



6720-054/554 Level 3 Constructing the Build Environment (Design & Planning)

Version 1.1 – December 2017

Sample Questions Mark Scheme

1

Define the term 'infrastructure requirements' as used in architectural design and planning. (2 marks)

Answer

Marks as shown, up to a maximum of **two** marks.

Infrastructure requirements are basic physical (1) and organisational (1) structures and facilities (1) such as buildings, roads, railways, canals, power supplies, drainage (any 2) needed to support a construction project (1).

Test Spec Reference: 312.1.2 AO1

2

Explain how the construction of a new housing estate on a flood plain can increase the risk of flooding in other areas. (4 marks)

Answer

Marks as shown, up to a maximum of **four** marks.

New homes on a greenfield site means more land covered by hard materials such as concrete, clay tiles or tarmac (1). Water runs off more quickly to surface water drains, and hence to nearby watercourses (1), than it would if it had to percolate through the land and make its way more slowly to those watercourses (1). Rivers flood, break their banks and widespread flooding may result (1).

Test Spec Reference: 312.2.3 AO2

3

Identify **two** different types of proactive maintenance regime for a residential property. (2 marks)

Answer

Any **two** for **one** mark each.

- Planned (1)
- Preventative (1)
- Programmed (1)

Test Spec Reference: 313.2.1 AO1

4

Explain how the requirements of the Party Wall etc Act are satisfied on a residential conversion project. (6 marks)

Answer

Marks as shown, up to a maximum of **six** marks.

The Party Wall etc Act protects all party walls (1) structures (1) and boundaries (1). If the works on or close to any of these a Party Wall award will be required (1). No work that will impact on the structural stability of an adjacent wall, structure or boundary can be undertaken without notice being served (1). The notice is served by the building owner (1) on the adjoining owner (1) typically by a surveyor. The surveyor for both parties will agree the scope of works, the impact on the wall and issue a Party Wall Award (1). The works can then commence. On completion of the works, the wall/boundary/structure is inspected again and provided there are no issues the works are signed off (1).

Test Spec Reference: 313.3.2 AO2

5

Describe the considerations for the implementation of a lone working policy for surveyors.

(4 marks)

Answer

Marks as shown, up to a maximum of **four** marks.

A lone working policy will provide adequate protection for a surveyor working alone. This will include a mechanism for checking the surveyor is safe at all times (1) this could include a detailed record of where the surveyor is working (1), the type of work they are undertaking (1), and one person in the office will have responsibility for checking on the surveyor (1). It will also include a mechanism for checking on the surveyor (1), this will include regular phone calls (1), providing emergency alarms/sounders (1), in person checks (1), in addition to this emergency contact details will be provided to the surveyors next of kin should they not arrive home as expected (1).

Test Spec Reference: 314.2.3 AO1

6

Explain how a housing association surveyor can ensure their portfolio of properties remains in good condition.

(4 marks)

Answer

Marks as shown, up to a maximum of **four** marks.

The housing association surveyor would undertake a Stock Condition Survey (1) of their properties. This will record the current condition (1) and works required (1) and it will identify maintenance needs (1). From this a maintenance plan can be formulated to ensure the stock is kept in the best possible condition (1).

Test Spec Reference: 314.2.1 AO2

7

Identify the relevant Approved Documents that deals specifically with:

(3 marks)

- i. sanitation, hot water safety and water efficiency
- ii. toxic substances
- iii. structure.

Answer

- i. Approved Document G (1)
- ii. Approved Document D (1)
- iii. Approved Document A (1)

Test Spec Reference: 316.2.1 AO1

8

A company has purchased a disused, listed, Victorian cotton mill. They intend to convert the mill into luxury flats. The company wants the design to be energy efficient and are keen to promote the interests of disabled people. The local community have expressed concerns about the social impact on the community and the possible economic consequences of the development. The company is preparing the documents needed to obtain planning permission for the development and have already commissioned a building survey of the mill.

- a) Describe the main constraints on the design of the luxury flats.

(3 marks)

Answer

- a) Marks as shown below to a maximum of **three** marks.

Listed building, so façade to be retained (1), influences window selection (new windows may be OK but must be in same place) (1), changes to roof may be acceptable (1), sound insulation will depend upon existing floors (1), service pipes and cables may be difficult to route (1), solid walls so thermal insulation requires consideration (1), high ceilings imply suspended ceilings, built to earlier standards that will not have considered fire detection and control. (1)

- b) Explain the factors to be considered when applying for building control approval for a conversion project. (3 marks)

Answer

- b) Marks as shown below to a maximum of **three** marks. Answers should refer to compartmentation issues of individual flats.
Conversions require special attention to prevention of fire spread (1), sound insulation between dwellings (1), thermal insulation of building and individual flats (1), new forms of security and access, both to building and to individual properties (1). This is all implied by the division of an existing building into several integral properties ie independent functioning of the flats (1), extension and upgrade of electrical services.
- c) Discuss the alterations that need to be made to the mill and the documentation that will be used in the design and planning. (12 marks)

Indicative Content

Internal partitions, suspended ceilings, window replacement, new floors, internal insulation, roof improvement and insulation, illumination, heating and ventilation, modern services, drainage, cold water, access improvements, fire detection and protection; building regulation compliance with Approved Documents L and M (Access) in particular, use of building survey reports to plan work, relevant documents including drawings, specifications, schedules, environmental impacts and so on.

Band 1 (0-4 marks)

The learner identifies a limited amount of the alterations to be made and the documentation to be used, but there is little in the way of description. The learner's response lacks detail and is not clearly linked to the scenario.

Band 2 (5-8 marks)

The learner identifies a wide range of the alterations to be made and the documentation to be used and supports this with brief descriptions. The learner's response is detailed but incomplete and has clear links to the scenario in most cases.

Band 3 (9-12 marks)

The learner identifies a comprehensive range of the alterations to be made and the documentation to be used and supports this with in-depth descriptions. The learner's response is detailed and complete and has clear and accurate links to the scenario.

Test Spec Reference: 312.1.2, 312.2.3, 313.3.1, 313.3.3, 314.2.1, 316.2.2 AO4