

# Mark Scheme (Results) Summer 2010

Principal Learning

Construction  
CB307 Value and Use of the Built Environment:  
Protecting and Maintaining

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## General Marking Guidance

- All candidates must receive the same treatment. Examiners must mark the first candidate in exactly the same way as they mark the last.
- Mark schemes should be applied positively. Candidates must be rewarded for what they have shown they can do rather than penalised for omissions.
- Examiners should mark according to the mark scheme not according to their perception of where the grade boundaries may lie.
- There is no ceiling on achievement. All marks on the mark scheme should be used appropriately.
- All the marks on the mark scheme are designed to be awarded. Examiners should always award full marks if deserved, i.e. if the answer matches the mark scheme. Examiners should also be prepared to award zero marks if the candidate's response is not worthy of credit according to the mark scheme.
- Where some judgement is required, mark schemes will provide the principles by which marks will be awarded and exemplification may be limited.
- When examiners are in doubt regarding the application of the mark scheme to a candidate's response, the team leader must be consulted.
- Crossed out work should be marked UNLESS the candidate has replaced it with an alternative response.

## SECTION A

Question Number	Answer	Mark
1	<p>Activities include:</p> <ul style="list-style-type: none"> <li>• Inspection /testing/cleaning of heating systems, boilers, furnaces, gas lines etc.</li> <li>• Inspection /testing/cleaning of ventilation systems and air conditioning systems</li> <li>• Inspection /testing/cleaning of lift installations</li> <li>• Inspection and testing of emergency systems and devices (fire escapes, fire alarms, sprinkler systems, fire extinguishers, etc.)</li> <li>• Internal decoration programme</li> <li>• External decoration programme</li> <li>• Chimney cleaning</li> <li>• Exterior structure cleaning</li> <li>• Grounds cleaning</li> <li>• Door and window repairs /security</li> <li>• Inspection /testing/cleaning rainwater goods</li> <li>• Electrical systems</li> <li>• Sanitary systems</li> </ul> <p>Any other appropriate response</p> <p><b>Max 2 marks for each of any four activities.</b></p> <p><b>1 mark for a simple description</b>  <b>2 marks for a more detailed description.</b>  <b>No marks for identification only</b></p>	(8)

Question Number	Answer	Mark
2	<p>Benefits include:</p> <ul style="list-style-type: none"> <li>• Biomass fuels are sustainable.</li> <li>• Virtually no sulphur emissions so helps to reduce acid rain.</li> <li>• Global warming minimised, as the amount of carbon dioxide emitted is equal to the amount absorbed from the atmosphere during the biomass growth phase, 'carbon sink'</li> <li>• Recycling of biomass waste reduces the need to create new landfills.</li> <li>• Biomass combustion produces less ash than coal, and reduces ash disposal.</li> <li>• Biomass ash can be used as a soil supplement in farm land.</li> <li>• Reduces the dependency on fossil fuels.</li> </ul> <p>Any other appropriate response</p> <p><b>Max 2 marks for each description of any four benefits.</b></p> <p>1 mark for a simple description 2 marks for a more detailed description. No marks for identification only</p>	(8)

Question Number	Answer	Mark
3	<p>Aims include:</p> <ul style="list-style-type: none"> <li>• To ensure that building defects are minimised.</li> <li>• To ensure the building fabric is maintained.</li> <li>• To sustain the building condition and extend the life expectancy.</li> <li>• To maintain the utility services.</li> <li>• To ensure maintenance is carried out effectively.</li> <li>• To safeguard the environmental conditions of the building.</li> <li>• To provide a tool for financial management.</li> <li>• To minimise future maintenance costs.</li> <li>• Ensures balanced distribution of workload.</li> <li>• Maintain a healthy internal environment.</li> <li>• To ensure that the building remains in a safe condition.</li> <li>• Reduce the potential major impact and disruption to building users.</li> <li>• Improves the reliability of electrical, hydraulic, pneumatic and mechanical systems.</li> <li>• To reduce the need for reactive maintenance.</li> </ul> <p>Any other appropriate response</p> <p>Max 2 marks for each description of any four aims.</p> <p>1 mark for a simple description  2 marks for a more detailed description  No marks for identification only</p>	(8)

## SECTION B

Question Number	Answer	Mark
4	<p>Methods include:</p> <ul style="list-style-type: none"> <li>• Dual flush toilets.</li> <li>• Flushless urinals.</li> <li>• Spray taps.</li> <li>• Lower flow rates on taps and showers.</li> <li>• Grey water use in water closets.</li> <li>• Flow restrictors to shower roses.</li> <li>• Water-efficient appliances eg dishwashers, washing machines</li> <li>• Infra-red urinal flush controls.</li> <li>• Press tap with automatic shut-off or taps with infra-red detectors</li> <li>• Water-efficient shower heads.</li> </ul> <p>Any other appropriate response</p> <p><b>Max 2 marks for each description of any three methods.</b></p> <p><b>1 mark for a simple description</b>  <b>2 marks for a more detailed description</b>  <b>No marks for identification only</b></p>	(6)

Question Number	Answer	Mark
5	<p>Factors include:</p> <ul style="list-style-type: none"> <li>• Legislation/regulations in force</li> <li>• Planning considerations</li> <li>• Approval notices</li> <li>• Design of maintenance</li> <li>• Conservation</li> <li>• Commissioning</li> <li>• Risk management</li> <li>• Value engineering</li> <li>• Cost</li> <li>• Time</li> <li>• Quality</li> <li>• Staffing</li> <li>• Climate and weather factors</li> <li>• Sustainability issues</li> </ul> <p>Any other appropriate response.</p> <p><b>Max 2 marks for each description of any three factors.</b></p> <p><b>1 mark for a simple description</b>  <b>2 marks for a more detailed description</b>  <b>No marks for identification only</b></p>	(6)

Question Number	Answer	Mark
6	<p>Current legislation:</p> <ul style="list-style-type: none"> <li>• The Building Regulations</li> <li>• The Town and Country Planning Act</li> <li>• The Health and Safety at Work Etc Act</li> <li>• The Construction (Design and Management) Regulations</li> <li>• The Disability Discrimination Act</li> <li>• The Building Act</li> <li>• The Environmental Protection Act</li> <li>• The Housing Act</li> <li>• Working at Height Regulations</li> <li>• The Party Wall Act</li> <li>• Control of Asbestos Regulations 2006</li> <li>• Any other appropriate Health and Safety legislation</li> </ul> <p>Any other appropriate response.</p> <p>Max 2 marks for each description of any three impacts.</p> <p>1 mark for a simple description 2 marks for a more detailed description No marks for identification only</p>	(6)



## SECTION C

Question Number	Answer	Mark
7	<p>Assets to:</p> <ul style="list-style-type: none"> <li>• Be in good condition</li> <li>• Be suitable for the purpose</li> <li>• Be sufficient for the purpose</li> <li>• Be in locations to provide suitable access</li> <li>• Be legislatively compliant</li> <li>• Provide flexible layouts and spaces</li> <li>• Demonstrate value for money</li> <li>• Be able to contribute positively to the environment</li> <li>• Use sustainable principles</li> <li>• Utilise effective facilities management</li> <li>• Utilise effective maintenance management systems</li> </ul> <p>Any other appropriate response.</p> <p><b>Max 3 marks for each description and analysis of any two ways.</b></p> <p>1 mark for a simple description            2 marks for a more detailed description            2 marks for a simple description with some analysis            3 marks for a more detailed description with analysis            No marks for identification only</p>	(6)

Question Number	Answer	Mark
8	<p>Methods:</p> <ul style="list-style-type: none"> <li>• Insulate</li> <li>• High efficiency appliances</li> <li>• High efficiency boilers</li> <li>• Low energy lighting</li> <li>• Reduce phantom power</li> <li>• Reduce home temperature</li> <li>• Use hot water efficiently</li> <li>• Regular maintenance of appliances/systems</li> <li>• Use of solar, photovoltaic and wind generation that is incorporated into the built environment</li> <li>• Building management systems</li> </ul> <p>Any other appropriate response.</p> <p><b>Max 3 marks for each description and evaluation of any two methods.</b></p> <p>1 mark for a simple description  2 marks for a more detailed description  2 marks for a simple description with some evaluation  3 marks for a more detailed description with evaluation  No marks for identification only</p>	(6)

Question Number		Indicative Content
9		<p>Every cost likely to be incurred from inception of a project to demolition:</p> <ul style="list-style-type: none"> <li>• Maintenance, refurbishment, replacement and external redecoration of the fabric of the buildings.</li> <li>• Internal redecoration</li> <li>• Maintenance on central heating, security and alarm systems.</li> <li>• Refurbishment including replacing fittings, heating and electrical installations.</li> <li>• Cleaning</li> <li>• Cleaning to fabric when associated with maintenance e.g. washing window frames, cleaning out gutters etc.</li> <li>• Maintenance of external work.</li> <li>• Energy costs</li> <li>• Defects, vandalism or accidental damage.</li> <li>• Maintenance costs associated with roads and mains sewers</li> <li>• The cost of final demolition.</li> <li>• Construction costs</li> <li>• Acquisition costs</li> <li>• Design costs</li> </ul> <p>Any other appropriate response.</p>
Level	Mark	
	0	No rewardable material
1	1-2	Some relevant features described.
2	3-4	Relevant features described with some discussion (at least four to get top of band).
3	5-6	Relevant features described with discussion of at least four relevant features.

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