residential zones (A and B) and heavy industrial zone are incompatible landuses, thus they should be separated as far away as possible.

(b) $A \rightarrow B \rightarrow E \rightarrow F$

Travel time = $8 + 15 + 3 + 5$

= 31 mins

(c) I would recommend building a new road that links B to C so that vehicles can travel from $A \rightarrow B \rightarrow C \rightarrow F$ instead, in addition, it is also less time consuming.

② (a) Preserving of heritage buildings contribute to sustainable development because they help people learn and understand about the past history and culture. These buildings are also being used continuously without the need of demolishing and rebuilding.

(b) Pocket parks and rooftop gardens offer a place for people to enjoy leisure activities and get close to nature without setting aside a large area of land for it. Thus, it will be very suitable in an urban environment with limited land.

(c) Travel demand management can ensure that roads and traffic will not be congested and that people can save on travelling time and experience higher efficiency from getting place to place.

(d) Providing bicycle paths and parking places will encourage people to cycle instead of taking taxis / driving. This is a more environmentally friendly form of transport and will ease the traffic flow on roads.

(e) Battery electric vehicles will result in lower pollution compared to internal combustion engine vehicles. It will also save on fuel, which is a very precious but finite resource.

3) telecommuting teleworking

4) plot ratio site coverage

5) Lifestyle changes inaccurate projections

Section C

1) c

2) d

3) b

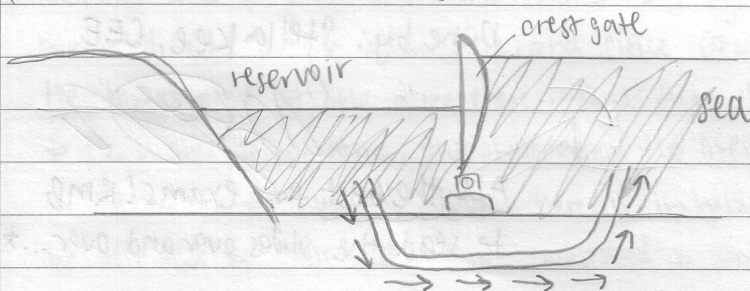
4) a

5) b

Section D

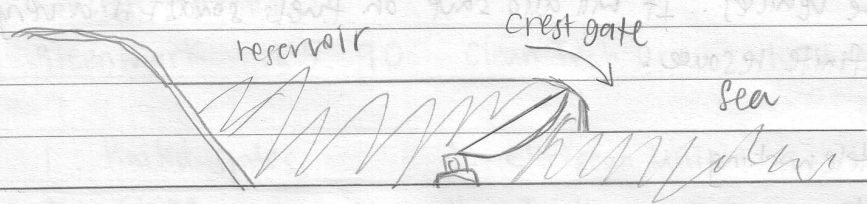
① (a) The reservoir aims to maintain a constant water level at the mean sea level, thus isolating the high tide level in affecting the river flow. So, if there are floods in the upstream catchments, water will be drained out via gravity or pumps till constant water level is reached in the reservoir.

(b) sea level > reservoir level



Water is pumped out of the reservoir to the sea to maintain a constant water level and to prevent flooding.

(bii) sea level < reservoir level



The crest gate is lowered to allow excess to flow out to sea and to maintain a constant water reservoir level.

Section E

1. Whistle blow at wrong-doings or illegal projects
2. Ensure safety and well-being of the public.
3. Refuse to work on a particular project or for a particular company (harmful / illegal etc.)
4. Ensure society's funds and resources concerning technology are well used!
5. Provide expert advices or volunteer at non-profit groups or projects.

Done by: Stella Kee, CEE

All the best for exams! RMB
to read the slides over and over...**